



Enhancing Learning Capacity Through Visual Learning Among Higher Secondary Students

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Abstract:

Visual literacy refers to the capacity to understand and use images, as well as the ability to think, learn, and express oneself through visuals. Visual aids pique the interest of students and assist teachers in expressing subjects clearly and efficiently. Visual learning is a teaching method that emphasises the use of pictures, diagrams, charts, and other visual aids to improve comprehension and recall. Visual learners flourish when knowledge is presented in visually appealing formats, which allows them to organise and digest complicated information more efficiently. This learning approach is especially useful in areas that require spatial thinking, conceptual links, and pattern identification because it allows students to identify connections and patterns that may be less obvious in text-based or aural forms. This research investigates the cognitive mechanisms that underpin visual learning, as well as the benefits of utilising visual aids to promote information acquisition.

Mind mapping, infographics, flowcharts, and movies are investigated as aids for memory retention and understanding. The study also looks at the function of multimedia in visual learning, specifically how animations, interactive visuals, and virtual reality applications might improve the learning experience by making abstract concepts more concrete and engaging. This study also addresses how visual learning tools may be used in a variety of educational contexts, such as science, mathematics, and history, to help students understand complicated facts and processes. Challenges related with this learning style, such as its limited efficacy in entirely text-based contexts, are discussed, as well as ideas for establishing inclusive learning environments that incorporate visual assistance with other learning modalities. By emphasising the value of visual aids and multimedia,

Keywords: Visual learning, higher secondary students

Introduction

Visual learners excel in visualising items, balancing and aligning them, focussing on colour and images. They learn best when they colour-code their notes, make to-do lists, and use concept maps to organise their ideas. Visual learners must see the information in order to comprehend it. These students are likely to have a photographic memory, and they may retain information using colour, tone, or brightness. Visual learners will benefit from seeing diagrams put out, for example, on a chalkboard or in slideshows.

Visual learning can help students who employ graphic aids to recall and learn stuff. Flash Cards are a popular way to recall essential facts, statistics, and other data. A flash card is an excellent medium for a visual learner since it depicts the impacts of an idea or principle in a clear and exact manner. Materials used to create visual charts include reference charts, tables, graphs, maps, colourful charts, coloured chalks, slates, dictionaries, workbooks, work sheets, newspapers, picture boards, and globes. Because children with developmental disorders rely heavily on visual aids, the usage of such materials is critical in helping these children acquire new concepts (Chadha, 2001). Certain exercises might be used to assist pupils who are struggling with their learning. Use action cards with graphics to promote short phrases and action words. A range of charts and graphs are available to help kids who have learning disabilities. There are several sorts of charts, including pie, line, bar, flow, and organisational charts. The important material from the presentation or additional information from the presentation may be provided in printed form on sheets of paper. These are referred to as handouts. They are typically employed when the issue is too difficult to comprehend just by speaking.

In this digital age, instructors must integrate technology into the classroom. Integrating technology into the classroom begins with a teacher developing lessons that employ technology in important and pertinent ways. Technological resources should enhance rather than replace the curriculum. All calligraphy and illustrations must be large enough to be viewed readily by pupils who are farthest from the aids. Colours should give great contrast and be clearly noticeable.

Visual learning, a pedagogical technique that emphasises the use of graphical representations, diagrams, and multimedia to impart information, has gained popularity in modern educational discourse due to its ability to improve understanding and retention among adolescent students. This strategy takes advantage of the brain's natural ability to interpret visual information, transforming complicated abstract ideas into more digestible and remembered forms. Specifically, the use of visual aids can help to bridge the gap between academic knowledge and practical application, developing a better grasp of the subject matter.

It is especially useful for students with hearing issues since it gives them a visual representation of the lecture content.

Visual literacy should eventually be treated equally with alphabetic literacy and included in any academic curriculum, regardless of field. However, university curriculum appear to ignore this

essential requirement, relying mainly on texts and paying little attention to visuals (unless in historically visual areas such as fine art, photography, cinema studies, etc.). Other types of literacy can bring distinct views and perhaps deeper insights (Provenzo et al., 2011),

The concept that new media user like students, commonly referred to as digital natives (Prensky, 2001) or millennial learners (Brumberger, 2011), are visually literate is still widely held. New technologies appear to evolve far quicker than our ability to reflect on our relationship to them and their everyday use. As a result, while being completely involved in new technologies, today's learners may not always display abilities that allow them to speak visually readily and effectively (Metros & Woolsey, 2006).

In today's world, students need to develop "visual literacy" skills to analyse, interpret, and debate visual content, facilitating their theoretical and conceptual development (Dabić et al., 2018).

a). Objective of study:

A.)To find impact of visual learning enhancing learning capacity of 12th standard students on the basis of locality.

B.)To find impact of visual learning enhancing learning capacity of 12th standard students on the basis of gender.

C.) To find impact of visual learning enhancing learning capacity of 12th standard students on the basis of board.

Hypothesis :

(H0)1-There is no significance difference in visual learning among male and female of higher secondary students.

(H0)2-There is no significance difference in visual learning among urban area and rural area of higher secondary students.

(H0)3-There is no significance difference in visual learning among CBSC board and SSC board of higher secondary students.

Sample: 200 students of 12th were randomly selected for study and divide into two group. Each group was 100 students and 50% male and 50% female.

Research Tools and Techniques: Researcher used ex-facto method for research.

This study is tested by using self-made test questionnaire. For calculation these test were used. Mean, standard deviation and t value.

Techniques for Data Collection

A) Questionnaire: This study is using the self made tools there are 45 questions regarding the visual learning which validate the every dimension of this research.

b) Data Analysis and Finding

Table:1 . Gender wise comparison of visual learning mean value and standard deviation of students.

Gender	Mean	Standard deviation	Degree of freedom	t-test	Level of significance
Male	77.81	352.620	43	0.0092	0.05
Female	82.43				

Table:2. Locality wise comparison of visual learning mean value and standard deviation of students.

Area	Mean	Standard deviation	Degree of freedom	t-test	Level of significance
Urban	67.44	16.63	43	2.89125E-14	0.05
Rural	92.35				

Table:3. Locality wise comparison of visual learning mean value and standard deviation of students.

Board	Mean	Standard deviation	Degree of freedom	t-test	Level of significance
CBSC	43.64	38.02	43	2.50716E-32	0.05
SSC	116.15				

Gender wise data indicates that learning through visual learning technique.

Data table 1. shows that for class 12th learning mean value of male is 77.81 and mean value of female is 82.43 and standard deviation is 352.62. Degree of freedom is 43 and T test value is 2.81 at 0.05 level which value is greater than the table value (1.684) so null hypothesis is rejected. Hence there is significance difference between the male and female through visual learning.

Locality wise data indicates that learning through visual learning technique.

Data table 2. Shows that for urban students Mean value is 67.44 and rural students Mean value is 92.35. And standard deviation is 16.63. Degree of freedom is 43 .T test value is 2.89 at 0.05 level Which value is greater than the table value(1.684) so Null hypothesis is rejected. Hence there is significance difference between the urban and rural through visual learning.

Board wise data indicates that learning through visual learning technique.

Data table 2. Shows that for CBSC students Mean value is 43.64 and SSC students Mean value is 116.15. And standard deviation is 38.62. Degree of freedom is 43 .T test value is 2.50at 0.05 level Which value is greater than the table value (1.684) so Null hypothesis is rejected. Hence there is significance difference between the CBSC and SSC through visual learning

Conclusion: Competency in visual learning (VL) is essential for efficient visual communication, and hence for those who operate in a visually stimulating world. However, VL across disciplines is underrepresented in higher education curriculum. This pattern is due in part to a diminished understanding and consensus about what is required to be visually literate.

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