

## Effect of Visual Style-Based Instruction on Learners' Academic Achievement at Elementary Level

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### ABSTRACT

*Styles of learning are different ways of learning. These consists such teaching strategies that ensure effective learning of the students. The instructions based on students' visual learning styles are called visual style based instruction. The present study was held to investigate the effect of visual learning style-based instruction on the academic achievement of the learners at elementary level. The objectives of this study were, 1) to examine the learning styles of the learners at elementary level 2) to make comparison of the results of the traditional instruction with visual learning style-based instruction. The study was delimited to the subject of Geography and the girl students of 6th class. Experimental research design was used in this study A learning style inventory was developed to examine the major learning styles of the learners. The students were divided into two groups on the basis of data collected through inventory, 1) control group and 2) experimental group. A pre-test comprising 30 questions was given to both groups. Then experimental group was taught using visual learning style-based instruction and control group was taught by using lecture method. After completing 15 lessons a post-test was held for both groups. Then the data was analyzed by using t-test to make inferences. Null hypothesis was rejected at 5% level of significance and result was made that the visual learning style-based instruction has a significant effect on the academic achievement of the learners. The analysis of the data revealed that the academic achievement of the students of experimental group was raised by using the visual learning style-based instruction. So it was suggested that the consideration of visual learning style during teaching process is very important to make learning effective.*

**Keywords:** Visual learning style-based instruction, Traditional instruction, Academic achievement

### INTRODUCTION

Education is an effort of transferring values, skills and knowledge to coming generation. Education is dynamic process that have three main elements; teacher, curriculum, and learner. All these elements have their own importance but the learner is the focal point of all educational endeavors. Education ensures the balanced development of human personality. It is fact that no two persons have same intelligence, habits, aptitude, interests, learning abilities etc. These differences are called individual differences. These individual differences gave birth to diversity of learning. Individual differences are natural phenomenon. A class teacher has to use different teaching strategies to satisfy the individual differences of the learners.

Today is the era of science and technology. Man has developed in all walks of life. In teaching learning process a significant change can be observed. In the beginning simple and traditional methods of teaching were used for all learners. But now a day many modern teaching methods have been developed according to the theories of Psychology. Psychology considers each individual a separate identity. So each person has its own ways of learning of learning. A classroom teacher is required a good knowledge of diversity of learning and all

the modern teaching strategies, methods and techniques of learning. In the past, teacher centered teaching strategies were in use where teacher enjoy the main role. A same strategy was used for all students and phenomenon of diversity of learning was neglected to a great extent.

Dunn & Dunn (1978) said that if a teacher used traditional strategy of teaching and forced all learners to remain passive during lecture then learning will not be effective in that classroom. Learners will feel boredom in that classroom. The learners will not be satisfied in such teaching environment. The curiosity of the learners will not be developed.

According to Prashing (2008), learners cannot show their best results if teacher ignore the fact of diversity of learning among all students. As a result the motivation level and self-esteem of the learners would be reduced to great extent. This situation can be named as education crisis. This term of education crisis is being discussed at each education forum. But the real issue is not “Education” it is “Learning”.

Contrary to teacher centered methods are learner centered methods. The learner centered methods are devised according to the mental capabilities and needs of the students. Activity based teaching; Kindergarten, project method etc. are known are learner centered methods of teaching.

Now the issue is examine that either traditional instruction is better or the visual style-based instruction for effective learning. The educational experts and psychiatrist are of the view that for effective learning consideration of individual differences and diversity of learning is very essential.

Dunn & Dunn (1970) and Charles Smith, (1990) worked on VAK model; Visual learning style, Auditory learning style, and Kinesthetic learning style. In Visual learning style learning approaches like showing pictures, videos, diagrams, charts, flash cards, and written material are used to make learning effective and long lasting. In Auditory learning style learning approaches like audios, lectures, discussions are used dominantly. In Kinesthetic learning style, role playing, experiences, touching things, holding things dramatization, simulation project etc. are used. The learner uses all these learning styles to learn any concept. However one of these learning styles will be the dominant learning style of the learner. This dominant learning style specifies the best approach for learning.

According to Sigel and Coop, (1974) concept of learning styles is very important to specify the cognitive dimensions of the learners.

Smith, (1982) said that learning styles tells us, how and when learning occurs. Dunn, (1983) considered learning style specify how a learner learn new knowledge. Mckeachi, (1995) said that the teachers should consider the learning styles during teaching process. This will help the teacher to achieve the task of quality education. McDonald, (2001) proved that learners learn in different ways like seeing, hearing and by doing different activities. Ambasana, (2004) said that each and every learner has its own particular style of learning.

Smith, (2005) said that teaching process should be modified according to the learning style of the learners as each learner has its own interests, aptitude and pace of learning Aitkin, (2006) defined learning styles as different modes of getting knowledge. These are learners’ preferences for some types of learning activities over others.

Analyzing the views of above mentioned psychologists and educationists it is obvious that each learner has its own dominant learning style. Learning styles presented can be summarized in three main categories; Visual learning style, Auditory learning style and

Kinesthetic learning style. This study was conducted to examine the effect of visual learning style-based instruction on the academic achievement of the learners.

## **OBJECTIVES OF THE STUDY**

The major objectives of this study were;

1. To examine the learning styles of the learners at elementary level.
2. To make comparison of the results of the traditional instruction with visual learning style-based instruction.

## **HYPOTHESIS OF THE STUDY**

**H0:** Visual style-based instruction has no significant effect on academic achievement of the learners at elementary level.

**H1:** Visual style-based instruction has a significant effect on academic achievement of the learners at elementary level.

## **TOOLS OF THE STUDY**

Pre-test, post- test, learning style inventory and lesson plans were used as tools of study. Pre-test and post-test both contained 30 questions out of which 20 were multiple choice questions and 10 were short questions. Total marks were 40 in both tests and passing marks were 14. The learning style inventory consisted 18 items. Each item showed one situation and under that situation three options were given. Each option shows one learning style such as;-

a= Visual learning style

b= Auditory learning style

c= Kinesthetic learning style

Out of 18 items of learning style inventory eight shows “with in classroom situations”, seven shows outside the classroom situation”, and three shows “leisure time situation”. Fifteen lessons were prepared keeping in view the teaching strategies that were suitable for visual learners.

## **CONCEPTUAL FRAME WORK OF THE STUDY**

Visual learners’ best learn through visual teaching techniques like charts, tables, videos, pictures, flash cards, handouts etc. Visual learners are divided into two classes; linguistic visual learners and visual spatial learners.

Linguistic visual learners, best learn through written material. They prefer to take notes. Visual spatial learners prefer to learn through charts, pictures, flash cards, diagrams, videos etc. Very often they remember images and forget description.

## **Characteristics of Visual Learners**

Visual learners can best learn though the sense of seeing. They relate verbal details with written words or images. They feel easy to take notes during lectures. They try to recall information in their mind’s “eye”. They like colorful books with lot of pictures, graphs, flow charts, tables, maps etc. They can observe environmental changes quickly and easily. They have nice taste for dressing. They are good at spelling. They often forget names but remember faces. They forget verbal description very soon. They are habitual to use high

lighters. They memorize text and spellings by writing again and again. They show good results in written tests. They are proved to be good designers. They enjoy picnic and trips. They dream in colors. They are fond of natural sceneries. They like those teachers who draw flow charts and drawing on black board and also write key points on the writing boards. They can easily understand sign and body language. They try to visualize situations.

### **Teaching Techniques for Visual Learners**

A class room teacher can apply different visual techniques to make learning effective. A teacher may:-

1. Use visual directions.
2. Use charts, graphs, and diagrams during teaching.
3. Use flash cards to enhancing students' vocabulary.
4. Use activities of matching games to develop the abilities of synthesis and analysis of the visual learners.
5. Use abacuses for teaching mathematics.
6. Motivate learners to use dictionaries and symbols to memorize the meanings of the difficult words.
7. Use pictures, newspapers and magazines during teaching process.
8. Provide students' an opportunity of educational trips to observe things
9. Use videos overhead projectors, TV, computers, cameras etc.
10. Use writing boards to write down important points.
11. Use flow charts and flow diagrams to show the sequential processes.
12. Motivate learners to highlight important points from the text.
13. Use Computer Assisted Instruction.
14. Use demonstration method for large number of students.
15. Use real objects in the class room where ever possible.

The educationists and the psychologists have suggested a lot of visual techniques that can be very beneficial for visual learners. Such as pictures, charts, movies, bulletin boards, games, flash cards, demonstration, graph, blackboard, workbooks, slides shows, dramas, photographs, diagrams, magazines, newspapers, models, books etc.

### **PROCEDURE OF THE STUDY**

The present study was held to examine the effectiveness of visual learning style-based instruction on learners' academic achievement at elementary level in the subject of Geography. Experimental research design was used in this study. The researchers have formulated the hypothesis (H<sub>1</sub>) that visual style-based instruction has a significant effect on learners' academic achievement. 44 students of 6<sup>th</sup> class of Govt. Girls high school Domel are selected as sample for this study.

The learning style inventory revealed that there were 13 visual learners, 19 auditory learners, and 12 kinesthetic learners in the sample of 44 learners. The experimental group comprised

visual learners and the control group comprised both auditory and kinesthetic learners, so the experimental group contained 13 students while controlled group contained 31 students.

A pre-test was held for both groups. 3 out of 13 learners of experimental group have got passing marks and 9 out of 31 learners of control group were remained pass in pre-test.

Then the researchers have planned 15 lessons comprising 1<sup>st</sup> six chapters of Geography for experimental group keeping in view the visual learning techniques. Different teaching strategies, techniques and teaching aids such as models, pictures, maps, globes, videos, charts and real things were selected according to the needs of the visual style of learning. The experimental group was taught using these lesson plans whereas the control group was taught the same content using traditional method of teaching.

After the completion of the experiment a post test was given to both groups. The results were analyzed by using statistical t-test technique using 5% level of significance.

The t-test is used to compare performances by utilizing arithmetic means and standard deviations. In this study a two tailed t-test was used. The reason of using two tailed t-test was that there would be a possibility that learning style-based instruction might increase the academic achievement of the students and might also decrease the academic achievement.

**Table 1. The t-test Analyses of Pre-test & Post-test Scores of Experimental and Control Groups**

Tests	Group	N	Mean	S.D	d.f	t Calculated	Table Value of t
Pre-test	Experimental	13	7.46	2.10	42	-0.43	2.021
	Control	31	7.87	4.13			
Post- test	Experimental	13	23.85	3.57	42	9.42	2.021
	Control	31	12.85	3.98			

Pre-test analysis shows that t calculated is -0.43 and t tabulated is 2.021. t calculated falls in acceptance region at 5% level of significance so it is sated that there is no significant difference between the mean scores of Control and Experimental groups.

Post-test analysis reveals that the calculated value of t is 9.42, and the tabulated value of t is 2.021 at 5% level of significance. This falls in rejection region and the null hypothesis was rejected. So we accept the alternative hypothesis that visual learning style-based instruction has a significant effect on learners' academic achievement at elementary level.

## FINDINGS OF THE STUDY

The findings of the study were:-

1. The learning style inventory showed that learners at the elementary level have different learning styles.
2. The t-value based on the pre-test was -0.43. Testing this value of t at 5% level of significance with d.f 42 revealed that there is no significant difference between mean scores of experimental and control groups.
3. The t-value based on the post-test was 9.42. Testing this value of t at 5% level of significance with d.f 42 showed that there is significant difference between mean

scores of experimental and control groups. This supports the major objective of the study that the visual learning style-based instruction has a significant effect of learners' academic achievement.

## **CONCLUSIONS**

Following conclusions have been derived from the findings of the study:

1. The learners at the elementary level have different learning styles. The learning style inventory has divided the learners into three main groups; visual learners, auditory learners and kinesthetic learners.
2. Post-test analysis leads towards the acceptance of the alternate hypothesis that visual style-based instruction has significant effect on the academic achievement of the learners.
3. The visual style-based instruction has increased the learning level of the learners.

## **RECOMMENDATIONS**

On the basis of findings, conclusion, the recommendations are:

1. For effective learning consideration of the learning styles of the learners is very crucial. A classroom teacher has to use different audio-visual aids keeping in mind the learning styles of the learners.
2. Classroom management should be equally beneficial for all types of learners.
3. The learners should be engaged in such activities that are according to their learning styles.
4. Curriculum should also address the diversity of learning.
5. Pre-service teacher training courses should train the up-coming teachers to cope with the problem of diversity of learning.
6. In-service training courses should be arranged on learning style based instruction so that the teachers would be able to apply learning style based instruction in their classrooms.

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