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COMPARISON BETWEEN THE ACHIEVEMENTS IN UNIT TESTS AND ANNUAL EXAMINATIONS: A **STUDY OF SEVENTH AND EIGHTH GRADE STUDENTS ON SCIENCE SUBJECTS**



Abstract:-

The present work is dealt with the study of the achievements in Unit Test and Annual Examination for seventh and eighth grade students. Three different type of schools (Boys, Girls and Co-educational) are chosen to collect data for the session 2012-13. Some statistical techniques like coefficient of correlation and t-test are used to analysis the data

Keywords:

Unit Test, Continuous and **Comprehensive Evaluation, Annual Examination, Coefficient of Correlation,** T-Test.



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INTRODUCTION

West Bengal Board of Secondary Education (WBBSE) introduced Unit Tests as a part of Continuous and Comprehensive Evaluation (CCE) in 2007. Initially the evaluation process consists of eight unit tests and annual examination. Thereafter number of tests has been reduced to five with a summative exam at the end of the year.

After that the CCE is largely modified for the class-V to VIII with two parts, Formative & Summative. Formative evaluation is a continuous evaluation based on the class performance in the class room situation and it is evaluated by the subject teachers. And summative evaluation possesses three summative evaluations throughout a year without any Half-yearly or Annual Examination. This type of CCE is also called Peacock Model.

According to CBSE, Continuous and Comprehensive Evaluation (CCE) refers to a system of school-based evaluation of students that covers all aspects of students' development. It is a developmental process of assessment which emphasizes on two fold objectives-one is 'Continuous' & other is 'Comprehensive'. The comprehensive evaluation should involve in the summative assessment of cognitive abilities as well as health habits, work habits, cleanliness, cooperation and other social and personals qualities through simple and manageable means of tools. The comprehensive evaluation not only helps checking all the standard of performances in both scholastic and co-scholastic areas, but also in decision making regarding various aspects of teaching learning process. Continuous assessment i.e unit test wise will also take place over a period of time. Such an approach would be more holistic, representing the learner in his/her entirety. It will begin with decisions that the teachers perform on the first day of school and end with the decisions that the teachers perform on the first day of school and end with the decisions that the teachers and administrators make on the learners regarding end of year grading and promotion. The recommendations include the child centered approach, improvement in the quality of education through reforms in the context and process of education, infrastructural facilities, and additional teachers and after all emphasis upon continuous and comprehensive evaluation. Continuous and comprehensive assessments of learners' progress could be defined as a mechanism whereby the final grading of learners in the cognitive, affective and psychomotor domains of learning systematically takes account of all their performances during a given period of schooling (Falayalo, 1986) classroom teaching lays emphasis on competency based learning.

It is very much important to discuss whether this system of evaluation is actually helping our students in their development i.e. fulfilling the educational objectives. In this context teachers play a vital role as they are directly attached to this process and have experiences of the merits and demerits of unit tests. Sen and Samanta (2013) studied the effect of unit tests in secondary level introduced by West Bengal Board of Secondary Education and also S. Sen (2013) studied the effect of unit tests by framing questionnaire to collect the teachers' opinion about unit test. Seventeen questions are selected for this work. Opinions are taken from teachers of different schools under West Bengal Board of Secondary Education, as they are directly attached to teaching learning process. Questionnaire is made by considering different problems of teaching-learning, infrastructural availability, socio-economic conditions and guardians' attitudes. Present work deals with the relationship among the achievements in unit tests and annual examinations in science subjects. Correlations and t-tests are considered for the analysis of the achievements of the students.

OBJECTIVES OF THE STUDY

Objectives of this study are to find out the effect of unit test in annual examination in secondary level comparing the achievement of the learners in science subjects i.e. Mathematics, Physical Science and Life Science.

Hypothesis

Following hypothesis is taken to assess the results of the unit tests and annual examinations.

H0 : There is no difference between the means of the achievements in unit tests and annual examinations in respective subjects.

Methodology used

The study is based on primary data collected from different Secondary Schools. Data have been

collected from different schools (one boys school, one girls school and one co-educational school) selected as random.

RESULTS AND DISCUSSIONS

Three schools (one boys, one girls and another co-educational) are chosen at random to collect the data for analysis. Three subjects, Mathematics (Math), Physical Science (P. Sc.) and Life Science (L. Sc.) are considered and two classes (VII and VIII) are chosen at random for this purpose.

First of all let us consider the Boys School.

Table 1 represents relationship among the results of the Unit Tests and Annual Examinations of three subjects viz. Math, P. Sc. and L. Sc. of class VII. High and Very High relationships are found except Math and L. Sc.

Coeff. of corr. (r)	Math-unit test	P Sc-unit	L Sc-unit	Math- annual	P Sc- annual	L Sc-
		test	test			annual
Math-unit test	1	0.81	0.68	0.81	0.74	0.61
P Sc- unit test		1	0.84	0.76	0.83	0.75
L Sc- unit test			1	0.66	0.77	0.84
Math-annual				1	0.80	0.66
P Sc- annual					1	0.71
L Sc- Annual						1

Table 1 Coefficients of Correlation among different subjects of class VII students of Boys School. Table 2 represents the essential statistics for t-test and t-value between Unit Tests and Annual Examinations in three subjects. In every case it is found that there is a significant difference between the means. The achievement decreases significantly in Annual Examinations for every subject.

	Mathematics		Physical Science		Life Science	
Statistics	Unit Test	Annual	Unit Test	Annual	Unit Test	Annual
Mean	31.53	17.82	30.18	23.75	50.72	40.23
SD	14.56	16.37	13.61	17.66	14.02	18.99
Ν	138	138	138	138	138	138
Coeff. of corr. (r)	0.81		0.83		0.84	
t-value	16.62511		7.625467		11.75495	

Table 2 Different statistics and t-value for class VII students of Boys School. Table 3 represents relationship among the results of the Unit Tests and Annual Examinations of three subjects viz. Math, P. Sc. and L. Sc. of class VIII. High and Very High relationships are found.

Coeff. of corr. (r)	Math-unit test	P Sc-unit	L Sc-unit	Math- annual	P Sc-	L Sc-
		test	test		annual	annual
Math-unit test	1	0.82	0.86	0.82	0.77	0.82
P Sc- unit test		1	0.89	0.69	0.85	0.84
L Sc- unit test			1	0.73	0.84	0.90
Math- annual				1	0.77	0.80
P Sc- annual					1	0.88
L Sc- Annual						1

Table3 Coefficients of Correlation among different subjects of class VIII students of Boys School.

Table 4 represents the essential statistics for t-test and t-value between Unit Tests and Annual Examinations in three subjects. In every case it is found that there is a significant difference between the means. The achievement decreases significantly in Annual Examinations for every subject as like as class VII.

	Mathematics		Physical Science		Life Science	
Statistics	Unit Test	Annual	Unit Test	Annual	Unit Test	Annual
Mean	46.13	27.63	45.95	35.96	50.93	38.94
SD	18.3	15.62	16.88	17.32	19.29	18.87
Ν	105	105	105	105	105	105
Coeff. of corr. (r)	0.82		0.85		0.90	
t-value	18.06752		10.91844		14.38206	

Table4 Different statistics and t-value for class VIII students of Boys School.

Next, let us consider the Girls School.

Relationship among the results of the Unit Tests and Annual Examinations of three subjects viz. Math, P. Sc. and L. Sc. of class VII are represented by Table 5. As like Boys School, High and Very High relationships are found.

Coeff. of corr. (r)	Math-unit test	P Sc-unit	L Sc-unit	Math- annual	P Sc-	L Sc-
		test	test		annual	annual
Math-unit test	1	0.89	0.89	0.89	0.86	.78
P Sc- unit test		1	0.93	0.82	0.90	0.80
L Sc- unit test			1	0.83	0.89	0.83
Math- annual				1	0.86	0.80
P Sc- annual					1	0.87
L Sc- Annual						1

Table5 Coefficients of Correlation among different subjects of class VII students of Girls School.

	Mathematics		Physical Science		Life Science	
Statistics	Unit Test	Annual	Unit Test	Annual	Unit Test	Annual
Mean	36.63	29.17	44.99	39	41.54	28.84
SD	24.21	26.04	24.14	22.67	22.55	19.28
Ν	226	226	226	226	226	226
Coeff. of corr. (r)	0.89		0.90		0.83	
t-value	9.409854		8.523663		15.16443	

Table6 Different statistics and t-value for class VII students of Girls School.

Relationship among the results of the Unit Tests and Annual Examinations of three subjects viz. Math, P. Sc. and L. Sc. of class VIII are represented by Table 7. As like Boys School, High and Very High relationships are found.

Coeff. of corr. (r)	Math-unit test	P Sc-unit	L Sc-unit	Math- annual	P Sc-	L Sc-
		test	test		annual	annual
Math-unit test	1	0.88	0.81	0.88	0.83	0.80
P Sc-unit test		1	0.89	0.82	0.90	0.89
L Sc-unit test			1	0.81	0.87	0.90
Math- annual				1	0.86	0.81
P Sc- annual					1	0.91
L Sc-Annual						1

Table7 Coefficients of Correlation among different subjects of class VIII students of Girls School.

Table 8 represents the essential statistics for t-test and t-value between Unit Tests and Annual Examinations in three subjects. In every case it is found that there is a significant difference between the means. The achievement decreases significantly in Annual Examinations for every subject as like as class VII.

	Mathematics		Physical Science		Life Science	
Statistics	Unit Test	Annual	Unit Test	Annual	Unit Test	Annual
Mean	35.63	16.33	42.27	29.34	35.81	30.42
SD	22.29	18.74	20.6	18.2	18.1	18.72
Ν	226	226	226	226	226	226
Coeff. of corr. (r)	0.88		0.90		0.90	
t-value	27.19085		21.53612		9.75784	

Table8 Different statistics and t-value for class VIII students of Girls School.

Lastly, consider the case of Co-Educational School.

Table 9 represents relationship among the results of the Unit Tests and Annual Examinations of three subjects viz. Math, P. Sc. and L. Sc. of class VII. High and Very High relationships are found.

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Table9 Coefficients of Correlation among different subjects of class VII students of Co-educational School.

Table 10 represents the essential statistics for t-test and t-value between Unit Tests and Annual Examinations in three subjects. In every case it is found that there is a significant difference between the means. The achievement decreases significantly in Annual Examinations for every subject.

Coeff. of corr. (r)	Math-unit test	P Sc-unit	LSc-unit	Math-annual	PSc-annual	LSc-
		test	test			annual
Math-unit test	1	0.83	0.90	0.87	0.81	0.83
P Sc-unit test		1	0.91	0.80	0.93	0.88
LSc-unit test			1	0.83	0.88	0.90
Math-annual				1	0.85	0.86
P Sc-annual					1	0.91
L.Sc-Annual						1

 LSc-Annual

 Table 10 Different statistics and t-value for class VII students of Co-educational School.

	Mathematics		Physical Science		Life Science	
Statistics	Unit Test	Annual	Unit Test	Annual	Unit Test	Annual
Mean	49.58	39.46	43.89	29.58	43.61	36.77
SD	21.38	20.5	21	20.17	16.2	20.07
Ν	121	121	121	121	121	121
Coeff. of corr. (r)	0.87		0.93		0.90	
t-value	10.39286		20.32346		8.411893	

Table 11 represents relationship among the results of the Unit Tests and Annual Examinations of three subjects viz. Math, P. Sc. and L. Sc. of class VIII. High and Very High relationships are found.

Coeff. of corr. (r)	Math-unit test	P Sc-unit	L Sc-unit	Math-annual	P Sc-	LSc-
		test	test		annual	annual
Math-unit test	1	0.92	0.88	0.91	0.89	0.83
P Sc-unit test		1	0.94	0.86	0.90	0.86
L Sc-unit test			1	0.84	0.88	0.89
Math- annual				1	0.89	0.87
P Sc-annual					1	0.92
L Sc-Annual						1

Table11 Coefficients of Correlation among different subjects of class VIII students of Co-educational School.

Essential statistics for t-test and t-value between Unit Tests and Annual Examinations in three subjects are represented by Table 12. In every case it is found that there is a significant difference between the means. The achievement decreases significantly in Annual Examinations for every subject as like as class VII.

	Mathematics		Physical Science		Life Science	
Statistics	Unit Test	Annual	Unit Test	Annual	Unit Test	Annual
Mean	42.6	26.79	50.2	31.84	45.93	31.1
SD	22.09	20.7	20.79	21.09	20.7	19.68
Ν	101	101	101	101	101	101
Coeff. of corr. (r)	0.91		0.90		0.89	
t-value	17.3115		19.69383		15.6526	

Table 12 Different statistics and t-value for class VIII students of Co-educational School.

CONCLUDING REMARKS



After the analysis of all the results one may conclude that,

There is a high to very high relationship among the subjects except for Class VII of boys school Math and L. Sc.

It is observed that achievement of the students decreases significantly in three subjects. It is also observed that an average achievement in the Unit Tests is found but there was a low level achievement in the Annual Examination.

Amount of syllabus in annual examination was superior compare to the syllabus of unit tests may be the grounds for the lower achievement.

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