

ENHANCEMENT OF ACHIEVEMENT MOTIVATION OF CHILDREN WITH LEARNING DISABILITIES THROUGH DIFFERENTIATED PEDAGOGICAL MECHANISMS: A COMPARATIVE STUDY

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ABSTRACT

The present study aims to investigate the comparative effectiveness of select Differentiated Pedagogical mechanisms based on Learning Stations, Tiered lessons and Graphic Organizers in enhancing the achievement motivation of upper primary pupils with Learning Disabilities. Achievement motivation is an important determinant of aspiration, efforts and persistence when an individual expects that his personality and his achievements in life will be evaluated in relation to some standard of excellence. Achievement motivation refers to a pattern of actions and feelings connected with strivings to achieve some internalized standard of excellence on performance (Vidler, 1977). Disability affects the child's development as a person. Developing adequate achievement motivation is an important aspect in affecting the child's response to education. It is important for the disabled to develop realistic and healthy achievement motivation. The nature of the study is Experimental. This study was conducted to find out the comparative effectiveness of select Differentiated Pedagogical Mechanisms namely, Learning Stations, Tiered Lessons and Graphic Organizers in enhancing the achievement motivation of a total sample of 72 pupils with Learning Disabilities from three schools and the design of the study was per-test—post-test non-equivalent group design. Suitable tools and statistical techniques were employed. The study shows that out of the three Differentiated Pedagogical Mechanisms, only the mechanism namely Tiered Lessons is significantly effective than Existing Activity Method of Instruction in enhancing the achievement motivation of upper primary pupils with Learning Disabilities.

Keywords: Learning Disability, Achievement Motivation, Differentiated Pedagogical Mechanisms.

Introduction

In all schools, at all stages of education, pre-primary to higher education, we come across a considerable number of children with mild to moderate level of disabilities. When closely analyze this present scenario of our schools, we can see that the inclusive teaching-learning environment is not conducive enough to properly educating these children. Majority of the teachers are not much aware of the effective inclusive teaching approaches, which helps in the proper inclusion of these children. Disabled children are suffering from some sort of exclusion. They are only physically present in the class. Their needs are not taken into consideration. Compared to other disability categories, children with learning disabilities are the most sufferers. Since learning disability is a hidden handicap, most of the time these children neither are nor identified by the teachers. Children with specific learning disabilities are smart and intelligent. They function like their peers in all aspects except academics. These children are often misunderstood. They are always been the subject of criticism and negligence. Not only they find themselves victims of criticisms putting them into embarrassed conditions, they are also lead to further deficiencies and maladjustment. Great majority of the teachers are not showing interest to adopt a proper strategy to involve them into the teaching –learning process. Students with learning disabilities often become unmotivated and pessimistic about their potential for academic success. It is in this context that there is an urgent need to study an alternative to improve the academic achievement and achievement motivation of children with learning disabilities.

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The focus of the study is to employ strategies that will improve learning and thereby enhance achievement motivation for all students. One strategy that supports this is Tiered lessons and assignments. The technique of 'Tiering' provides most beneficial learning for all students in the classroom by allowing the same concept to be developed using differing levels of instructional activities. It normally involves setting a series of lesson plans and activities in place that allow for some variation of the content. It allows students to focus on essential skills yet still be challenged at the different levels on which they are individually capable of working. Stations, Centers and learning zones are synonymous terms for designated areas where students can find hands-on, learner-focused, problem-solving activities. Each one is designed to provide students with opportunities to investigate, practice and work with content information. In the present context, the Investigator adopted Learning Stations/Centers as one of the classroom practices with a view to give hands on activities so that students may go around each station and try each activity or students may be assigned to specific stations to meet specific needs. In the present study, the Investigator adopted another strategy Graphic Organizer as a way to give Instruction with a view to enhancing active learning of all types of learners especially Visual learners in an inclusive class set-up. The versatility of the Graphic organizers makes them perfect tools for visual learners. (Susmitha & Pereira 2016)

Need and Significance

It is a collective truth that all individuals are different in essence from each other physically, mentally, educationally and socially up to a limit. All teachers, in spite of their experience and proficiency face daily challenges from pupils who appear not to act in response to their usual teaching approaches. One of the most interesting aspects of being a teacher is that new challenges appear all the time, and that this requires tenacity and professionalism in order to be successful. Teachers are needed to review continually their own work, and that the benefits of gaining new understanding and knowledge are a critical aspect of professionalism.

Disability has multi- dimensions and arises out of multi-causalities. It is often initiated and precipitated by environmental conditions. An environment which is unreliable, unjust and cruel thwarts the handicapped person's free use of his energies and undermines his self concept and self reliance. Such person's individuality, his way of life, his security and his opportunity to develop and to make free use of his resources and his potentialities for growth depends on the adults who have not given him the care. Disability affects the child's development as a person. Developing adequate self concepts and achievement motivation are important aspects affecting the child's response to education. It is important for the disabled to develop realistic and healthy achievement motivation (Susmitha & Pereira 2016).

Hypothesis of the Study

Differentiated Pedagogical mechanisms based on Learning Stations/Centers, Tiered Lessons and Graphic Organizers, are effective than the Existing Activity Method of Instruction in enhancing the Achievement Motivation of Upper Primary Inclusive Class Pupils with Learning Disabilities.

Objective of the Study

To compare the effectiveness of select Differentiated Pedagogical mechanisms namely, Learning Stations/Centers, Tiered Lessons and Graphic Organizers with that of the Existing Activity Method of Instruction on the Achievement Motivation of Upper Primary Inclusive Class Pupils with Learning Disabilities.

Methodology

The study was conducted to determine the relative effectiveness of select Differentiated Pedagogical mechanisms namely, Learning Stations/Centers, Tiered Lessons and Graphic Organizers with that of the Existing Activity Method of Instruction in the enhancement of Achievement Motivation of Upper Primary Inclusive Class Pupils with Learning Disabilities.. An experimental study with pre-test post-test Non-equivalent group Design was adopted by the Investigator. The experimental group was given a treatment through select Differentiated Pedagogical mechanisms based on Learning Station/Centers, Tiered Lessons and Graphic Organizers and control group was taught using Existing Activity oriented method of Instruction. Two groups were given equal attention during the course of experiment.

Three Inclusive schools were selected by the Investigator and gathered data about the pupils of 6th classes. Since the aim of the study was to find out the Comparative effectiveness of select Differentiating Pedagogical Mechanisms on Achievement Motivation of pupils with Learning Disabilities and Non Disabled pupils in an inclusive Upper Primary class, the Investigator was very particular in

selecting schools which includes only pupils with Learning Disabilities as Struggling Pupils along with Non Disabled pupils. So the Investigator selected 3 Inclusive schools and collected data about the Pupils of 6th classes. For that at first the Investigator collected the previous year's academic scores of the pupils. The Population is Upper Primary Inclusive class Pupils and a sample of 467 Pupils from three schools belong to Thrissur District of Kerala. From that 102 scholastically backward pupils (marks less than 30%) were screened out. To find out the pupils with Learning Disabilities of the class a Screening Test was administered to the Scholastically Backward pupils. After screening pupils with Learning Disabilities, Raven's intelligence test was administered to find out the achievement intelligence discrepancy to confirm Learning Disabilities among the screened pupils. To again confirm the particular difficulty present in the child, the Investigator prepared and distributed a checklist for Reading, Writing and Arithmetic difficulties to the teachers of the screened pupils with Learning Disabilities. Thus a sample of 72 pupils with Learning Disabilities were identified. (Susmitha & Pereira 2015). Three Experimental groups (I, II and III) and one Control group were selected. After administering the Pre-Test (Achievement motivation Scale) to all the learners, Group I was taught using the Instructional Approach based on Learning Stations/Centers, Group II with Instructional Approach based on Tiered Lessons and group III was taught using Instructional Approach based on Graphic Organizer, whereas the Control group followed the Existing Activity oriented Method of Instruction. At the end of the treatment, the Post-Test (Achievement motivation Scale) was administered over each group in order to assess the effectiveness of the select Approaches based on Learning Stations/Centers, Tiered Lessons and Graphic Organizer on the Achievement motivation .

Sample

The students (N=468) from three Schools of Thrissur District were selected as Total population and among them a sample of 72 were identified as Pupils with Learning Disabilities.

Variables in the Experiment

Selected Differentiating Pedagogical Mechanisms namely Learning Stations/Centers, Tiered Lessons and Graphic Organizers and the Existing Activity Method of Instruction were the independent variables for the present study and in the study the dependent variable was Achievement motivation

Tools

For the purpose of present study, the Investigator made use of the following materials and tools.

- Lesson Transcripts based on select strategies Learning Stations, Tiered Lesson and Graphic organizers (Prepared by the Susmitha & Pereira, 2015)
- Achievement Motivation Scale (by David, 2010).
- Screening Schedule for Learning Disabilities(by Association for Learning Disabilities, India 1996)
- Raven's intelligence test (Raven , 1936)
- Check Lists for Reading, writing and Arithmetic difficulties (Prepared by the Susmitha & Pereira, 2015)

Statistical Techniques

Statistical techniques employed are Analysis of Covariance (ANCOVA) and Test of significance of difference between adjusted means

Analysis and Results

The test scores were tabulated and analyzed and is given under the following tables.

The Comparative effectiveness of Differentiating Pedagogical Mechanisms namely Learning Stations/Centers, Tiered Lessons and Graphic Organizers among groups of pupils with Learning Disabilities were analyzed by comparing the Pre and Post tests scores of these groups in the experimental groups who were exposed to the select Pedagogical Mechanisms and those pupils in the control group who were exposed to the activity oriented method of curriculum transaction.

- **Comparison of Pre and Post tests scores of Achievement Motivation in the Experimental and Control groups for Pupils with Learning disabilities using ANOVA**

ANOVA is used to determine whether there is any significant difference between the groups with regard to Pre and Post tests scores of Achievement Motivation. The details regarding the ANOVA of Pre and Post tests scores of Achievement Motivation of the pupils in the treatment groups are given in Table 1

Table 1: Summary of ANOVA of Pre and Post tests scores of Achievement Motivation in the Experimental and Control groups for LD/Struggling Pupils.

Source of Variation	df	SSx	SSy	MSx	MSy	Fx	Fy
Among means	3	628.9	2038.0	209.6	679.3	1.27	3.19*
Within groups	68	11193.6	14503.6	164.6	213.3		
Total	71	11822.4	16541.7				

*: - Significant at 0.05 level x : Pre test y : Post test

The F test applied to the Pre test Scores of Achievement Motivation, ($F_x = 1.27$), which is less than the table value for df (3, 68) at 0.05 level. The variation is not statistically significant even at 0.05 level. The analysis of Pre test Scores of Achievement Motivation of pupils in the treatment groups revealed that the Achievement Motivation of pupils in the four different groups do not differ significantly.

The F statistics for the Post test Achievement Scores ($F_y = 3.19$, $p < 0.05$) is greater than the table value for df (3,68) and thus the variation is significant at 0.05 level.

So the analysis of Post test Scores of Achievement Motivation of the treatment groups revealed that the pupils in groups differ significantly with regard to the Post test Achievement Scores.

- **Determination of the effectiveness using ANCOVA**

ANCOVA is used here to determine whether the groups differ in Achievement Motivation at Post test level after correcting the difference in Pre test Scores of Achievement Motivation as a result of the methods of teaching applied.

The details regarding the Analysis of Covariance of Pre test Scores of Achievement Motivation on Post test Scores of Achievement Motivation of the pupils in the treatment groups are given in Table 2.

Table 2: Summary of ANCOVA of Post test scores after correcting for difference in Pre test scores of Achievement Motivation in the Experimental and Control Groups for Pupils with Learning disabilities

Source of Variation	Df	SSx	SSy	SSy.x	MSy.x	SDy.x	Fy.x
Among	3	628.9	2038.0	2566.2	855.4	13.434	4.74**
Within	67	11193.6	14503.6	12092.1	180.5		
Total	70	11822.4	16541.7	14658.3			

** : significant at 0.01 level x : Pre test y : Post test y.x : Adjusted post

After correcting the Post test Scores of Achievement Motivation for difference in Pre test Scores of Achievement Motivation, F statistics is applied to the Post test Achievement Scores. The value of the ANCOVA ($F_{y.x} = 4.74$, $p < 0.01$) is significant at 0.01 level. From $F_{y.x}$, it is clear that the mean score of Post test Achievement Motivation, after adjusted for the Pre test Scores of Achievement Motivation significantly differ among the groups.

- **Comparison of the adjusted means of Experimental and Control groups**

Scheffe multiple comparison is used to compare the mean Achievement Motivation of different groups taken two at a time (pair wise) to assess where a significant mean difference exist.

Table 3: Unadjusted and Adjusted mean scores at Pre and Post test levels of Achievement Motivation for Pupils with Learning disabilities .

Groups	N	Mx	My	My.x	Pair	F'
Learning Stations (A)	18	35.2	55.3	56.3	A&B	0.44
Tiered Lessons (B)	18	33.7	59.8	61.5	A&C	0.01
Graphic Organizers(C)	18	41.1	57.3	55.6	A&D	2.16
Activity Method (D)	18	39.2	45.8	44.9	B&C	0.58
					B&D	4.57**
					C&D	1.9

** : significant at 0.01 level * : significant at 0.05 level

x : Pre test y : Post test y.x : Adjusted post

The average adjusted Post test Achievement score are 56.3, 61.5, 55.6 and 44.9 respectively for pupils learned by Learning Stations/Centers, Tiered Lessons, Graphic Organizers and Activity Method. It can be seen that only the F' value between Tiered Lessons and Activity Method is 4.57

($p < 0.01$), which is significant at 0.01 level. It means that the adjusted Post test Achievement score is significantly high to pupils learned by Tiered Lessons (61.5) as compared with pupils taught by activity method (44.9). Thus it can be infer that only Tiered Lessons is significantly better than activity method.

Thus it can be inferred that the IDIA namely Tiered Lessons is significantly effective than EAMI on Achievement Motivation of Learning Disabled in the Inclusive Class rooms.

Discussion of Results

The results of the analysis shows that the Differentiating Pedagogical Mechanism namely Tiered Lessons is significantly effective than Existing Activity Method of Instruction in enhancing the Achievement Motivation of Pupils with Learning Disabilities in the Inclusive Class room. This may be due to the chance of offering instruction on the same content at varied levels of challenge through Tiered Lessons. Pupils with Learning disabilities are given Differentiated Instruction based on the needs and capabilities of the individual child. Research studies provide enlightening insights into the implementation of Tiered Instruction as an efficient method of curriculum differentiation in the regular schools. From the review of related literature, majority of the studies point towards that use of Tiered Instructional approach has been found effective for producing positive social outcomes for pupils who are at risk, and showed gains in achievement, gains in conceptual understanding, student motivation and decrease behavioral problems of pupils. The findings are supported by studies conducted by Richards (2005), Cheney et al. (2009), DeBaryshe et al. (2009), Nancy (2013), Collins (2013) and Buckingham and Beaman (2012).

For some pupils with Learning disabilities, mastery of an exhaustive set of standards will not be possible in the instructional time allowed. Thus identification of, and tiered instruction on, a subset of critically important standards may serve the student as a 'rubric' for understanding of other additional content. This may offer the option of having those pupils master that subset of the content, as opposed to mastery of none. Thus the student will be in an enhanced position, which might have eventually helped them to increase their Achievement Motivation. Even though there are evidences of support for the other two Pedagogical Mechanisms like Graphic Organizers and Learning Stations in a Differentiating Instructional Classrooms for improving the achievement of students, it doesn't reflect in this study for enhancing the achievement Motivation of Pupils with learning Disabilities.

In a nutshell, the Investigator derived a concluding remark from the results obtained from the analysis and the supporting evidences from literature that the Differentiating Pedagogical Mechanism namely Tiered Lessons is significantly effective promising curriculum transaction modality in an Inclusive class room with diverse learners (Susmitha & Pereira, 2015).

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