



THE TIERED LESSONS: AN EFFECTIVE DIFFERENTIATING STRATEGY FOR IMPROVING ACADEMIC ACHIEVEMENT AMONG UPPER PRIMARY INCLUSIVE CLASS PUPILS WITH AND WITHOUT LEARNING DISABILITIES.

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Abstract

The present study, aims to investigate the effectiveness of Differentiating Instruction based on Tiered lessons in improving the Academic Achievement of Upper Primary Pupils with and without Learning Disabilities. Differentiation of instruction becomes an important strategy for achieving new roles and relationships in the classroom. It may be conceptualized as a teacher's response to the diverse learning needs of a student. A concept that is central to differentiation is the concept of Tiering instruction, or offering instruction on the same content at varied levels of challenge. Tiering is a process of adjusting the degree of difficulty of a question, a task, or product to match a student's current readiness. The study is Experimental in nature. It was conducted on a total sample of 234 students from three schools and the design of the study was per-test—post-test non-equivalent group design. Appropriate tools and statistical techniques were employed. The study revealed that the experimental group showed improvement in Academic Achievement. The study also showed that the Pupils with Learning Disabilities in the class showed improvement in the Academic Achievement, which reveals that the Differentiating Instruction based on Tiered Lessons is beneficial for disabled categories as well as for non-disabled pupils.

Keywords: *Differentiating Instruction, Tiered Lessons, Academic Achievement ,Learning Disability.*

Introduction

Differentiating Instruction is an instructional design model focusing on who, where, and how one teaches, as opposed to what one teaches. The goal of Differentiating Instruction is to ensure that educators focus on the processes and procedures that can lead to effective learning for all students through approaches that can be adapted to the diverse needs of students within a classroom (Tomlinson and McTighe, 2006). Inclusion is the provision of services to students with disabilities in their neighbourhood schools with necessary support services and supplementary aids for both children and teachers. It means meeting the needs of children with disabilities for a free and quality public education in the least restrictive and most effective environment. The objective of inclusion is to prepare students to play a part as full and contributing members of the society. This is possible only in flexible education system that assimilates the needs of diverse range of learners and adapts itself to meet these needs.

The focus of a differentiated classroom is to implement strategies that will enhance learning for all students. One strategy that supports this is Tiered lessons and assignments. The technique of 'Tiering' provides most advantageous learning for all students in the classroom by allowing the same concept to be developed using differing levels of instructional activities. It typically 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. Attending to these differences by Differentiating Instruction with a student's learning profile in mind leads to improved achievement. Teachers effectively modifying their instruction based on the variety of student learning profiles within their classroom provide students with a tool to take advantage of their strengths and minimize their weaknesses. 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 students who are at risk, and showed gains in achievement, gains in conceptual understanding, student motivation and decrease behavioural problems of students. This is supported by studies conducted by Richards (2005), Cheney Douglas et al. (2009), DeBaryshe et.al (2009), Nancy (2013), Collins (2013), Buckingham and Beaman (2012).

Need and Significance

Students with learning disabilities (LD) have a way of challenging almost every general education teacher because of the learning characteristics that are displayed by many kids with learning disabilities. As every veteran teacher realizes, students with learning disabilities may be less engaged in the learning task, unable to cope with multiple instructions, and poorly organized in their thinking and work habits. When these deficits are coupled with fairly severe academic deficits, the result can be a student who is very challenging for general education teachers. Teachers are hungry for tactics and ideas that work for these challenging students. The concept of *differentiated instruction* is based on the need for general education teachers to differentiate instruction to meet the needs of diverse learners in the general education class; this includes students with



learning disabilities as well as a number of other disabilities. Differentiated instruction may be conceptualized as a teacher's response to the diverse learning needs of a student (Tomlinson, 1999, 2001). Teachers must know the learners in the class, understanding not only such things about each learner as the learning style and learning preferences but also showing a concern for each student by tailoring instruction to meet the needs of each individual student. Students tend to comprehend little and lose focus of classroom instruction when their teachers fail to use instructional strategies that match students' learning styles or readiness levels. Differentiated instruction can alleviate or eliminate this disengagement.

A concept that is central to differentiation is the concept of tiering instruction, or offering instruction on the same content at varied levels of challenge. Tiering is a process of adjusting the degree of difficulty of a question, a task, or product to match a student's current readiness. Tiered instruction provides different levels of learning tasks within the same unit or topic in order to align the curriculum to the different readiness levels of students and to respond to learner differences. It allows students to focus on essential skills yet still be challenged at the different levels on which they are individually capable of working. In the present context, the Investigator conducted a survey among general and special educators of upper primary level, to ascertain the skills, knowledge and dispositions of those teachers with regard to the instructional practices in the Inclusive classrooms. The conclusions arrived from the survey provide a landscape for the study. Majority of the general and special education teachers are not well aware of the Differentiated Instructional strategies and they lack the necessary skills to implement such strategies in the Inclusive classrooms. With the increasing numbers of students with learning disabilities (LD) educated in the general education environment, educators face the challenge of providing these students opportunities to access the general curriculum, while ensuring that they receive free and appropriate public education. Since the major purpose of the study was to include LD pupils properly without suffering from any sort of exclusion, the Investigator was very particular in selecting a Differentiating Instruction based on strategy Tiered lessons that can cater the needs of these pupils along with non-disabled pupils.

Objectives of the Study

1. To find out, whether there is significant difference exists between Differentiating Instruction based on Tiered Lessons over the Conventional Activity oriented Method of Instruction in improving the Academic Achievement of Total Sample of Pupils at Upper Primary Level
2. To find out, whether there is significant difference exists between Differentiating Instruction based on Tiered Lessons over the Conventional Activity oriented Method of Instruction in improving the Academic Achievement of Pupils with Learning Disabilities at Upper Primary Level

Hypotheses

1. The Differentiating Instruction based on Tiered Lessons is better than the Conventional Activity oriented Method of Instruction in improving the Academic Achievement of Total Sample of Pupils at Upper Primary Level
2. The Differentiating Instruction based on Tiered Lessons is better than the Conventional Activity oriented Method of Instruction in improving the Academic Achievement of Pupils with Learning Disabilities at Upper Primary Level

Methodology

The study was conducted to ascertain the relative effectiveness of two types of Pedagogy, Differentiating Instruction based on Tiered Lessons and Conventional Activity oriented Mode of Instruction in improving the Academic Achievement of Pupils with Learning disabilities (LD) and Non-Disabled (ND) Pupils in an Inclusive Classroom at Upper -Primary Level. The study was experimental in nature and adopted the pre-test post-test Non-equivalent group Design which consisted of an experimental group and a control group. The Experimental group was given a treatment through Differentiating Instruction based on Tiered Lessons transcripts and control group was taught using Conventional Activity oriented method of Instruction. While planning the Implementation phase of the Tiered Lessons, Investigator incorporated three stages. Whole Class Initial Activities, Tiering Activities and Whole Class Culminating Activities. Two groups were given equal attention during the course of experiment. The students from three Schools were selected as sample. The sample size was 234 students.

The investigator selected three Inclusive schools and collected data about the students of 6th classes. For that at first the investigator collected the previous year's academic scores of the students. From that scholastically backward students were selected. To find out the Pupils with LD of the class a Screening Test (adopted) was administrated to the scholastically backward students. After screening LD students, Raven's intelligence test was administrated to find out the achievement intelligence discrepancy to confirm LD among the screened students.

Sample: Samples of 234 Upper Primary school Pupils from three schools of Kerala are the participants of the study

Tools: For the purpose of present study the investigator made use of the following materials and tools.



- Screening test of learning disabilities.(Adopted)
- Ravens matrices for intelligence.
- Achievement Test in General Science
- Differentiating Instruction based on Tiered Lesson Transcripts (Prepared by the investigator)

Statistical Techniques

The different statistical techniques employed are test of significance of difference between means, Analysis of Covariance (ANCOVA) and Test of significance of difference between adjusted means

Analysis and Discussion

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

A. Table 1, Test of significance of difference between means of Pre and Post Test scores of Achievement of Exptl Group (Tiered lessons) and Control group in enhancing achievement in Science for Total Sample.

	Control and Exptl	N	Mean	Std. Deviation	Critical Ratio	Levels of Sig
Pretest	Control	116	3.276	1.59224	.557	Not sig
	Exptl-	118	3.5085	3.11804		
Posttest	Control	116	10.6983	3.35759	9.14	.01
	Exptl-	118	14.500	2.99786		

B. Table 2 ,Summary of Analysis of Covariance (ANCOVA) for Achievement – PreTest scores as covariate for Total Sample

	Source of Variance	Sum of Squares	Df	Mean Squares	F	Level of Sig
Achievement	Between	806.324	1	806.324	92.16	.01
	Within	2021.060	231	8.749		
	Total	40434.00	234			

Analysis of covariance of pretest and posttest scores of pupils in experimental and control group showed that there is significant difference between the two groups ($F_{yx}=92.16$, $P<0.01$), which implies that the experimental group excels control group in Academic Achievement.

C. Table 3, The Data and Results of Test of Significance of Difference between Adjusted Mean Posttest Scores on Academic Achievement for Total sample–Pretest Scores as Covariate

Dependent variable	Adjusted Mean		Std. Error	T-value
	Control Group	Experimental Group		
Academic Achievement	10.742	14.457	0.387	9.599**

The T value for adjusted mean scores at pre and post test level of Academic Achievement ($T=9.599$, $P<0.01$) was found to be significant at 0.01 level. This reflects that the students of experimental group taught through Differentiating Instruction based on Tiered Lessons gained significantly higher scores than those taught through activity method. This confirms the supremacy of teaching through Differentiating Instruction based on Tiered Lessons over Activity method in improving the Academic Achievement of Students in an Inclusive class.

B) Effectiveness of Differentiating Instruction based on Tiered Lessons over activity method for Pupils with Learning Disabilities.

D. Table 4, Test of significance of difference between means of Pre and Post Test scores of Achievement of Tiered lessons Group and Control group in enhancing achievement in Science for LD Sample.

	Control and Exptl	N	Mean	Std. Deviation	Critical Ratio	Levels of Sig
Pretest	Control	18	2.4444	1.29352	.756	Not Significant
	Exptl-GO	18	2.7778	1.35280		
Posttest	Control	18	5.9444	1.30484	9.307	.01
	Exptl-GO	18	15.2222	4.02281		



E. Table 5, Summary of Analysis of Covariance (ANCOVA) for Achievement – Pre Test scores as covariate for LD Sample

	Source of Variance	Sum of Squares	Df	Mean Squares	F	Level of Sig
Achievement	Between	662.993	1	662.993	228.073	.01
	Within	95.929	33	2.907		
	Total	5111.00	36			

Analysis of covariance of pretest and posttest scores of Pupils with Learning Disabilities in experimental and control group showed that there is significant difference between the two groups ($F_{yx} = 228.073$, $P < 0.01$). Table 2 implies that the experimental group excels control group in Academic Achievement.

F. Table 6, The Data and Results of Test of Significance of Difference between Adjusted Mean Posttest Scores on Academic Achievement for LD sample–Pretest Scores as Covariate

Dependent variable	Adjusted Mean		Std. Error	t-value
	Control Group	Experimental Group		
Academic Achievement	6.256	14.911	0.404	21.423**

The T value for adjusted mean scores at pre and post test level of self concept ($T = 21.423$, $P < 0.01$) was found to be significant at 0.01 level. This reflects that the Pupils with Learning Disabilities of experimental group taught through Differentiating Instruction gained significantly higher scores than those taught through activity method. This confirms the superiority of teaching through Differentiating Instruction based on Tiered Lessons over Activity method in improving the Academic Achievement of Students in an Inclusive class

Educational implications

The present study has got implications in the Teaching-Learning process in an Inclusive class environment. The focus of a differentiated classroom is to implement strategies that will enhance learning for all students. One strategy that supports this is Tiered lessons. The technique of 'Tiering' provides most advantageous learning for all students in the classroom by allowing the same concept to be developed using differing levels of instructional activities. Learners must have a challenge that is appropriate for them in order for learning to occur. Students experience more success when learning occurs at the level of challenge that is appropriate for them. All students learn the same fundamental skills and concepts but through varying modes and activities. The tiers appropriately challenge students at their ability levels. The teacher's challenge is to make sure all tasks, regardless of the tier level, are interesting, engaging, and challenging. In the present context, the investigator adopted Tiered Lessons as a classroom practice with a view to Differentiate Instruction so that students may experience the learning at their appropriate ability level. The study shows that learners practiced the task using differing levels of instructional activities. It also revealed the impact of the select classroom practice to promote inclusion of all types learners. So this Differentiating Instruction based on Tiered Lessons has got at most importance in inclusive classes which includes Pupils with Learning Disabilities.

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