

Influence Of Formative Assessment On Student`s Academic Achievement At Public Secondary Schools In Sindh Pakistan

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ABSTRACT

This paper aims to investigate the influence of formative assessment on student`s academic achievement, along with finding out the relationship between formative assessment and student`s academic achievement. The procedures used to find out the gaps during the teaching and learning process are known as Formative assessment. These are the strategies meant to identify the student`s level of understanding. This helps the teachers to cope up the remaining gaps during the teaching and learning process. The literature has sufficient evidences that the formative assessment is interrelated with students` academic achievements (Ozan & Kincal, 2018). This study seeks to have better understanding of the formative assessment practices.

Research Methodology; The descriptive type of the study and quantitative approach was used due to the nature of the data to achieve the objectives, and to test the research hypothesis. The descriptive research cautiously describes the circumstances which currently happened (L.R Gay, 2012).

Data Analysis; the linear regression analysis with Correlation Statistics was used.

Findings; It is found that formative assessment has positive influence on student's academic achievements. It is also found that there is also a positive correlation between the variables.

Keywords: Formative Assessment, Student's Academic Achievement, Secondary Schools. Teachers, Students

INTRODUCTION

Assessment is a basic process, vital to promote learning and student's academic achievement. It is a part of classroom activities. The classroom is fundamentally a training environment where teaching and learning process takes place. The Formative assessment is an instrument used by instructors to know the learners' progress during the ongoing process of teaching and learning. It enables teachers to detect out their teaching gaps so, that they could improve their teaching skills by identifying strengths, weaknesses, opportunities and threats (SWOT) during teaching process. Simultaneously it is also used as a tool by the students to find out their learning gaps. It makes them convenient to learn and easy to find out their weak areas and know what to work on, that smoothers the ways to fearless learning (Ashdale, 2020).

Formative assessment practices enable learners to think critically, even they learn to evaluate themselves and can easily measure their own capabilities during these ultimate practices. Critical thinking capability of the learners leans them towards logical thinking order, which tends them towards better academic achievements. Those who are active learners and have potential to solve their problems, find this activity more result oriented and indulge themselves in these activities enthusiastically. Moreover the formative assessment practices increase coordination between the teachers to teacher, teacher to student and student to student, which helps them to remove the communication gaps as well (Ruland, 2011).

The formative assessment practices have the quality to develop competitive environment between the students, consequently these continuous assessment practices lead learners to better academic achievements. Formative assessment practices continuously improve students' higher order thinking when they detect out their own learning and try to solve them logically. Furthermore it helps teachers to motivate the learners to have another Step towards betterment, usability of the same makes them habitual to continuous improvement in their skills throughout their life (Zhang, 2018).

It is observed that the formative assessment has positive impact on students learning and ultimate achievements. The use of such tool for continuous process of teaching and learning in the classroom settings helps the teacher to run classroom activities smoothly that results in better students' learning outcomes (SLOs) (Andersson & Palm, 2017).

Ongoing process of learning estimates formative assessment or assessment for learning, used during the teaching and learning process to breakout the barriers, creating hurdles in teaching and learning process. The head of the institutions are supposed to continue formative assessment practices in their concerned institutions to bring the best out of their staff for students` academic achievements in their final examinations. They actually desire to create a worthier and healthier teaching and learning environment in their respective institutions. These of their efforts let them bring in a queue or in a row of sophisticated persons who possess a kind heart for their people and society to develop with modern changes (Orheruata, 2019).

It is a prodigious responsibility of the policy makers to plan a better way of conducting formative assessment practices throughout the academic year. The teachers on their end should also continue assessing practices during their classroom activities (Ali & Muhammad Iqbal, 2013). Using formative assessment practices, the identified hurdles and Gaps are covered and encompassed, so that, further teaching and learning process could run in a smooth way. This activity used by head teachers, teachers and students, produces a way to achieve the desired institutional goals. After the review of different studies it is clarified that the formative assessment has a huge impact on students` academic performance. Subsequently the institutional goals are possible to be achieved by proper insinuation of formative assessment practice (Jeklin, 2016).

The aim of these kind of assessments is to get the feedback from the learners to estimate the teachers` performance as well as students` level of understanding. The formative assessment is a useful tool for the head teachers to measure the respective teachers` knowledge and methods of delivery, simultaneously it helps to identify the students` gaps of learning. Formative assessment helps the heads of the institutions to get the best out of their staff (Casey, 2005).

Statement of the Problem

Formative assessment or continuous assessment is a tool used to measure the students` learning gaps. It is also used by the teachers to validate their teaching practices. Formative assessment helps the teachers and students to find out the gaps which can immediately be solved and further steps for betterment can be taken to enhance teaching as well as learning (Oyinloye & Imenda, 2019). Now a days the formative assessment is found a better way to solve the classroom based instructional problems (Every et al., 2016).

Thus, the aim of this study was to investigate the influence of formative assessment on student`s academic achievement, along with finding out the relationship between the variables in the researchers selected area of the study.

Objectives of the Study

Generally, objective of this study was to examine the influence of formative assessment on student`s academic achievement at public secondary schools and specifically following objectives are focused.

1. To investigate the influence of formative assessment on student`s academic achievement at public secondary schools.
2. To find out the relationship between formative assessment and student`s academic achievement at public secondary schools.
3. To enlist the suggestions/recommendations for better implementation of formative assessment at public secondary schools.

Hypothesis of the Study

1. Ho: There is no significant impact of the formative assessment on student`s academic achievement.
2. Ho: There is no significant relationship between the formative assessment and student`s academic achievement.

Significance of the Study

This study will be helpful in understanding the formative assessment practices. This study will also be valuable for the head teachers, teachers, learners, policy makers and researchers to understand the influence of formative assessment practices on students` academic achievement at institutional level. The use of this study will be beneficial for head teachers and teachers to promote their cooperation for better implication of formative assessment during teaching and learning process. The use of this study will also be constructive for the policymakers to plan for formative assessment practices in the better interests of the educational institutions.

Delimitation of the Study

- 1) This study was confined to District Badin, Sindh, Pakistan.
- 2) This study was delimited to boy`s public secondary schools in District Badin, Sindh, Pakistan.

2 LITERATURE REVIEW

INTRODUCTION

This part of the study stretches review of relevant literature with a perception of assembling supportive material

Formative Assessment

Formative assessment is an instrument used for measuring teaching and learning process. Assessment for learning or formative assessment doesn't need to measure the consistency of the score or how much reliable it is, neither it needs to measure the validity of the tool, (initially formulated by the teacher as per need and course taught in the classroom settings), because it is not used for accountability or certification but for improving the learning and instructional process, which is conducted during the ongoing process of instruction and learning rather than in end of overall session (Black & Wiliam, 2003).

Formative assessment is only a source in the field of education which can make standards high by providing appropriate feedback, which is clear and logical to deal with the problems, which learners commonly face in proper and adequate learning process (Association, 2020). The actionable feedback can also be followed by the teaching faculty to defend the problems which students widely face in the final terms by providing relevant solutions (Revelle & Michaels, 1976).

The formative assessment is an attempt to assist the teacher for updating their measurement techniques to know the learning status of the learners, moreover it helps the teachers to be well aware about the students' learning gaps, students' learning capacity and their current learning status. However, the classroom based assessment engages students in a wide range of processes, such as, paper-pen test, presentation, teachers' observations and viva-voce by the teacher to collect information about student learning (McMillan et al., 2013).

McClelland's Achievement Motivation Theory

The achievement Motivation Theory states that every individual has three main driving motivators having different needs such as, 1) Need of Achievement. 2) Need of Affiliation 3) Need of Power. There is no any relation of these motivators with inherent but developed through informal activities which involves our life experiences including day to day interaction with the society and environment. Those who want to be best achievers, solve different problems and achieve desired goals (Singh, 2011).

McClelland says that, besides other needs these three drives are almost desired by every individual regardless gender, age and culture, one of these drives is frequently found in dire needs of different individuals, which is found highly dependent on our culture and life experiences (Gerling & Regás, 1995).

1) Need of Achievement. This drive is highly influence to set the targets and confident to achieve the goals. This tends even to take risks for achieving desired goals. In this way, the individual always remains active to get the feedback regarding achievements. The achiever is mostly found working independently (Singh, 2011).

This kind of the achievement is deemed to have, when the students are engaged in continuous assessment practices. These kinds of practices help the individuals to be acquainted with regular achievements. Continuous assessment practices help learners to be the best achiever when they are undergone through regular formative assessment practices. When the teachers intend to get the feedback from the students, what they have taught about, they engage learners in formative assessment practices (Black et al., 2005).

It is almost found that those students who get their best in the continuous assessment practices, have better results in summative tests, their results are found better in final examinations as well, these students get habitual of having achievements so they always try to set their targets and plan to achieve them (Hussain et al., 2012).

It is also found that those who have good practices in continuous assessment are given rewards in different forms including physical or moral which makes me habitual to be admired and desire to be found in good books of teachers, parents and the community as well. This of their intention tends them be good achievers throughout their life (Revelle & Michaels, 1976).

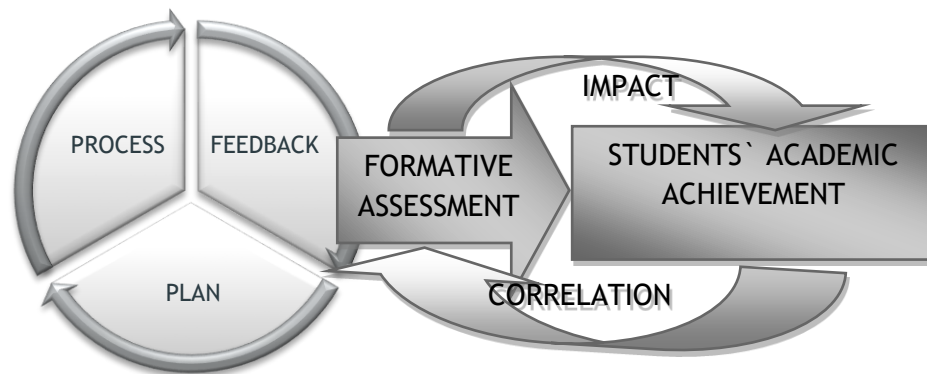
2)Need of Affiliation. This derives is deemed to be associated with in this regard they try to connect with a group, desire to be admired, praised and liked. Sometimes wish to work all alone to make their own identity and also prefer to work in collaboration. Avoid competition. In this drive most of the individuals are afraid of failure and try to remain of uncertainty.

Those students who work in groups are interlinked and complete their assignments in collaboration with each other and help each other to solve different classroom problems mutually (Gerling & Regás, 1995).

3) Need of Power. This drive means to run their matters on their own will and deem to influence other to follow them. The factor of controlling others is almost found in these individuals. These individuals desire to be spoken about them, praised, admired and encouraged for this particular reason, they try to their level best on their end. This of their concept tends them towards continuous assessment which helps them to detect out their gaps and they easily encompass over these gaps and confirm their achievement(Black et al., 2005). Learners celebrate their success and status which mean a lot for them to be recognized and identified. The find their achievement as their Status and Recognition (Revelle & Michaels, 1976).

The Achievement Motivation Theory settled from the work of McClelland initiated in 1958, he labeled hominoid motives with the Approaches of assessing Human Motivation cited from Atkinson's book. "Motives in Imaginary Action and society". Furthermore, McClelland acknowledged human motive connecting with achievement motive, the

affiliation motive and the power motive. In his later work (Boyatzis, 2016). Though McClelland engrossed his consideration only on need for Achievement, the need for Affiliation, and the need for Power as well. Simultaneously, the theory of McClelland assumes that different degrees motivate students' needs, including achievements, affiliation and power, that the needs are developed, or acknowledged, through a person's lifetime journey, simultaneously, majority of individuals own and desire to unveil a mishmash of all the mentioned needs (Gerling & Regás, 1995).



Conceptual Framework

3 RESEARCH METHODOLOGY

This section of the research study describes the research design, sources of data, the data collection methods, the sampling procedure and data analysis techniques used in this research study.

Research Design

The descriptive type of the study and quantitative approach was used due to the nature of the data to achieve the objectives, and to test the research hypothesis. The descriptive research study helps the researchers to explore and define the events, attitudes, behaviors, and opinions easily. It also carefully describes the circumstances which currently happened (Gay 2012).

Area of the study

District Badin, Sindh, Pakistan was the area of the study.

Population of the study

The group of interest of the researcher on which the results can be generalized (Shukla, 2020).

The population of the present study was consisting of,

1. All Boys Public Secondary Schools, of District Badin.
2. All Teachers of the Boys Public Secondary schools of District Badin
3. All the students of the Boys Public` Secondary schools of District Badin.

Taluka	No. of Schools	No. of Teachers	No. of Students
Badin	11	135	3,128
Tando Bago	08	70	1196
Tallhar	09	90	1,201
Matli	18	160	3,477
S.F Raho	04	44	1,024
Total	50	498	10026

Source: Semis Census, 2016-17

Determined Sample Size:

Yamane sampling formula was used to determine the sample size for survey research (Yamane, 1965).

Known population size $N = 000$ Assuming that you use 95% confidence interval, the error level is 0.05. The minimum sample size is calculated by using the Yamane method (Glenn, 2003).

$$n_{\text{Yamane}} = N / (1 + Ne^2).$$

DISTRICT	No. of Teachers	No. of Students
BADIN	221	385
TOTAL	n = 221	n = 385

Research Tools: The tool used for this study consisted of Questionnaire, 5-point Likert Scale to collect the response. A tool used more conveniently to cover a large no of population (Brown, 2010).

Reliability of the research Tools: The reliability score of this research study tool having Cronbach's Alpha value .833, was acceptable hence the tool used in this study was reliable to conduct further research.

Reliability Statistics	
Cronbach's Alpha	N of Items
.833	50

4. DATA ANALYSIS AND INTERPRETATION

To analyze the data the inferential statistics was used, with the help of SPSS 23 software. The regression analysis was undertaken to know the impact of Formative Assessment on Students` Academic Achievement, whereas, the regression analysis was also taken place to know the relationship between Formative Assessment and Students` Academic Achievement, at public secondary schools.

Problem/Objective

To investigate the influence of formative assessment practices on student`s academic achievement.

Hypothesis

Ho: There is no significant impact of formative assessment on student`s academic achievement.

Regression Analysis Table

Hypotheses	Regression Weight	Beta Coefficient	R Square	F	p-value	Hypotheses Supported
Ho	FA → AA	1.245	.121	83.425	.000	No

P<0.05 FA: Formative Assessment, AA: Academic Achievement

Table showing the summary of the findings.

The dependent variable AA was regressed on predicting variable FA to test the hypothesis Ho. While the FA significantly predicted AA, $F = 83.425$, $P < 0.001$, which indicates that FA can play a significant role in shaping AA ($B = 1.245$, $p < .001$) these results clearly direct positive effect of the FA. Moreover, the R square= .121 depicts that the model explains 12.1% of variance in AA. Hence the null hypothesis according to the results of the analysis was rejected. Henceforth, the alternative hypothesis tests, there is a significant impact of formative assessment on student`s academic achievement was accepted.

Problem/Objective

To find out the relationship between formative assessment and student`s academic achievement at public secondary schools.

Hypothesis

Ho: There is no significant relationship between formative assessment and student`s academic achievement at public secondary schools.

Correlation Analysis Table

		FA	A. A
FA	Pearson Correlation	1	.538**
	Sig. (2-tailed)		.000
	N	385	385
A. A	Pearson Correlation	.538**	1
	Sig. (2-tailed)	.000	
	N	221	221

Correlation is significant at the 0.01 level (2-tailed).

The results of correlation analysis showing results .538 and Sig- .000 revealed that the null hypothesis is rejected hence, the alternative hypothesis, there is a significant relationship between formative assessment and student`s academic achievement is approved.

Findings

The statistical tests were applied and presented to answer the research null hypotheses, as displayed in all the tables that the both of the null hypotheses found rejected, while the alternate hypotheses were accepted. This shows that there is a positive impact of formative assessment on students` academic achievements. More the formative assessment practices will be done the ratio of the students learning gaps will be reduced, in this way the students as well as teachers will be able to grasp over the flaws/gaps interrupting during the teaching and learning process. It is also revealed by this research study that the formative assessment puts a prominent effect on students` annual results. Formative assessment is proved to be an effective tool used for better results of the students in their academic examinations. More frequent use of the formative assessment practices can enable the head teachers, teachers and students to encompass over the weaknesses, hurdles and gaps, which are huge disruptions in better academic achievements.

Conclusions

It was concluded on the basis of the statistical findings of this research study, that the Formative Assessment has positive impact on Students` Academic Achievement simultaneously it is also found that there is significant correlation between the Formative Assessment and Student`s Academic Achievement at public secondary schools. This study revealed that the formative assessment is a perfect tool to increase the academic achievement. The formative assessment detects out the difficulties and gaps during the teaching and learning process which helps heads of the institution to find out the problems during the ongoing instructional process, whereas the teachers find out the weaknesses of their own teaching simultaneously the learners also explore their gaps of learning which supports them to achieve the academic goals.

Recommendations

It is recommended on the basis of the statistical findings of this research study that the Formative Assessment has positive impact on Students` Academic Achievement and it was also found that there was a significant correlation between the Formative Assessment and Students` Academic Achievement at public secondary schools consequently these practices should be continued for the better educational outcomes, that the teachers should assure their expertise in conducting formative assessment. Formative assessment should be conducted to find out the gaps of teaching, while the students should also put a high consideration over the formative assessment so that they could be able to attempt final examinations in flying colors. Teachers while teaching should continue these practices so that they could be able to overcome the gaps of teaching. It is an easy way to find out the strengths and weakness of once own. The policy makers should take a high stance for regular formative assessment practices, so that the better institutional goals could be achieved. The heads of the institutions should assure to conduct formative assessment to measure the teachers and students` strengths and weaknesses in teaching and learning, so that, they could fulfil requirements of the teachers as well as students to encompass over these gaps.

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