

Effect of Guided Discovery Instructional Strategy on Academic Achievement of Slow Learners

*¹Kamini and ²Dr. Supreet Kaur

¹Research Scholar, Department of Education, Panjab University, Chandigarh

²Professor in Education, University School of Open Learning, Panjab University, Chandigarh

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*Corresponding Author

Email: kaminiahuja1@gmail.com

ABSTRACT

The present paper investigates the effect of Guided Discovery Instructional Strategy on Academic Achievement of Slow Learners in science subject. The sample was drawn from various schools of district SBS Nagar. It consisted of 40 slow learners of grade 6th studying in government and government aided schools. Initially random sampling technique was used for the selection of schools of SBS Nagar. After that, slow learners were identified purposively by administering various tools. The present investigation employed experimental method with pre-test post-test control group design. Achievement test prepared by the researcher used as an instrument for data collection. Mean, standard deviation and t-test were used for data analysis. The results suggested effect of guided discovery instructional strategy is statistically significant on the academic achievement of slow learners.

Introduction

Learning is a deliberate, conscious, and complex process. This is the act of acquiring new knowledge, actions, skills, values, or preferences, and enhancing existing ones, which may involve the integration of different types of information. Various teaching and learning strategies have been developed to promote the student learning process. Learning strategies are derived from learning theories that define the role of teachers, students, and content. It is the well-known fact of psychology that every child is special as well as different and their pace of learning also varies individually. Disabilities can impact differently on them as they have different strengths, personality and experiences. For some children, education in regular classroom is not fruitful, rather special schools are there for the same purpose. But some children need special attention and strategies in regular classroom for their learning. Apart from many categories of children, the main focus of this research work is on slow learners which constitute almost 20 percent of the school population. It is significant number which cannot be ignored. Slow learners can take advantage from good and efficient educational system and practices as do mediocre children. They need task within their ability, approval and praise of their work and acceptance by pupils and their teachers. Source of energy of these students lying within them, but the only thing is to stretch the hand of confidence towards them and there is possibility of improvement, sooner or later which will solve their problem and improve their quality (Borah, 2013). But on the other side, if their interest is not secured then they may become unproductive inhabitants of the country (Nayakodi, 2016).

Slow Learners

Students in classroom vary in many aspects specially in pace of understanding and learning as no two personalities

look exactly alike, so they vary in their attitudes, interest, intelligence and their ability to adjust. When these differences are extreme, the learners requires extraordinary consideration and attention. The experience of educators and researchers confirms that many students are there in the classroom that are so backward in basic educational subjects that they need special support in the form of special class in regular school. These learners have limited scope for their achievement. They don't stand out as very dissimilar from their peers except that they are always slow on the uptake and are often teased by their peers because of their slowness (Reddy, Ramar & Kusuma, 2006). Kephart (1971) shed light on a slow learner on the basis of academic behavior by pointing out that a student who has reached the potential and yet achieves quite poorly in school subjects. Further, Kephart indicated that these students also process information in a slightly different way from other students. Their academic behavior is also less than what is expected from their age level.

Guided Discovery Instructional Strategy

Moore (2005) defined guided discovery as a means by which learners occupy themselves in problem solving in developing knowledge or skills. In this method, situation is provided by a teacher in which students tried to identify a uncertainty or contradiction and then assist them in finding a association between what they already know and what they have revealed the novel knowledge.

In Guided discovery learning, with the guidance of teacher, students actively participated in learning by discovering and exploring their own information. Adkisson in Westwood (2008) tagged this method as a motivating method in which students enjoyed in learning. They learn independently and curiously guided by the teacher. The key feature of guided discovery is learning how to acquire

understanding through the method of discovery and the investigation of knowledge combined with the responsibility of the learner. Students have responsibility for search of content essential for understanding through self-directed learning. Active participation of learners in the learning process is mandatory here. They understand and remember better what they have worked out for themselves (Grabe, 2009). Flexible learning environment is prerequisite to help students contribution and build their knowledge efficiently.

Academic Achievement

Academic achievement of students is a chief determining factor of the future of youth specifically and the nation in general. It is an important premium upon which all teaching-learning activities are measured using specific standard of quality like good or poor academic performance and academic failure (El-anzi, 2005). The central aim of the school is in the direction of achieving educational excellence by students, may have additional peripheral goals but significance is always laid on the achievement of sound scholarship (Adeyemo, 2001). Achievement is the significant goal of education. It refers to the level of success or proficiencies obtained in specific area correlated to scholastic work (Sharma, 2006). It is summation of information derived after concluding a course of instructions in a particular grade that student has obtained in an achievement test (Kumari, 2001). According to Dictionary of Education (2008), "Academic achievement is a measure of knowledge gained through formal education usually indicated by test scores, grade point average and degree".

Objectives

1. To identify the slow learners.
2. To study the effect of guided discovery instructional strategy on academic achievement of slow learners.

Hypothesis

1. Slow learners will improve significantly in academic achievement after administration of guided discovery instructional strategy.

Methodology

Design: The study used pre- test post- test control group design and experimental in nature.

Sample: A sample comprised of forty slow learners selected from class VI in normal classrooms from government and government aided schools of Nawanshahr.

Tools Used:

1. For the identification of slow learners,
 - Teacher Referral Form (developed by the researcher)
 - Draw A Man Test by Dr. Pramila Phatak (1987).
2. Achievement Test in science (developed by the researcher)

Data Analysis Techniques Used

The collected data evaluated with the help of mean (M), standard deviation (SD) and t- test statistics.

Procedure

After getting consent from the heads of the chosen schools, slow learners were identified by using teacher referral form and Draw A Man Test. The screened slow learners were equated in experimental (guided discovery) group and control (traditional teaching) group with twenty subjects in each group. The both groups were pre-tested using a investigator developed achievement test in science subject. Then, in next phase of the study, the experimental group was taught through guided discovery instructional strategy and control group was instructed by regular using chalk and talk method. The intervention continued for 38 sessions of 45 minutes duration each. At the end of the intervention, same achievement test of science subject was administered to both groups to obtain post test scores. The data obtained was then analysed and the results were discussed in the light of the set objectives.

Results and Interpretation

Table-1. depict descriptive statistics for academic achievement.

Table 1. A summary of descriptive statistics of pre, post and gain test achievement scores of experimental and control groups

| Dependent Variable | Groups → | Experimental Group (EG) N= 20 | | Control Group (CG) N= 20 | |
|----------------------|---------------------|-------------------------------|-------|--------------------------|-------|
| | Statistical Measure | Mean | SD | Mean | SD |
| Academic Achievement | Pre- test | 9.80 | 3.874 | 9.90 | 3.007 |
| | Post- test | 26.75 | 3.492 | 13.05 | 2.605 |
| | Gain Scores | 16.95 | 2.981 | 3.150 | 3.133 |

The table indicates that the mean pre-test score of experimental group for academic achievement in science is 9.80, and that of control group is 9.90. It shows that the means of both of the groups are almost same and groups are equal on pre-test scores. The mean post-test score of experimental group for academic achievement in science is 26.75 and that of

control group is 13.05. The mean gain score of experimental group for academic achievement in science is 16.95, and that of control group is 3.15. It depicts that after applying guided discovery instructional strategy, slow learners performance was better on academic achievement in science.

Table 2. t- test for differences in means of correlated and independent samples have been used to arrive at certain conclusions from the sample, about the population.

| Statistical Parameter | Standard Error Difference | Mean Difference | df | t- value | Level of Significance |
|-----------------------|---------------------------|-----------------|----|----------|-----------------------|
| Gain Scores | .856 | 13.80 | 39 | 14.31 | p<.05 |

Above table revealed that for gain scores of academic achievement in science, standard error difference is .856, mean difference is 13.80 and t-ratio is significant at 0.05 level of significance for 39 degrees of freedom. The results revealed that effect of guided discovery instructional strategy is statistically significant for the academic achievement in science of sixth grade slow learners. Hence, the hypothesis stating that "Slow learners will improve significantly in academic achievement after administration of guided discovery instructional strategy" is accepted. The results were supported by the studies conducted by Shittu (2008); Udo, (2010); and Ibe (2013).

Conclusion

This study indicated that when the academic achievement in science of slow learners was assessed under different instructional conditions, the results differ. Guided discovery instructional strategy when studied under this context recommended its effectiveness in improving achievement in science. The traditional strategy did not gain any significant changes in the achievement scores of slow learners. It can be said that the regular instructional method when changed can result in enhanced performance among slow learners.

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