

Effectiveness of Slow Learner Classes in Improving Students' Academic Performance-A Case Study

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ABSTRACT

The purpose of this paper is analyzing the improvement in academic performance of students by conducting slow learner classes. A case study of Vels Institute of Science Technology and Advanced Studies, Chennai in Tamilnadu is considered for analysis. In the university the slow learner classes conducted twice in a semester, one time after the completion of mid-1, for one month and other time after the completion of mid-2, for one month. The classes conducted daily from evening 4'o clock to 6'o clock except Sundays and public holidays. The students register for slow learner classes collected for three academic years continuously (2018-2019, 2019-2020, and 2020-2021) from IT department. The data set consists of 72 instances and 7 attributes. The data was analyzed based on the year and semester that students are studying. The slow learner data corresponding to three academic years was analyzed based on subject. In this the percentage of students improved after mid-1 and after mid-2 due to slow learner classes conducted after mid-1 and after mid-2. Effective conduction of slow learner classes in educational institutions results in improving learning capabilities and result in good academic performance.

Keyword: Slow Learner Classes, Academic Performance, Mid Exams, Academic Year, Subject.

I. INTRODUCTION

Conducting remedial classes is one means by which educational institutions attempt to help underprepared students succeed in college-level education. Slow learners need psychological push from faculty to realize their potential. Slow learner classes conduction is one of the best practices implemented by various educational institutions. As the part of best practices Vels Institute of Science Technology and Advanced Studies, Chennai in Tamilnadu follows conducting slow learner classes for students who got less marks in mid examinations. Universities putting more efforts in educating the students who are disable to learn quickly. The system of conducting slow learner classes helps not only the disable students but also the students who absent for regular classes with health problem or with some other reasons. The University is spending more on conducting these slow learner classes in terms of infrastructure, resources, remuneration for faculty and for providing the necessary facilities such as transport to the students who are staying beyond regular class hours. This interest of Universities on student's career motivated me to write this paper. Section 2 explains the existing literature in this area; section 3 defines the problem statement and objectives of this paper; section 4 analyzes the process of conducting slow learner classes in Vels Institute of Science Technology and Advanced Studies, Chennai in Tamilnadu and also improvement in academic performance of students due to this effort; section 5 provides the summary of all this paper.

Literature Survey

(Panlilio, 2019) This paper is a quantitative investigation of the transition to college and the consequent scholarly presentation of underprepared students at a public, four-year, minority-serving institution of higher education. The paper analyzes the impact of remediation and support programs provided at this institution to assist underprepared students succeed. The author used linear and multiple regressions in estimating the students' progression.

(Eno, Studies, Clements, & Group, 2019) This study discusses the benefits of remedial teaching to poor performers or 'at risk' students in an English as a Second/Foreign Language (ESL/EFL) classroom. It presents a case of remedial teaching to a group of 21 intermediate level students in a technical vocational training institution in the United Arab Emirates (UAE).

(Chao & Tseng, 2013a)(Chao & Tseng, 2013b) In this paper the author aimed at assessing students' academic progression in an engineering college. The author studied data related to 57 students who registered for a 5- week remedial intensive English program. The author analyzed the data by collecting it through pretest and posttest.

(Torgesen et al., 2001) The most significant outcome of this study was the demonstration of large, generalized, and stable changes in the reading ability of a sample of children selected because they had been unable to acquire adequate word-reading ability through instruction received in both general and special education classrooms. About half the children in our sample attained average-level reading skills by the end of the follow- up period.

(Long, Boatman, Jones, & Perna, 2013) This paper analyzes the impacts of remediation on student outcomes. It also outlines needs for future research on remedial and developmental programs, including the use of more rigorous research designs to better target causal impact, ways to utilize existing data for such analyses, how enhanced data can be generated, and

continued improvements to the alignment of state secondary and postsecondary curricula and expectations.

(Luoch, 2014) This paper examines the impact of a remedial English course in raising the level of English proficiency of students in an American University. The analysis was done on the collected from 46 students who registered for a 14- week remedial English course. After the completion of course, the performance of students was analyzed by conducting a similar type of test earlier in which the students have poor performance.

Statement of Problem

This paper aims at explaining slow learner classes, one of the best practices followed by Vels Institute of Science Technology and Advanced Studies, for improving students' academic performance. In addition, it aims at explaining the advantages of conducting slow learner classes to the students. Furthermore, it aims at explaining the process of conducting slow learner classes. Moreover, it also aims at measuring effectiveness and analysing the improvement in students' academic performance due to these slow learner classes.

II. OBJECTIVES OF THE STUDY

- Surveying the existing literature in conducting remedial classes.
- Explaining the process of conducting slow learner classes.
- Analyzing the improvement in academic performance of students due to slow learner classes.

Analyzing Improvement in Students' Academic Performance by Conducting Slow Learner Classes

The slow learner classes are conducted twice in a semester, one time after the completion of mid-1 for one month and other time after the completion of mid-2 for one month. The classes are conducted daily from evening 4'o clock to 6'o clock except Sundays and public holidays. After mid-1 result announced the students who got less marks (i.e. less than 24 out of 30) are restricted to register for slow learner classes. Those students have to attend regularly to the classes after the completion of their regular classes(which are completed by 3.45 PM).A time table prepared in such a way that each subject gets one class in a week. According to that time table the slow learner classes will be conducted. In these classes faculty puts their effort in improving the knowledge of those students in their corresponding subjects and prepare the students for next mid exam.

After the completion of second mid, an analysis will be done to find the number of students who improved their performance in all the subjects. Again the same process is followed after mid-2 to conduct the slow learner classes.

Data Collection and Analysis

A case study of Vels Institute of Science Technology and Advanced Studies, Chennai in Tamilnadu India is considered for the study. In Vels Institute of Science Technology and Advanced Studies, IT slow learner classes data of three academic years continuously (2018-2019, 2019-2020, 2020-2021) collected for the analysis purpose. In each academic year two semesters are conducted and in each semester twice (after mid-1 and after mid-2) the slow learner classes were conducted. In each semester the students are studying 6 subjects, and the slow learner classes were conducted in all those subjects. In the data set I indicated the names of subjects with alphabets for typing convenience.

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The data of students studying III year and II year is collected in each academic year. The following figure shows the data collected.

S.No	ACADEMIC YEAR	YEAR/SEM	SUBJECT	# ENROLLED STUDENTS AFTER MID-1	#STUDENTS IMPROVED IN MID-2	# ENROLLED STUDENTS AFTER MID-2	#STUDENTS IMPROVED IN MID-3
1	2017-2018	III/I	A	10	5	15	10
2	2017-2018	III/I	B	12	7	10	4
3	2017-2018	III/I	C	10	5	12	3
4	2017-2018	III/I	D	12	6	14	5
5	2017-2018	III/I	E	15	3	18	8
6	2017-2018	III/I	F	20	5	19	9
7	2017-2018	III/II	G	12	8	20	10
8	2017-2018	III/II	H	20	12	21	18
9	2017-2018	III/II	I	12	5	22	18
10	2017-2018	III/II	J	14	6	4	4
11	2017-2018	III/II	K	18	9	5	4
12	2017-2018	III/II	L	16	7	8	3
13	2017-2018	III/I	M	12	8	16	8
14	2017-2018	III/I	N	15	5	13	9
15	2017-2018	III/I	O	10	6	14	5
16	2017-2018	III/I	P	12	2	15	6
17	2017-2018	III/I	Q	14	3	18	5
18	2017-2018	III/I	R	15	1	17	14
19	2017-2018	III/II	S	12	5	19	16
20	2017-2018	III/II	T	14	4	20	13
21	2017-2018	III/II	U	12	6	14	8
22	2017-2018	III/II	V	10	8	15	9
23	2017-2018	III/II	W	11	7	18	7
24	2017-2018	III/II	X	12	5	19	8
25	2016-2017	III/I	A	20	12		4
26	2016-2017	III/I	B	12	5		3

Fig.1. Data set collected from Vignan University, IT Department.

The data set consists of 72 instances and 7 attributes. The following is the list of attributes.

Academic year: The academic year in which the student is studying.

Year/ Semester: Student studying year (III year or II year) and semester (I sem or II sem)

Subject: Subject in which student registered for slow learner class.

Number of enrolled students after mid-1: Number of students got less marks in mid-1 subject wise.

- Number of students improved in mid-2: After analyzing mid-2 result number of students improved due to slow learner classes.
- Number of enrolled students after mid-2: Number of students got less marks in mid-2 subject wise.
- Number of students improved in mid-3: After analyzing mid-2 result number of students improved due to slow learner classes.

Academic Year Wise Data Analysis

In this section the data analysed academic year wise. The data analysed based on the year and semester that students are studying. First the data related to the students who are studying III year I semester and then III year II semester data was analyzed.

III Year Data

Table 1
Slow learner classes data analysis of III Year Students

Academic Year	III/I				III/II			
	Enrolled Students After Mid-1	Students Improved in Mid-2	Enrolled Students After Mid-2	Students Improved in Mid-3	Enrolled Students After Mid-1	Students Improved in Mid-2	Enrolled Students After Mid-2	Students Improved in Mid-3
2018-2019	79	31	88	39	92	47	80	57
2019-2020	92	47	60	39	78	21	101	44
2020-2021	96	47	104	47	79	25	68	43

II Year Data

Here the analysis of data related to the students who are studying II year I semester and II year II semester is presented.

Table2
Slow learner classes data analysis of II year students

Academic Year	II/I				II/II			
	Enrolled Students After Mid-1	Students Improved in Mid-2	Enrolled Students After Mid-2	Students Improved in Mid-3	Enrolled Students After Mid-1	Students Improved in Mid-2	Enrolled Students After Mid-2	Students Improved in Mid-3
2018-2019	78	25	93	47	71	35	105	61
2019-2020	79	43	114	40	74	41	60	45
2020-2021	77	35	89	35	80	22	101	39

Subject Wise Data Analysis

In this section the slow learner data corresponding to three academic years analyzed based on subject. In this percentage of students improved after mid-1 and after mid-2 due to slow learner classes conducted after mid-1 and after mid-2 is given.

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Table 3
Slow Learner Classes Data Analysis in Subject Wise

Subject	Enrolled Students After Mid-1	Students Improved in Mid-2	%Of Students Improved	Enrolled Students After Mid-2	Students Improved in Mid-3	%Of Students Improved
A	50	25	50	31	22	70.96774194
B	36	24	66.66666667	29	16	55.17241379
C	44	16	36.36363636	38	13	34.21052632
D	42	21	50	49	19	38.7755102
E	45	19	42.22222222	51	22	43.1372549
F	50	19	38	54	33	61.11111111
G	43	21	48.8372093	57	39	68.42105263
H	42	23	54.76190476	43	34	79.06976744
I	39	13	33.33333333	44	25	56.81818182
J	38	11	28.94736842	31	13	41.93548387
K	45	13	28.88888889	41	14	34.14634146
L	42	12	28.57142857	33	19	57.57575758
M	43	19	44.18604651	44	21	47.72727273
N	39	17	43.58974359	46	15	32.60869565
O	39	19	48.71794872	51	18	35.29411765
P	34	14	41.17647059	48	23	47.91666667
Q	36	23	63.88888889	53	17	32.0754717
R	43	11	25.58139535	54	28	51.85185185
S	42	17	40.47619048	41	25	60.97560976
T	38	15	39.47368421	42	20	47.61904762
U	42	16	38.0952381	41	19	46.34146341
V	34	17	50	51	30	58.82352941
W	36	16	44.44444444	43	24	55.81395349
X	33	17	51.51515152	48	27	56.25

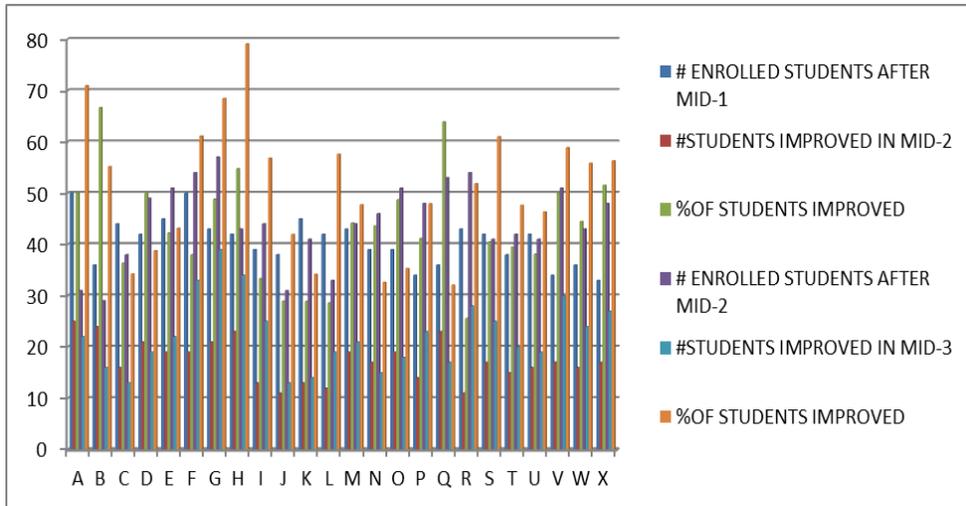


Fig.6. Visualization of slow learner classes data analysis in subject wise

III. CONCLUSION

Conducting remedial classes is one means by which educational institutions attempt to help underprepared students succeed in college-level education. Remedial education is one of the best practices implemented by various educational institutions. As the part of best practices Vels Institute of Science Technology and Advanced Studies, Chennai follows conducting slow learner classes for students who got less marks in mid examinations. This paper explains the existing literature on remedial classes. It also explains the process of conducting slow learner classes. This paper analyzes the data related to slow learner classes in two ways. One is academic year wise analysis and subject wise analysis. In subject wise analysis table 3 shows the percentage of number of students improved their performance after mid-1 and after mid-2 exams. After mid-1 minimum 25.58139535% of students and maximum 66.66666667% of students improved their performance. After mid-2 minimum 32.0754717% of students and maximum 79.06976744% of students improved their performance in various subjects. The implication of the study is effective conduction of slow learner classes are very much useful to the slow learners to rectify their gaps in learning mechanism, faculty to meet course outcomes and educational institutions to cautiously transform slowlearners in to standard learners to perform well in their academics and career.

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