Impact of Formative Assessment on Academic Achievement of Secondary School Students

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Abstract

The diagnostic use of assessment to provide feedback to teachers and students over the course of instruction is called formative assessment. It stands in contrast to summative assessment, which generally takes place after a period of instruction and requires making a judgment about the learning that has occurred e.g., by grading or scoring a test or paper.This study was undertaken to sketch out theimpact of formative assessment on academic achievement of secondary school students. The study was experimental in nature and a pretest/posttest control group design was used. The sample of the study was consisted of 60 students of class 10th and these were grouped in control and experimental groups equally. Both groups were pre-tested. The experimental group was taught and assessed with formative assessmentduring treatment and the control group was not assessed during treatment..It was concluded that formative assessment has positive effects on the achievements of students.

Introduction

(Black & Wiliam, 1998) define assessment broadly to include all activities that teachers and students undertake to get information that can be used diagnostically to alter teaching and learning. Under this definition, assessment encompasses teacher observation, classroom discussion, and analysis of student work, including homework and tests.Assessments become formative when the information is used to adapt teaching and learning to meet student needs. When teachers know how students are progressing and where they are having trouble, they can use this information to make necessary instructional adjustments, such as reteaching, trying alternative instructional approaches, or offering more opportunities for practice. These activities can lead to improved student success.(Sawyer, Graham, & Harris, 1992)

Feedback given as part of formative assessment helps learners become aware of any gaps that exist between their desired goal and their current knowledge, understanding, or skill and guides them through actions necessary to obtain the goal(Sadler, 2005). The most helpful type of feedback on tests and homework provides specific comments about errors and specific suggestions for improvement and encourages students to focus their attention thoughtfully on the task rather than on simply getting the right answer(Arbaugh et al., 2008). This type of feedback may be particularly helpful to lower achieving students because it emphasizes that students can improve as a result of effort rather than be doomed to low achievement due to some presumed lack of innate ability. Formative assessment helps support the expectation that all children can learn to high levels and counteracts the cycle in which students attribute poor performance to lack of ability and therefore become discouraged and unwilling to invest in further learning(Vispoel & Austin, 1995).

While feedback generally originates from a teacher, learners can also play an important role in formative assessment through self-evaluation. Two experimental research studies have shown that students who understand the learning objectives and assessment criteria and have opportunities to reflect on their work show greater improvement than those who do not(Fontana & Fernandes, 1994). Students with learning disabilities who are taught to use self-monitoring strategies related to their understanding of reading and writing tasks also show performance gains(McCurdy & Shapiro, 1992). This study was designed to find out the impact of formative assessment on academic achievements of secondary school students.

Statement of the Problem

The problem under investigation was to find out the impact of formative assessment on academic achievements of secondary school students.

Objectives of the Study

The following were the objectives of the study:

1. To find out the extent of the relationship of formative assessment with academic achievements of secondary school students.
2. To find out the impact of formative assessment on academic achievements of secondary school students.

Hypothesis

Following were the hypotheses of the study:

1. There is no significant relationship of formative assessment with academic achievements of secondary school students.
2. There is no significant impact of formative assessment on academic achievements of secondary school students.

Sample

A group of 60 students out of 200 students studying in 10^{th} class in Govt. High School Fateh Jang was selected randomly. The selected sample was divided into two equal groups, of which, one was experimental group and other was control group.

Procedure of the Study

Nature of the study was experimental. The study used a pretest/posttest control group design that included the matching of participants prior to random assignment to control group and experimental group. A major strength of this design was to ensure that the students' varying levels of pretreatment knowledge was evenly distributed between the two treatment groups, thus eliminating the possibility of placing more participants into one group who already possessed a higher (or lower) level of knowledge of the intended content. This was accomplished by first pre-testing all the participants, then pairing the two highest scoring participants, and randomly assigning one to the control group and the other to the experimental group. The next two highest scoring participants were then randomly assigned to one of the treatment groups, and so on.

Development of Test Instruments

Pretest and posttest for control and experimental groups were developed in the subject of English. During experiment 6 teacher made test were used in same subject.

Pilot test of Instruments

Identical pretests and posttests were used to test the achievement of students of experimental and control groups. Pretest was administered to 30 students of class 10th.Posttest was, also, administered to 30 students of class 10th different from pretest group. Duration of each test was 30 minutes. The test was then collected, scored and compiled.

During the instrument development phase, pilot test were held for pretest and posttest with 30 students other than the sample. It was held at Government High School Fateh Jang.

Two indicators were used in the analysis of the pilot test.

1. Item non-response rates
2. The respondents that reported difficulty in understanding the items

Results of the pilot test identified items that were unclear to respondents. It resulted in change/removal of a number of ambiguous items from the tests.

Data Analysis

Identical pretests were used to test the achievement of students of experimental and control groups. Pretest was administered to 30 students of class 10th. Duration of test was 30 minutes. The test was then collected, scored and compiled.

After the treatment the posttests were administered to experimental and control groups under similar environmental conditions as were available for pretest. Thus the score sheets of pretests and posttests were obtained for each group. These are presented as:

Score of Experimental and Control Groups for Pretest

	Control Group	Experimental Group	
Mean	24.70	24.36	
Std. Deviation	3.18	3.02	
Variance	10.14	9.13	

Score of Experimental and Control Groups for Posttest

	Control Group	Experimental Group	
Mean	14.83	26.86	
Std. Deviation	2.27	3.22	
Variance	5.15	10.42	

Findings

Pretest

Statistical analysis of the pretest showed that there was no difference in the mean of both the experimental and control groups for pretest.

Posttest

Statistical analysis of posttest indicated that there was significance difference in the mean scores of both groups i.e.26.86 for experimental group and 14.83 for control group. Where as the variance was 3.22 and 2.27 and the standard deviation was 10.42 and 5.15 for experimental and control groups respectively.

Conclusions

It was concluded that students assessed by formative assessment significantly high score than students who were not assessed.

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