

Relationship Between Teaching Approaches And Students Academic Achievement

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Abstract: The purpose of the study was to investigate the relationship between teaching approaches and students academic achievement. Objectives of the study were to ascertain the relationship between Single-Subject and multi-subject-teaching approaches and students' academic achievement. Fifty students of 5th class and 20 Primary School Teachers were the respondents of the study. Through a self-developed questionnaire data were collected from teachers while the effects of these teaching approaches on students were assessed through pre- and post-tests. Teachers' responses were analyzed through Mean and standard deviation while students' performances were analyzed through Wilcoxon signed-rank test. Findings of the study illustrated that single-subjects-teaching have positive but not significant relationship to the academic achievement of students while multi-subject-teaching approach have positive and significant relationship to the academic achievement of students. It was recommended that the present approach of multi-subject-teaching should be remained with some modifications and further trainings should be arranged to equip teachers with improved knowledge of teaching.

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1. INTRODUCTION

Akinbute (2007) primary school years are the most important years of any students. At this level student are impart with basic knowledge. The knowledge of primary education provides foundation for further education. The quality of education can be measure through the quality of primary education. The effectiveness and ineffectiveness of education depends on the basic education, if at primary level effective knowledge and training are given to the students they can easily complete their secondary and higher education. Therefore the quality of primary education is very important which can be improved through the quality of teachers and their instruction. It is therefore necessary to improve all aspects of primary education that is teachers' qualification, pedagogical knowledge through consistent trainings and refreshing courses, school equipments and all others that facilitate primary education.

The main purpose of primary education is to identify the interest, aptitude and abilities of the students for future planning and also to motivate them for school life. This stage of education imparts basic life skills; reading, writing, communication and basic mathematics (Ball, Thames, & Phelps, 2008).

Formal system of education in Pakistan is divided into three main stages that is elementary, secondary and higher education. Every stage of education is important and need proper mechanism to be adopted to cater the needs of the concerned stage. The mechanism of teaching at all levels is different because of the need and mental level of the students.

At primary level in elementary stage of education teacher is considered as generalist all rounder. He teaches all subjects that are languages, mathematics, science, theology and all other subjects which are taught at primary level. Teaching all subjects is difficult if not impossible. Besides that the teaching of a subject needs expertness, as an expert teacher teaching will be completely different from that of an inexperienced teacher, while the expertness for a teacher in all concerned subjects are too difficult. It diverts teacher's energies and focus. This affects his performance. Research studies shows that teaching multi subjects is difficult. Rays and fennel (2003) suggest that it is unrealistic to have expertise of a teacher in all concerned subjects.

There are two main approaches which are applied at primary level. Those two approaches are single-subject and multi-subject approach. In single-subject teaching approach one teacher teaches only one subject while in multi-subject teaching one teacher teaches all the subjects of one class. Both these approaches have their own merits and demerits.

Shulman (1987) argue about teacher knowledge; general pedagogical knowledge, content knowledge, curriculum knowledge and pedagogical content knowledge are the most important areas for teaching purposes. It is the use of teaching knowledge which increased the effectiveness of teaching learning process. Apart from teacher pedagogical content knowledge it is the teaching approach that affects its implementation in classroom situation.

Single-subject teaching imparts purified and valid knowledge to students. This approach enhances students' capacity of adjustment to different teachers' methodology, attitude and learn more than multi-subject teaching. There are certain needs of single subject-teaching for example the selection of subject specialists, arrangement of separate subject trainings and division of time in school.

Single-subject teaching has numerous problems at primary level. First of all because of financial load it is difficult for a developing country to appoint separate teachers for separate subjects at primary level, second single-subject teaching can divide the teachers in two ways; first the teacher will separate from other teachers, teaching separate subjects, they will stick to a specific subject which will keep them away of other subjects which may have a bad effect on their professional knowledge.

Multi-subject teaching is currently prevailed. According to government officials it is the most effective approach at primary level as there is no need of expert knowledge at primary level a PST is able to impart the basic knowledge to children. Their training and academic education is enough for them to teach effectively.

But there is need of research studies to assess the value and worth of both approaches. The possibilities of single subject teaching at primary level and its complications will be studied in detail and it will be co-related to the academic achievements of the students.

1.1. Statement of The Problem

Keeping in view the above discussion the purpose of the study was to investigate the relationship between teaching approaches and students' academic achievement.

1.2. Objectives of the study

Objectives of the study were to;

1. Investigate the relationship between teaching approaches and students' academic achievement
2. Probe the relationship between single-subject teaching approach and students' academic achievement.
3. Explore the relationship between multi-subject teaching approach and students' academic achievement.
4. Compare the effectiveness of single-subject and multi-subject teaching approaches for students' academic achievement.

1.3. Significance of the study

The study was significant in clearing the ambiguity related to the effectiveness of these two teaching approaches. It may also be significant to the Directorate of primary education for making decisions about these approaches. The study may further be

significant for unit writers and future researchers. The study is further fruitful to planning commissions, administrators, and teachers, unit writers and future researchers.

1.4. Hypotheses

1. There is no significant relationship between teaching approaches and students' academic achievement.
2. There is no significant relationship between single-subject teaching approach and students' academic achievement.
3. There is no significant relationship between multi-subject teaching approach and students' academic achievement.
4. There is no significant difference between the effects of single-subject and multi-subject teaching on students' academic achievements.

1.5. Delimitation of the study

The study was delimited to;

- i. Primary school level.
- ii. 5th class students of primary schools.
- iii. Subject of English

2. METHODOLOGY

The study was carried through mixed method research. An experiment was conducted; a pre-test was prepared for the students being taught in both approaches. The researcher applied pre-test, post-test comparison group design. A survey was also carried out to investigate teacher's point of view regarding these teaching approaches. A self-developed questionnaire was applied for the purpose.

2.1. Population

5th class students and Primary School Teachers constituted the population of the study.

2.2. Sample of the Study

Non-random purposive sampling techniques were applied for selection of schools. Two primary schools were selected for the study. One school adopted single-subject teaching approaches while the other had multi-subject approach. Twenty-five students each of 5th class constituted the sample of the study.

2.3. Data Collection Tool

For collection of data about the research problem, researcher administered pretest to students before the treatment and at the end of the treatment post-test was applied. The researcher also administered a self-developed questionnaire to twenty Primary School Teachers for the purpose of knowing their view regarding these two approaches.

2.4. Scoring the Teacher's Instrument

The Mean Score = 1.00 --- 1.50 = Strongly Disagree

The Mean Score = 1.51 --- 2.50 = Disagree

The Mean Score = 2.51 --- 3.50 = Undecided

The Mean Score = 3.51 --- 4.50 = Agree

The Mean Score = 4.51 --- 5.00 = Strongly Agree

3. RESULTS AND INTERPRETATIONS

The Table 1 illustrate that Single-subject teaching approach at primary level is effective for teachers and students. According to the teachers opinions this approach impart more knowledge than

the other approach to teaching. This approach was found to be more beneficial for teacher's development. The respondents were not clear in the area of students' adjustment that whether students are more adjusted in this approach or not.

Table 1 analysis of Single-Subject teaching approach

Single-Subject teaching approach	Mean Score	Std Dev.
Effectiveness of the approach	3.51	1.46
Knowledgeableness	4.00	1.07
Teacher's development	3.75	1.30
Student's adjustment	2.85	1.22

According to the Table 2 multi-subject teaching approach was not an effective approach for teaching at primary. While the mean score for the learning of students, teachers' professional development and student's adjustment showed that majority of the respondents were agreed to the statements of the questionnaire.

Table 2 Analysis of Multi-Subject teaching approach

Multi-Subject teaching approach	Mean Score	Std Dev.
Effectiveness of the approach	2.25	1.0826
Knowledgeableness	3.65	1.0891
Teacher's development	3.25	1.3717
Student's adjustment	3.00	1.4683

The Table 3 exemplified the comparison of the students results after and before the test. The mean score of students under Single-Subject teaching approach in pre-test was 27.60 while after post-test the mean score was 33.68 which showed a slight increase of 6.08 in students score.

On the other hand the mean score of students under Multi-Subject teaching approach in pre-test was 12.68 and after the post-test this score was 26.67 which demonstrated an increase of 13.99 mean which is very high and shot the effectiveness of the Multi-Subject teaching approach for primary school students.

Table 3 Comparison of pre-test and post test

approach	Mean Score	Std. dev
Pre-test Single-Subject teaching approach	27.60	11.4
Pre-test Multi-Subject teaching approach	12.68	05.8
Post-test Single-Subject teaching approach	33.68	11.0
Post-test Multi-Subject teaching approach	26.67	06.6

A Wilcoxon signed-rank test showed that one month teaching on two different teaching approaches to students did not elicit a statistically significant change on the academic achievements of students ($Z = -3.792$, $p = 0.05$) (Table 4).

Table 4 Z statistic for both groups

Test Statistics	Posttest Single teacher -Posttest – Pretest	Pretest Single teacher
Z	-3.792b	-4.077b
Asymp. Sig. (2-tailed)	.005	.0005

- Wilcoxon signed Ranks Test
- Based on negative ranks.

4. FINDINGS

Findings of the study were as follow:

- Single subject teaching approach is more effective for primary school students. This approach provides more knowledge to students.

- Single subject teaching approach increase students' adjustment capabilities and are also beneficial for teacher's professional development.

- Single subject teaching approach is comfortable in comparison to multi subject teaching approach as there is free time for teacher not only to

prepare himself for next class but also for refreshment.

4. Multi-subject teaching approach is not an effective approach for primary school students. It burdens the teacher and not provides time for preparation and refreshment.

5. Multi-subject teaching approach provides improved knowledge to students and is highly appreciable for teacher's professional development.

6. Students are more adjustive in single-subject teaching approach than the multi-subject teaching approach.

7. The performances of students were better in multi-subject teaching approach than the single subject teaching approach.

4.2. DISCUSSIONS

Single-subject teaching approach is a new approach at primary level. In this approach one teacher teaches only one subject and he/she is expert in that subject. This approach is already applied at secondary and high secondary level.

At present multi-subject teaching approach is there at primary level. One teacher teaches all the subjects. This approach is the most popular at primary level and nearly in all the countries of the world it has been followed. It is because of the integrated curriculum at primary level.

Findings according to the questionnaire of the study teacher's liked the single-subject teaching approach as it reduce their work and increase time for preparation and refreshment. This approach is also beneficial for students as it increase their adjustive capabilities but due to financial constraints, shortage of trained teachers, low level of teachers trainings and other local problems the implementation of single-subject teaching in its true sense is difficult.

On the other hand the results of the of students on pre and post-test administered were different which favored multi-subject teaching approach as the students of that approach performed well than the single subject teaching approach.

4.3. RECOMMENDATIONS

The above findings and discussions illustrate the gaps in single-subject and multi-subject approaches for which the researcher suggested following recommendations.

1. Present Multi-Subject teaching approach overloaded the teachers and they are in favor of single-subject teaching approach which will help them in their teaching, yet this is a difficult task and need a great number of teachers' appointments which is difficult for the government to finance. So it is

recommended that the present staff of primary schools should be scrutinized and categorized to allot subjects according to their specialties with refresh training in the summer vocations.

2. Students learn more in an integrated way with multi-subject teaching approach where teachers have more background knowledge of students which helps the teacher to teach accordingly. So it is strongly recommended that in single-subject teaching approach an induction program at the start of the session should be lunched through most experience teacher to obtain students background knowledge.

3. Teacher's in-service trainings are the secrets of teacher's professional development. It provides an opportunity for teachers to refresh their knowledge according to new research findings and new trends of the society. So it is strongly recommended that the in-service trainings for teachers should be arranged at least within two years duration in two main areas of teaching that are teaching methodologies and subject matter.

4. Adjustment and other qualities of the students are developed by their teachers. The changing nature of human needs and new trends indulge teachers as well as students in new complexities which needs research mindedness. So the researcher recommends that teachers should be motivate for conducting research studies in their respective fields which will not only help them in solving their own and students problems but will also develop them professionally.

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