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Impact of Visual Aids in Enhancing the Students Learning Process at The University of Narowal

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Abstract

This study examines the impact of visual aids on enhancing the students learning process at the University of Narowal. Visual aids help simplify complex concepts, improve information retention, and make classroom instruction more engaging and meaningful. In higher education, visual aids such as charts, graphs, multimedia slides, pictures, whiteboards, and digital tools are increasingly integrated into instructional practices. The objectives of the study were to examine the influence of visual aids on students' learning and engagement, to explore teachers' perceptions regarding their effectiveness, and to identify challenges faced in the use of visual aids. A quantitative research design was employed, and data were collected through a structured questionnaire from 250 participants, including 200-students and 50 teachers, selected through random sampling. Ethical considerations were strictly followed. Data analysis was conducted using SPSS software, applying descriptive statistics and Spearman correlation analysis. The findings revealed that visual aids significantly enhance students' understanding, motivation, concentration, and retention. Teachers also reported improved classroom interaction and lesson organization. Despite challenges such as limited resources and insufficient training, visual aids were found to be essential tools for improving teaching and learning at the university level.

Keywords: Visual aids, Learning process

Introduction

Education is essential for everyone. Without education, it is impossible for anyone to lead a happy life. Teaching and learning are the most important components of education. Education is the basis of social development and teachers play an important role in education. To maximize learning, goals, and learning, teachers need to understand the importance of individual skills and the integration of diverse skills. According to Mutia et al. (2020), the instructor plays a crucial part in creating a learning plan that was help students reach their learning objectives. The interests, motivation, and attitudes of students in learning have an impact on the achievement of cognitive and psychomotor components, so teachers must concentrate on the affective domain in order to meet the learning objectives. This is also consistent with the view expressed by Mutia et al. (2020), who contend that guided by teachers learning must have a greater influence on students' cognitive and attitude improvements. This is important in university level, where teachers use a variety of techniques to engage students in the classroom, such as discussion, answering questions, using teaching methods to change perspectives, and especially

content to help students learn. visual aids are teaching aids used by classroom teachers to help students learn quickly and accurately. In the classroom, visual aids are utilized to keep students engaged and interested, to clarify complex concepts and information, to make data and information easily available, and to keep them informed and inspired (Yotta, 2023).

According to (Rorimpandey, 2023), tool that can be used in the classroom is a visual aid. It also explains that visual aids are an important element of learning resources that can encourage learning. Students' memories can be reinforced and comprehension facilitated by visual aids. Additionally, visual aids can establish a connection between the subject matter and the outside world. which can also draw in attention, improve memory, make the information easier to understand, and provide illustrations to make the information not easy to forget (Rorimpandey, 2023). By using these visual aids students can improve their vocabulary, pinpoint important ideas, and gain a general understanding of concepts. Thus, in theory, these visual aids improve instruction and enable students to become lifelong learners. In the classroom, visual aids are instructional aids used to improve student learning. According to Shabiralyani, Hasan, Hamad, and Iqbal (2015), "visual aids are materials or images that initiate, support, and assist learning" in the context of education. Anything that can be used to add realism to the learning process is considered a visual aid. Moreover, more potent instruments (Nguyen, Nguyen, & Nahavandi, 2019). Programs that rely on vision are referred to as "visual aids." Models, diagrams, images, maps, flash memory cards, Blackboard, presentations, and more are examples of visual aids. Most of these are blackboards and chalk. Teachers face a more difficult task when students have to study for a class, but the textbook includes exercises that require high level discussion. In particular, textbooks are combined with visual aids as additional resources in the classroom.

In this process, it is accepted that it is important for children to learn by seeing and hearing. As a result, pupils have a bad learning experience when visual aids are not used. The main research topic is brought up by this discussion: "What impact does the use of visual aids have in enhancing the students learning process at university of Narowal, this study investigates the impact of enhancing the learning process in university level. In particular, teachers were benefit from this study, which was help children become better observers. For individuals who wish to be successful in properly teaching the learning process, it was also be important.

Statement of the Problem

Visual aids are a crucial component of the enhance learning process since they help teachers and students understand the material. Students find it difficult to describe, understand, and receive an explanation when models and visual aids are not used in the classroom. It is helpful to engage students to attract their attention or encourage them to learn. Most teachers do not employ enough visual aids as teaching tools in the classroom. This directly affects learning outcomes and could make teaching and learning more difficult. As a result, both the functioning of the classroom environment and learning results were impacted. Therefore, teachers face the challenge of teaching students to understand big data. Therefore, it is useful to motivate students or make them more motivated to teach and improve their learning. University of Narowal is under-resourced, teachers can't explain things more easily, and students are bored and unable to pay attention in class. Without perspective, students cannot face the problem directly. Thus, the purpose of this study is to evaluate the impact of visual aids can enhance the learning process for students at University of Narowal. Insufficient use of visual aids disrupts instruction and has a direct impact on students' learning.

Objectives of the study

The objective of the study is to investigate the impact of visual aids in enhancing the students learning process at university of Narowal.

The main purpose of this study is as follows.

1. To examine the impact of visual aids on the students 'learning outcomes and engagement in class.
2. To assess the teachers' views about using visual aids that contributes to an effective learning process.
3. To determine the issues with the use of visual aids.

Research Question

The following research questions was formulated in order to provide the answers sought in this study.

1. What is the impact of visual aid in students understanding the lesson and participation in learning process?
2. What are the views of teachers about using visual aids?
3. What problems do teachers face in preparation and use of visual aids to develop students' learning?

Significance of the study:

Students would be more engaged in the teaching and learning process as a consequence of this study since visual aids would be more appealing to them and enhance and strengthen their cognitive learning process. Teachers have found ways to improve students' learning process and methods through visual aids. Models, charts, pictures, maps, blackboards, slides, etc. Visual aids help students Learn and share clear concepts, maintain interests, and encourage them to make learning effective, and motivating. Collaborate with the teaching process because teaching with visual aids was attract more of their attention, thus enhancing students 'in learning process.

Following of the significance of the study.

Students can learn better with visual aids when they are motivated in various ways.

1. Visual aids provide complete examples for thinking.
2. Visual aids create an attractive environment for students.
3. Visual aids help students improve their vocabulary.
4. Visual materials help teachers from time to time and make learning permanent.
5. Visual tools provide direct information to students.

Teachers were able recognize the many ways that students learn and the significance of visual aids in the learning process according to the findings. It can also help and guide planners, researchers, and teachers to better use visual aids to learn educational strategies, especially for university students who use visual aids. Therefore, strengthen the basic education of students.

Review of Literature

Learning is enhanced when instructional strategies cater to students' thinking processes and learning styles. Educational psychologists emphasize that learning becomes meaningful when students are actively involved in the learning process. Visual aids play a significant role in enhancing the teaching and learning process.

The process of obtaining or providing vocational training, especially in schools or colleges. It is stated in the Quran: "Allah teaches those who do not know Him." In good works the term education is used in a specific direction. It can also be used as a method of honing one's inner beauty. Education is the process of discovering the truth in the mind of the individual. In this way, education allows people to choose their own goals and choose the path to their own success.

Visual aids are effective aids for “really investing in the past.” Visual aids provide students with factual information that can support their motivation and help them understand old thinking. They want to feel through seeing and hearing. When we use visual aids as teaching tools, it is part of student engagement in the classroom because when students look at visual aids or aids, it is measured as assistance. Additionally, the use of visual aids encourages physical movement and can improve control (Shabiralyani et al., 2015). There is a famous Chinese proverb: “Clarity is worth a hundred words.” This is the fact that we gain knowledge through wisdom. There is also a good saying: “If we hear, we forget, if we see, we remember, if we do something, we know”, that is, the use of visual tools can make the teaching process more effective. As Kishore says, “Visual instruction facilitates thinking and knowledge.” The use of visual aids in teaching has many benefits (Shabiralyani et al., 2015). When used correctly, they help increase success and permanence. Visual aids are effective in supporting the learning process, and the combination of sight and hearing is particularly effective due to the involvement of the two most important senses.

It is also acknowledged that because the picture frame is ingrained in the students' thoughts, visual aids have a longer-lasting psychological effect on their memory than audio aids. As a result, the students are able to store the information in their long-term memory and use it again when necessary. This review proves that there is no denying the significance of visual assistance. However, it is debatable if visual aids are useful and effective in Pakistani secondary school English instruction. When the subject matter being taught is arranged in an organized way, visual aids can be more successful. Effective use of audiovisual aids can improve student learning in a supportive teaching and learning environment (Nicolaou, Matsiola, & Kalliris, 2019). Students are better able to associate and retain larger ideas and concepts when they are broken down into smaller, easier to comprehend sections. (López, 2022; Almaoush & Alkhozah, 2022).

By directing their attention to visual aids for the idea being taught, pupils are able to maximize their attentional capacity and assimilate the information. Making the best use of technology has encouraged new kinds of its application.

Visual aids can foster students' interest and can strengthen memory. Visual aids consist of pictures, diagrams, maps, graphs, posters, newspapers, white board and also books. According to (Rorimpandey, 2023) visual aids is a means of supporting the success of the teaching and learning process in schools, can increase students' interest in learning, and is able to assist explaining material that is both concrete and abstract. So visual aids is media related to the sense of sight and it can help the process of students' understanding of the material being explained, can attract attention, strengthen memory, clarify the material presented, and also be able to illustrate material so that it is not easy to forget.

According to Jiménez Escobar (2021), the use of technology and visual aids in the classroom mediates the difference between pupils who learn quickly and those who learn slowly. When it comes to understanding what is being taught to them in the classroom, these technicians go above and beyond. As a result, these tools help in creating a consistent class. Students can accomplish learning goals and improve the standard of education when they are sufficiently trained to employ a range of abilities.

Through the use of various media components, visual learning materials help students develop strong mental representations that facilitate information processing. Teaching and learning are used to provide information, which is composed of content and occasionally learning exercises. Numerous professions can benefit from the expansion of teaching and learning through the use of technological tools. In the majority of subject areas, it is crucial to give students real-world experience (Abdulrahman et al., 2020). It is impossible to emphasize the value of visual technologies and apps in education as a teaching or learning

aid. Numerous research that looked into how visual aids affected the educational system have conformed this. According to (Abdulrahman et al., 2020), visual aids significantly improve students' learning and are crucial in mathematics lectures. This study builds upon existing research by examining the role of visual aids in improving students' learning outcomes and fostering an engaging and supportive learning environment.

Theory of Visual Aids in Learning

The Cognitive Load Theory

John Sweller developed the Cognitive Load Theory in 1988. This theoretical framework describes how the human mind processes information and how learning is impacted by cognitive load (Paas & Sweller). According to the Cognitive Load Theory, working memory's ability to handle information is apparently limited. Cognitive load is the term used to describe the amount of mental work required to process information. When the quantity of mental labor required exceeds the working memory's capacity, learning is constrained. It has been demonstrated that using visual aids can greatly lessen mental stress and enhance learning results.

For example, using charts, graphs, and diagrams to organize complex facts can help make the information easier to understand and remember. Furthermore, by emphasizing important details and connections between concepts, visual aids can reduce the amount of time students must spend searching for this information in their working memory. According to Leppink and Heuvel (2015), one of the core principles of the Cognitive Load Theory is that learning is most effective when the learner's mental workload is reduced to a minimum.

Using visual aids allows information to be presented in a way that the brain can understand and process more easily, which can help reduce cognitive load. A figure or an image, for example, might communicate information more efficiently than a long prose exposition, which may force students to simultaneously retain multiple pieces of information in their working memory.

The three categories of cognitive load identified by the Cognitive Load Theory are internal, external, and relevant. What is meant by "intrinsic load" is the intricacy inherent in the course material. The word "extraneous load" describes the mental pressure brought on by the course materials itself, such as irrelevant information or imprecise instructions. According to Kirschner et al. (2018), "germane load" is the mental work required to process newly learned material and integrate it into previously learned knowledge systems. The amount of unnecessary strain on working memory can be reduced by using visual aids to provide information in an understandable and well-structured manner. The fact that makes more resources available for the load that is truly important. To put it briefly, the Cognitive Load Theory suggests that using visual aids can help reduce cognitive load, enhance learning, and increase information transfer and retention performance.

Empirical Review

Alkhawaldeh and Khasawneh (2021) set out to ascertain the degree to which educational aids are used in the teaching of Arabic in middle schools, as perceived by the male and female Arabic language instructors in the Diyala Governorate's Muqdadiya area. This study employed the descriptive technique, and data was gathered using a 38-paragraph questionnaire. After that, the researcher evaluated the data using the Tripartite Scale (strongly agree, agree, disagree). The study's sample consisted of 80 male and female instructors from the Muqdadiya district throughout the 2019–2020 school year. With "Agree" answers on the Tripartite Scale, the study's results showed that middle school teachers' use of instructional aids falls short of expectations.

Visual aids are important and beneficial, as evidenced by the substantial impact they have on the three main elements of education: the teacher, the student, and the teaching

materials. Alkhawaldeh and Khasawneh (2021) claim that the application of educational technology will allow the modern school to transcend stereotypes and enter a new world characterized by scientific and technological developments. In 2021, Khasawneh and Alkhawaldeh.

Furthermore, Chundung (2020) investigated the use of visual aids by teachers in public primary schools in Barkin-Ladi, Plateau State, Nigeria, to enhance the process of instruction and learning. To reach their conclusions, the researchers combined phenomenological analysis with survey data. Participants in the study included supervisors, department heads, principals, teachers, and students from public elementary schools. Along with a stratified random sample methodology, the study also used a non-probability purposive sampling strategy.

The findings showed that using a variety of visual aids, such as maps, drawings, graphs, charts, flashcards, and real-world objects, was helpful in every topic. The government could help teachers in public primary schools by providing them with sufficient visual aids to employ during the teaching and learning process, according to the report. In order to ensure that teachers are meeting the needs of their students, the education office should also ensure that they are promptly and properly monitored.

Methodology:

A research design was organized plan that addresses the question of how the study should be carried out and how each of the important phases of the research process were accomplished. Impact of using visual aids on enhancing students' learning process at the university of Narowal was investigated using a quantitative research methodology. Quantitative research strategies support the researchers for the standardized arrangement of data gathering. That emphasize gathering and analyzing data in the form of numbers and percentages. Quantitative research designs concentrate on numerical description of the research problem. This study is of a numerical descriptive nature, and the survey method were used to gather information from the university students in the district of Narowal. The researcher used questionnaire to collect the relevant data.

Teachers and students in social science departments the University of Narowal were used as the respondents of the present study. 250 representatives of the social science departments were participating in this study in a random way. This research was seeking to discuss the advantages of adopting the use of visual al aids in the learning process of the students. The University of Narowal was chosen on the basis of time and monetary constrains on the part of the researcher. The survey participants were the students and teachers of the University of Narowal. Sample size was take the sample of 250 individuals comprising of 50 teachers and 200 students as a representation of the population. It was a random selection of the sample based in the social science department from the University of Narowal.

The stratified random sample technique was utilized in this study to get data from male and female group of participants who contain the knowledge that is required. Therefore, the quantitative research has been required this kind of understanding. To determine the study's sample size, stratified random sampling was employed. In this study data were collected through questionnaires. Surveys included structured questions about the use of visual aids and the impact of students in enhancing the learning process, to which teachers and students responded.

For data collection, the researcher was personally visit the selected departments of the university of Narowal. Questionnaire was used for this purpose. In order to gather relevant data for the study, the researcher distributed questionnaires to students and teachers at the selected department. The researcher honestly briefed them on the findings and described everything in detail. The researcher collected the questionnaire on predetermined time

once they finished it. The questionnaire used in this study will be reviewed to ensure its reliability. Which showed the impact of visual aids in enhancing the students learning process at the university of Narowal.

The quantitative technique was used to interpret the numerical data gathered from the closed ended questions. The tabulation displays the gathered data after it assessed by using a percentage distribution. SPSS software was used to calculate the questionnaire. The SPSS software using correlation analysis spearman were used. At the last the researcher concluded. The data was interpreter and analyze for results. Conclusion and recommendation were used for enhancing the students learning process.

Data Analysis:

Percentage formula was used to calculate the mean difference between program selection and gender distribution. Spearman product movement was carried out in order to gauge the impact and effect. Because of its capacity to handle non parametric data and its suitability for evaluating ordinal data, the spearman correlation coefficient was selected. The analysis's findings are succinctly and clearly summarized in the tables and figures that are supplied.

Correlation of variables students

Table 4.25

Relationship between the learning process, teachers' perspectives, and everyday challenges

Correlations			Learning process	Teachers views	Challeng esinuse
Spear man's rho	Learning process	Correlation Coefficient	1.000	.761**	.731**
		Sig. (2-tailed)	.	.000	.000
		N	200	200	200
	Teachers views	Correlation Coefficient	.761**	1.000	.635**
		Sig. (2-tailed)	.000	.	.000
		N	200	200	200
	Challengesin use	Correlation Coefficient	.731**	.635**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	200	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4.25 shows the relationship between the learning process, teachers' perspectives, and everyday challenges are displayed. The findings show that teachers views and the learning process are highly and favorably correlated, indicating that good teacher reviews go hand in hand with learning gains. In a similar vein, challenges in use have a positive relationship with the learning process, which means that both tend to grow together. Furthermore, there is a positive correlation between teachers' views and the challenges they face, indicating that these two elements are moving in the same direction. All things considered, the results show that the three factors are strongly connected to one another and work together to impact university students' educational experiences.

Correlation of variables teachers

Correlations

			Learning outcomes	Teachers perceptions	Contextua l barriers
Spearman's rho	Learning outcomes	Correlation Coefficient	1.000	.853**	.818**
		Sig. (2- tailed)	.	.000	.000
		N	50	50	50
	Teachers perceptions	Correlation Coefficient	.853**	1.000	.861**
		Sig. (2- tailed)	.000	.	.000
		N	50	50	50
	Contextual barriers	Correlation Coefficient	.818**	.861**	1.000
		Sig. (2- tailed)	.000	.000	.
		N	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

The correlations between contextual barriers, teacher's perceptions, and learning outcomes are displayed in Table 4.2.24. According to the findings, there is a high and positive correlation between learning outcomes and views of teachers ($r = 0.853$, $p < 0.01$), indicating that better learning outcomes are related with more positive teacher opinions. Contextual barriers and learning outcomes also have a significant positive correlation ($r = 0.818$, $p < 0.01$), indicating that they are moving in the same direction.

Furthermore, there is a strong and positive correlation between the teacher's views and contextual barriers ($r = 0.861$, $p < 0.01$), indicating a close relationship between the two. Overall, the results show significant connections between all three variables, indicating that learning outcomes, contextual barriers, and teacher opinions all have a major impact on one another.

Results

The result of the research demonstrated that visual aids significantly improve students' learning processes. They enhanced students' understanding and memorization of subjects and made lessons more engaging. Students indicated that visual aids made abstract or challenging subjects easier to understand and improved their ability to concentrate during lectures. Teachers also stated that visual aids helped them better explain concepts and get students involved in class activities. However, the investigation also identified certain challenges related to the application of visual aid. These included a lack of availability of contemporary equipment, less funding, technical issues, and occasionally inadequate teacher preparation in the use of highly advanced visual aids. Nevertheless, these difficulties, the results generally shown that visual aids are an important component of the teaching learning process and ought to be utilized frequently to raise educational standards. The statistical analysis shows a strong positive correlation between the use of visual aids and overall learning process. Teachers' responses indicated strong support for the use of visual aids in instruction. Most teachers agreed that frequent use of visual aids improves students' learning process and classroom interaction.

The summary of the research concludes by confirming the important function that visual aids play in enhancing university level teaching and learning. They improve students'

engagement, comprehension, and performance in addition to helping teachers present their teachings.

Discussion

According to the current study's findings, visual aids significantly improve university students' understanding, motivation, and retention during the learning process. These findings support a wide range of earlier research and theoretical viewpoints, demonstrating the value of visual aids for learning in higher education settings. First of all, the results corroborate the findings of Shabiralyani et al. (2015), who found that by making difficult concepts easier to understand, visual aids can effectively increase student engagement and comprehension. In line with their findings, this study also shows that, in contrast to conventional lecture-only techniques, students absorb material more quickly when exposed to charts, diagrams, and multimedia materials. By focusing on the university level, where abstract and technical concepts frequently need enhanced visuals for understanding, the current study improves on their work.

López (2022), who emphasized the motivating impact of visual aids in educational settings, supports with the findings. This study demonstrated that when classes were accompanied by visual aids, student performance showed increased attention and participation, which is in line with López's claim. According to this earlier research, visual aids not only make learning easier but also help students develop favorable attitudes about academic material.

The current study supports the findings of Almaoush and Alkhozahe (2022) that visual aids enhance knowledge retention by providing numerous representational channels. According to their research, students gain from multimedia integration since it improves their short-term comprehension and long-term memory. This viewpoint is supported by the results, which demonstrate that visual reinforcement helps students retain important ideas over time.

Furthermore, by connecting theoretical information with real-world applications, visual aids improve conceptual connections, according to McLaughlin and Byrne (2020). This is in line with the current study, which found that university students found abstract theories simpler to understand and implement in practical settings when they were presented with visual aids like flowcharts and example diagrams.

The results are also in line with Rorimpandey's (2023) research, which maintained that visual aids promote critical thinking and active learning. In a similar vein, this study found that the use of visual aids increased student participation in group projects and class discussions. This implies that visual aids encourage higher-order thinking in addition to conveying information.

Cognitive load Theory (Sweller, 1988; 2011), which contends that instructional design should maximize appropriate processing and decrease additional cognitive load, further supports the theoretical framework of this study. By breaking down complex information into easier to understand formats, visual aids helped reduce unnecessary mental strain, which is consistent with the study's findings. Instead of battling information overload, this enabled students to devote more cognitive resources to meaningful learning. This is consistent with the Cognitive Load Theory, which highlights how organized visuals enhance knowledge processing and reduce unnecessary cognitive load.

As a result, the current study supports the notion that visual aids are not only helpful but also necessary for efficient learning. The results of this investigation highlight the importance for educators to incorporate visual learning techniques into their teaching strategies.

The study's findings clearly show how important visual aids are to improving university level teaching and learning. Students' and teachers' findings consistently show that using

visual aids enhances learning outcomes, retention, and comprehension in addition to raising interest and motivation.

Conclusions

The following conclusions can be made in light of the findings:

At the university level, visual aids are an effective way to enhance the teaching learning process. They help students to understand, retain, and apply information. Teachers benefit from using visual aids because they enable them to deliver their lessons in a more engaging, methodical, and successful manner. Using visual aids promotes involvement and communication, which makes the learning process more interactive and student centered. When students have a successful and enjoyable classroom experience, they grow in their personal recognition of the subject areas. Although visual aids are very beneficial, their impact is dependent on appropriate use, teacher preparation, and appropriate availability. When the visual aid sessions are directly related to the course material, students perceive them to be significant and helpful. It's critical to overcome obstacles such a lack of equipment, technological issues, and a lack of instructional knowledge in order to optimize their advantages.

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