

Relationship between Unit Achievement and Annual Achievement in Mathematics at the Secondary level

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Abstract

The aim of the present study was to empirically verify the (a) relationship between score of Unit Achievement and Annual Achievement; (b) significant difference between score of Unit Achievement and Annual Achievement in respect to gender and locality Mathematics of Secondary students. A highly positive relationship was found between score of Unit Achievement and Annual Achievement in Mathematics. There was a significant difference between score of Unit Achievement and Annual Achievement of Mathematics of Boys, Girls, Rural Boys, Rural Girls, Urban Boys and Urban Girls. There was no significant difference between Boys and Girls on the score of Unit Achievement of the Mathematics and same was found also in the Annual A and Girls on the score of Unit Achievement of the Mathematics and same was found also in the Annual Achievement.

Key words: Mathematics, unit Achievement, Annual Achievement.

Introduction

Reforms in evaluation help in improving the quality and standard of education instead of acting as a hindrance to learning. It makes evaluation more accurate that the decisions made on the basis of their results are valid, reliable and dependable. It eliminates way of annual or all over evaluation of the present type and replacement of continuous and comprehensive evaluation small segments to be done by the schools. Arrangement of common evaluation for the compare and improvement education system among school rather than for grading system, clarification and classification of students are the need of the present day.

Professor H.C. Morisson (1871-1945) of the University of Chicago is the originator of Unit approach to better teaching-learning and evaluation. He has explained the unit method in detail in his book, 'The Practice of Teaching in Secondary Schools' (1926). In psychological approach the Unit is based on the growing acceptance of the Gestalt-Organismic-Field Theories of learning which emphasis the 'wholeness' nature of learning. The subject matter or learning experience is logically sequenced in to small segments. It is an application of the principles of behavioural science and technology in the field of education. The new system is based upon assumption that effective learning take place in environment in which the goals are clearly perceived and every phase of the operational procedure is viewed as a rational part of the total learning system.

Morisson states,(1926) 'Unit is a comprehensive and significant aspect of the environment of an organized science and Arts'. According to Bossing (1984), "A unit consists of comprehensive service of related and meaningful activities so developed as to achieve pupil purposes, provides significant educational experiences, and results in behavioural changes".

James High (1976) defines Unit approach in 'Teaching Secondary school social studies' as, it is more than mere technique and it is often called the Unit approach rather than method. Richard has pointed out social studies instruction in elementary school as a teaching Unit is a comprehensive instructional plan specifying 'what' 'how' and 'when' of teaching a big idea. Patel, M.B, J.M and Kotwal (1980) studied on Achievement for standard VIII of secondary level school of Gujrat in Gujrati, English, History, Arithmetic, Alzebra, Geometry and General Knowledge. Puspanjali, P (2004) studied on impact of continuous and comprehensive evaluation a primary level in the state of Orissa.

Objectives of the Study

- i) To determine relationship between Unit Achievement and Annual Achievement of Mathematics;
- ii) To determine significant difference between the scores of Unit and Annual Achievement of Mathematics and of different groups on the criteria of gender and locality.

Hypothesis of the Study

- 0H_1 There would be no relationship between unit and Annual Achievements of the students Mathematics;
- 0H_2 There would be no significant differences between Unit and Annual Achievements in Mathematics of Boys;
- 0H_3 There would be no significant difference between Unit and Annual Achievement in Mathematics of Girls;
- 0H_4 There would be no significant difference between Unit and Annual Achievement in Mathematics of Boys;
- 0H_5 There would be no significant difference between Unit and Annual Achievement in Mathematics of Rural Girls;
- 0H_6 There would be no significant difference between Unit and Annual Achievement in Mathematics of Urban Boys;
- 0H_7 There would be no significant difference between Unit and Annual Achievement in Mathematics of Urban Girls;
- 0H_8 There would be no significant gender effect on Unit Achievement in Mathematics;
- 0H_9 There would be no significant gender effect on Annual Achievement in Mathematics.

Methodology

Sample: A sample of three hundred fifty two students of Class IX having almost 50% of Boys and of 50% Girls from four Higher Secondary School identified purposively from the district of Purba Midnapur in West Bengal was selected for the study.

Variables of the Study

- I) Scores of Unit Achievement in Mathematics
- II) Score of Annual Achievement in Mathematics

Results

From the collecting data co-efficient of correlation between score of Unit Achievement and Annual Achievement in Mathematics of students is found 0.86. So there is a highly positive relationship between score of Unit Achievement and Annual Achievement of the sampled students.

Table-1 : Showing number of student, Mean(M) and SD of Unit and Annual Achievement scores in Mathematics

Sample	Number of student	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics	
		M	SD	M	SD
Total student	352	65.48	3.92	55.26	4.06
Boys	175	64.51	3.47	56.38	4.03
Girls	177	66.02	3.98	54.76	3.87
Rural Boys	85	63.32	3.82	55.84	3.89
Rural Girls	86	64.62	3.62	54.35	4.07
Urban Boys	90	65.73	3.78	56.88	3.88
Urban Girls	91	67.24	3.51	54.87	4.46

Table-2 : Showing 't' value between score of Unit Achievement and Annual Achievement in Mathematics of Boys

No. of Boys	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics		df	t
175	M	SD	M	SD	348	7.21
	64.51	3.47	56.38	4.03		

Table-2 showed that there was a significant difference the mean between score of Unit Achievement and Annual Achievement ($P < 0.01$) in Mathematics of Boys. So, in case of boys the score of Boys the Unit Achievement was found significantly higher than Annual Achievement.

Table -3 : Showing 't' value between score of Unit Achievement and Annual Achievement in Mathematics

No of Girls	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics		df	t
177	M	SD	M	SD	352	8.37
	66.02	3.98	54.76	3.87		

Table -3 : showed that there was significant difference between score of Unit Achievement and Annual Achievement ($P < 0.01$) in Mathematics of Girls. Thus, in case of Girls also the mean Unit Achievement was significantly higher than mean Annual Achievement.

Table- 4 : Showing 't' value between scores of Unit Achievement and Annual Achievement in Mathematics of Rural Boys

No. of Rural Boys	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics		df	t
85	M	SD	M	SD	168	7.89
	63.32	3.82	55.84	3.89		

Table-4 : revealed that that there was a significant different between the score of Unit Achievement and Annual Achievement ($p < 0.01$) of Mathematics. Thus, in case of Rural Boys of Unit Achievement was found significantly higher than Annual Achievement.

Table- 5 : Showing 't' value between scores of Unit Achievement and Annual Achievement in Mathematics of Rural Girls

No. of Rural Girls	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics		df	t
86	M	SD	M	SD	170	9.54
	64.62	3.62	54.35	4.07		

Table-5 : revealed that there was a significant difference between score of Unit Achievement and Annual Achievement ($p < 0.01$) in Mathematics of Rural Girls. Hence, in case of Rural Girls also the mean Unit Achievement score was significantly higher than the mean of Annual Achievement.

Table- 6 : Showing ‘t’ value between scores of Unit Achievement and Annual Achievement in Mathematics of Urban Boys

No. of Urban Boys	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics		df	t
	M	SD	M	SD		
90	65.73	3.78	56.88	3.88	178	9.065

Table-6 : revealed that there was a significant difference between score of Unit Achievement and Annual Achievement ($p < 0.01$) in Mathematics of Urban Boys. Hence, in case of Urban Boys also the mean Unit Achievement score was significantly higher than the mean of Annual Achievement.

Table- 7 : Showing ‘t’ value between scores of Unit Achievement and Annual Achievement in Mathematics of Urban Girls

No. of Urban Girls	Score of Unit Achievement of Mathematics		Score of Annual Achievement of Mathematics		df	t
	M	SD	M	SD		
91	67.24	3.51	54.87	4.46	180	9.12

Table-7 : revealed that there was a significant difference between score of Unit Achievement and Annual Achievement ($p < 0.01$) in Mathematics of Urban Girls. Hence, in case of Urban Girls also the mean Unit Achievement score was significantly higher than the mean of Annual Achievement.

Table -8 : Showing ‘t’ value between Boys and Girls on score of Unit Achievement in Mathematics

Boys			Girls			df	t
No. of student	M	SD	No. of students	M	SD		
175	64.51	3.47	177	66.02	3.98	350	1.78

Table 8 : revealed that there was no significant difference between Boys and Girls on the mean score of Unit Achievement ($p > 0.05$) in Mathematics. Hence, no gender difference was found on Unit Achievement in Mathematics.

Table -9 : Showing ‘t’ value between Boys and Girls on score of Annual Achievement in Mathematics

Boys			Girls			df	t
No. of student	M	SD	No. of student	M	SD		
175	56.38	4.03	177	54.76	3.87	350	1.38

Table -9 revealed that there was no significant difference between Boys and Girls on the mean score of Annual Achievement ($p > 0.05$) in Mathematics. Hence, no gender difference was found on Annual Achievement in Mathematics.

Discussion

The present study shows that there was a highly positive relationship between score of Unit Achievement and Annual Achievement in Mathematics of all level students. There was also significant differences between score of Unit Achievement and Annual Achievement in Mathematics Of Boys, Girls, Rural Boys, Rural Girls, Urban Boys and Urban Girls. But there was no significant difference between Boys and Girls on the score of Unit Achievement and Annual Achievement in Mathematics.

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