

Engaging Professionals: Investigating in Service Teachers Use of Formative Classroom Assessment

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Abstract This study examined in-service teachers use of formative classroom assessment (FCA) approach. The research aimed at to achieve following three major objectives: (a) to identify in-service teachers' comprehension of determining the purpose of formative classroom assessment. (b) to investigate teachers' use of process and techniques of assessment in classroom. (c) to examine ways in-service teachers provide feedback and report on students' performance. The questionnaire based on literature review was distributed to the elementary school teachers for gathering data. Validity of the questionnaire was evaluated by experts. The instrument reliability coefficient was 0.71. Descriptive statistics percentage, mean and standard deviation were used to analyze the data. It was found that teachers (92.1%) assigned homework; (82.3%) gave teacher-made tests and (88.2%) assessed students after completing the lessons as effective techniques of FCA. Teachers (82.4%) provided oral feedback to students and (74.5%) reported results to students than other stakeholders of students' learning. It was also found that FCA developed the learning of students and improved the practice of teaching in the classroom. Further study may be carried out to explore the problems faced by teachers during using the formative classroom assessment approach through qualitative method of research.

Keywords Formative Classroom Assessment, Purpose, Process, Technique, Feedback, Reporting, Students' Learning; Teaching Practice, Professional

1. Introduction

Formative classroom assessment (FCA), in place of other assessments, has progressively got high priority by teachers throughout the world in the past decades (Tierney, 2006). It is considered the most essential unit of effective teaching practice. Teachers, in our context, commonly use traditional ways of assessments such as summative which are not deemed as effective for the appropriate development of students' learning. This study investigates the teachers' use

of purposes, process, techniques, feedback and reporting in formative classroom assessment.

Formative classroom assessment is defined as the planned, purposeful process of adopting different techniques, providing feedback and reports in order to stimulate learning of students and practice of teachers in the classroom (Popham, 2008; Sangster & Overall, 2006; Marzano, 2006; Roins, 2007; Salend, 2009; Bell & Cowie, 2001; Lee, 2011; Tuttle, 2009; Fisher & Frey, 2007).

Generally, purposes of classroom assessment are crucial factors to align entire design that provides output in pupil's learning and teachers' performance in the right way. Sangster & Overall (2006) raise important questions concerning how to determine purposes that teachers may consider in classroom assessment. Few interrogative inquiries are as such why is the data required? Who intend to achieve the information? Which information strongly serves the best purpose of assessment? What is the best technique to collect the information? What is the description of collected data? Which aspect is required to report? How can teachers react on this information? Despite the aforementioned interrogations, teachers usually formulate manifold purposes (Earl, 2003) such as minimizes achievement breaches (Stiggins & Chappuis, 2005) and closes gaps to be relative to standards (Orlich et al., 2010). The principal initiative of classroom assessment is to monitor the progress of students (Sindelar, 2011), support learner' performance (Stefanou & Parkes, 2003) and produce a culture of competition with students themselves rather than with other students (Hammerman, 2009). Further, teachers keep in mind the purposes of reconstructing students-centered environment (Muller-Joseph, 2007) and fostering their teaching practice (Popham, 2008). Purposes may positively obtain only when teachers address suitable process and techniques.

Process of formative classroom assessment involves continuous systematic techniques, actions, activities, behavior, attitude and skills of teachers for achieving the purposes. Simply, it is a process of gathering information (Chen & McNamee, 2007) pertinent to students and teachers to facilitate learning and teaching activities in classroom. Process of data collection needs careful planning and

preparation of instruments that accumulate the accurate and comprehensive information. The content legitimacy, consistency, evaluation and reflection on instruments require teachers' extraordinary professional dispositions and performance.

Effectively, process of formative classroom assessment may be implemented through using different crucial techniques. FCA techniques include assigning classwork, homework, questioning, quizzes, projects and tests (Kumar, 2013). Particularly teacher made tests comprising essay type questions (ETQs), short answer questions (SAQs), true false questions (TFQs), matching items questions (MIQs), fill in the blanks questions (FBQs) and multiple choice questions (MCQs). Teacher-made tests have been playing an important role in classroom assessment (Salend, 2009) to activate learning process of students. These techniques involve less effort for school personnel to prepare, carry out and score. They are also easily quantifiable (Wright, 2008). Notwithstanding, above techniques teachers use formative assessment before or during the instruction to accelerate the learning of students ((Black & William, 2006; Stiggins et al 2004) Techniques may be futile, if they are not addressed critically how to improve learning and teaching which normally coined as feedback.

Neglecting the element of feedback is similar to demolish the scheme of formative assessment in the classroom. Feedback is a decisive component of teaching and learning activities particularly formative classroom assessment phenomenon. It is generally identified as one-way communication (Askew & Lodge, 2000) which is a narrow concept of feedback. Actually, it is a two-way communication from teacher to student and student to teacher. Feedback pinpoints the gaps between present-day and preferred performance. It has many dimensions such as period, extent, method and addressees (Brookhart, 2008). Effective feedback may include oral feedback and written feedback which are two commonly used approaches in formative classroom assessment. Oral feedback is a type in which teachers facilitate students' learning problems by offering some suitable suggestions how to tackle learning difficulties. Truly, it is on the spot comments to stimulate the students for reviewing their work and make suitable modifications. The written feedback is teachers' critical comments on students' assignment in writing. Whatever the modalities of feedback, the comments should be clear, logical and encouraging for students concentrating both positive and negative aspects of students' work. Written feedback may also take the shape of reporting.

Reporting in relation to students' progress is highly effective when the decisions are informed to parents (Barone, & Taylor, 2007; Anisworth & Viegut, 2006) and particularly pupils for self-evaluation (Brookhart, 2011). The information is generally reported as progress reports, report cards, and spreadsheet data in narration (Barone, & Taylor, 2007). Reporting is presented to students, parents, colleagues and peers to involve other stakeholders to support learning of students in the classroom.

Regarding this research, it encompasses to organize formative classroom assessment components like purpose, process, techniques, feedback and reporting. It also focused on investigating in-service teachers use of formative classroom assessment. This research aimed at to achieve the following three major objectives: (a) to identify in-service teachers' comprehension of determining the purpose of formative classroom assessment. (b) to investigate teachers' use of process and techniques of assessment in classroom. (c) to examine ways in-service teachers provide feedback and report on students' performance. This study may construct insights for in-service teachers to improve the knowledge, skills and values with reference to formative classroom assessment at elementary level.

2. Method

2.1. Participants and Context

The sample comprised of 51 elementary school teachers from which thirty four male and seventeen female who were teaching in the city district headquarters public schools. Mostly teachers possessed MA/MSc (70.5%) academic qualification and B.Ed/M.Ed (80.4%) professional qualification. There were ESTs (66.7%) and PSTs (33.3%) teachers participated to respond their views about formative classroom assessment in this inquiry. The participants teaching experience ranged from 1 to 15 years. Further, this study was delimited to the city public schools of Nankana Sahib, district in Punjab, Pakistan.

2.2. Instrument

It was survey research in nature. It gathered data through the questionnaire. The questionnaire was developed on the basis of literature review. It was comprised twenty items. Moreover, it was subdivided into three sections such as purpose (four item), process and techniques (twelve items), and feedback and reporting (four items) of formative classroom assessment. Teachers responses were obtained on employing the 5-point Likert scale ranging from 0 (never) to (frequently) 5. Only positive items were included in the questionnaire to facilitate teachers to easily comprehend the items in other language. Validity was ensured through experts' review of the tool. The internal consistency reliability coefficient was ($r = 0.71$) measured by Cronbach' alpha in SPSS 16 version. The researchers personally collected data from teachers. Consent was already taken to participate in this study. The rate of return of questionnaire was 100%.

3. Results

The descriptive statistics were used to analyze the data through SPSS software. The results are shown in the tables as:

3.1. The Purposes of Formative Classroom Assessment

Percentage, mean and standard deviation were employed to point out teachers' use of determining the purpose of formative classroom assessment. Table 1.1 presents means and standard deviation of teachers use of multiple purpose in the formative classroom assessment.

Table 1.1 shows that teachers (88.3%) determine the purposes to improve students' learning, teachers (78.4%) define the purpose to improve their teaching practice, teachers (58.93%) narrate the purpose to compete students themselves rather than other pupils and teachers (54.9%) describe the purpose to close gaps of learning relative to standards in formative classroom assessment. The mean

value also displays that teachers mostly determine the purposes for improving students learning (4.47) and their teaching practice (4.06). So, it was concluded that teachers determine manifold purposes of formative classroom assessment.

3.2. The Process and Techniques of Formative Classroom Assessment

Percentage, mean and standard deviation were employed to highlight teachers' use of process and techniques of assessment in classroom. Table 1.2 presents means and standard deviation highlight teachers' use of process and techniques of assessment in classroom.

Table 1.1. Counts, percentage, means and standard deviation of teachers' responses regarding the purpose of FCA

Statement	Frequently	Often	Sometimes	Seldom	Never	Mean	Std. Deviation
Improve students' learning	31 (60.8%)	14 (27.5%)	5(9.8%)	1 (2.0%)	0 (0.0%)	4.47	0.76
Improving teaching practice	15 (29.4%)	25 (49.0%)	10(19.6%)	1 (2.0%)	0 (0.0%)	4.06	0.75
Compete themselves rather than other students	11 (21.6%)	19 (37.3%)	16(31.4%)	2 (3.9%)	3 (5.9%)	3.65	1.05
Close gaps of learning relative to standards	8 (15.7%)	20 (39.2%)	13(25.5%)	2 (3.9%)	8 (15.7%)	3.35	1.26

Table 1.2. Counts, percentage, means and standard deviation of teachers' responses concerning process & techniques of FCA

Statement	Frequently	Often	Sometimes	Seldom	Never	Mean	Std. Deviation
Assess through assigning homework	27 (52.9%)	20 (39.2%)	3(5.9%)	1 (2.0%)	0(0.0%)	4.43	0.70
After completing the lesson	25 (49.0%)	20 (39.2%)	5(9.8%)	0 (0.0%)	1 (2.0%)	4.33	0.81
Tests/papers	22 (43.1%)	20 (39.2%)	8(15.7%)	1 (2.0%)	0 (0.0%)	4.24	0.79
During lesson	25 (49.0%)	17 (33.3%)	6(11.6%)	1 (2.0%)	2 (3.9%)	4.22	1.00
Making tests themselves	17 (33.3%)	24 (47.1%)	9(17.6%)	0 (0.0%)	1 (2.0%)	4.10	0.83
Draw performance objectives	12 (23.5%)	24 (47.1%)	13(25.5%)	2 (3.9%)	0(0.0%)	3.90	0.80
Pupils are assessed their learning themselves	11 (21.6%)	24 (47.1%)	15(29.4%)	0 (0.0%)	1 (2.0%)	3.86	0.82
Involve students in assessment	17 (33.3%)	18 (35.3%)	10(19.6%)	0 (0.0%)	6 (11.8%)	3.78	1.25
At the start of lesson	15 (29.4%)	16 (31.4%)	13(25.5%)	1 (2.0%)	6 (11.8%)	3.65	1.26
Quizzes	5 (9.8%)	20 (39.2%)	24(47.1%)	2 (3.9%)	0 (0.0%)	3.55	0.73
Projects	8 (15.7%)	18 (35.3%)	20(39.2%)	3 (5.9%)	2 (3.9%)	3.53	0.96
Peers	4(7.8%)	19 (37.3%)	19(37.3%)	5 (9.8%)	4 (7.8%)	3.27	1.02

Table 1.3. Counts, percentage, means and standard deviation of teachers' responses about feedback and reporting of FCA

Statement	Frequently	Often	Sometimes	Seldom	Never	Mean	Std. Deviation
Written	22 (43.1%)	17 (33.3%)	(17.6%)	2 (3.9%)	1 (2.0%)	4.12	0.97
Oral	19 (37.3%)	23 (45.1%)	3 (5.9%)	4 (7.8%)	2 (3.9%)	4.04	1.05
to parents	18 (35.3%)	17 (33.3%)	15 (29.4%)	0 (0.0%)	1 (2.0%)	4.00	0.91
Inform results to students	21 (41.2%)	17 (33.3%)	7 (13.7%)	1 (2.0%)	5 (9.8%)	3.94	1.24

Table 1.2 shows that teachers (70.6%) draw performance objectives, teachers (92.1%) perform the FCA technique of assigning homework, teachers (82.3%) take tests, teachers (51%) utilize the technique of assigning the projects, teachers (49%) employ quizzes as the techniques of FCA. Teachers (60.8%) assess students in the inauguration sessions, (82.3%) during the lesson, and (88.2%) after completing the lessons. Moreover, teachers (80.4%) made tests to assess their students' progress in learning. In addition to involving students in the assessment, teachers (68.6%) involve students and teachers (68.7%) provide opportunities for students to assess their own improvement and teachers (42.1%) provide chance to peer involvement in the process of techniques of formative classroom assessment. The mean values of homework assignments (4.43), tests (4.24) and after the lesson (4.33) are prominent in the techniques of formative classroom assessment. But teachers may improve students' learning through giving appropriate place of other techniques. So, it was concluded that teachers had carried out the process and applied different techniques of formative classroom assessment.

3.3. The Provision of Feedback and Reporting of Formative Classroom Assessment

Percentage, mean and standard deviation were performed to identify ways teachers provided feedback and report on students' performance. Table 1.3 presents means and standard deviation of the ways teachers provide feedback and report on students' performance.

Table 1.3 shows that teachers (82.4%) provide oral feedback to students. Likewise, teachers (76.4%) deliver written feedback to pupils. The mean value of written feedback displays that it was teachers most used style of feedback. Teachers (74.5%) inform results to students only and (68.6%) give information to parents while they report students' progress. The mean values exhibits that they prefer presenting reports to parents (4.00) rather than students (3.94). So, it was concluded that teachers provided feedback and report the activities of formative classroom assessment.

4. Discussion

This study found out teachers use of formative classroom assessment. The main objectives of the study were: (a) to identify in-service teachers' comprehension of determining the purpose of formative classroom assessment. (b) to investigate teachers' use of process and techniques of assessment in classroom. (c) to examine ways in-service teachers provide feedback and report on students' performance. The data was collected through the questionnaire which was validated by experts and had 0.71 internal consistency coefficient. The techniques such as the percentage, mean and standard deviation was employed to analyze the data.

The results displayed that teachers determined variety of

purposes, particularly, to enhance the current level of achievement of their pupils in the classroom. This finding was corresponded with Sangster & Overall (2006) that formative assessment should have a purpose.

Process of assessment is another factor which is indispensable. The preparation, selection of assessment instruments, content validity of tools, evaluation and critical reflection are the main elements in classroom assessment. The phase of assessment process needs very careful skills for meeting the requirements of this phase of assessment.

Embracing the techniques of assessment is a hard task for teachers but it supports teachers to stimulate accomplishments of students. So, teachers specifically enhance their values with respect to utilize the techniques of assessment in the classroom practice. Teachers also applied different techniques of formative classroom assessment as assigning homework and tests while assessed pupils during and after completing lessons. It was harmonized with Brookhart (2011) formative assessment was used before and during instruction to find out how they were progressing. The teachers' responses indicated that they assessed students by making tests themselves. The essential technique of formative classroom assessment is to involve pupils in this process. Teachers' positively displayed consent towards involving students in the assessment process. This result is partially agreed with Webb & Jones (2009) that pupils took extra responsibility for their own learning and assisting themselves in assessing their learning. The most crucial area in formative classroom assessment is feedback provision. Teachers provided oral and written feedback to pupils. This finding agreed with the results of Mendez & Cruz (2012) that teachers commonly have affirmative view of oral corrective feedback. Reporting of assessment also improves students learning and makes teachers accountable for their teaching outcomes.

An empirical study found out that teachers responded formative classroom assessment hard to value and apply (Daws & Singh, 1999) but it was a time that this concept was not entirely cleared. Quite the opposite, teachers found that they frequently utilized formative assessment because it was reliable source of improving students' learning in the classroom.

The findings of current research may be useful for teachers teaching at the elementary level to improve teaching practice and learning of students in the classroom.

Further study may be carried out to explore the problems faced by teachers during using formative classroom assessment approach through qualitative method of research.

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