

# Understanding the Formative Assessment: A Road Towards Targets Achievements

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## Abstract

Learning is acclaimed to be a paramount and effective source of changing behavior across the world. To measure the behavior, there are techniques and skills to be learnt. Assessment in learning process enables the individual to examine the effectiveness of the various methods and techniques that the efforts are targeted or not and to see that the teachers, learners and instructional process in on the road to success. Formative assessment plays a decisive role to get the job done. The objectives of the study were to investigate the teachers' perception about the usefulness of formative assessment in learning process and to get inform the educators about the worth of formative assessment process. All the working male teachers at primary, secondary, and higher secondary levels in District Mardan constituted the population of the study. Four hundred government school teachers for Boys were selected randomly as sample of the study. Among those 400 teachers, 300 were randomly selected for filling the questionnaire and 100 for conducting of informal interview. The collected data of the questionnaire was analyzed through percentages and inferential statistics i.e., chi-square by SPSS version 16. Themes, pattern were drawn and codification were made from the collected data of interviews. The study revealed that formative assessment is very effective and productive technique which plays a crucial role in boosting and stimulating instructional process.

**Keywords:** Learning, Assessment, Formative Assessment, Teachers, Goals

## Introduction

According to Lambert & Lines (2000), Assessment means the process or procedure of gathering data, making its interpretation, preparing records and using the information (data) for the learning activities of the students. Black and William (1998) said that assessment is a constructive instrument and giving help in changing, revising or making adjustment in teaching learning methods and techniques. An appropriate assessing practice helps educators to spot out problems of the learners as they obtain information through feedback on teaching learning activities. There are various assessing techniques and practices that can be used by educators to enhance and enrich the instructional process. Classroom assessing is continuous activity and should be carried out continuously to enhance the learners' performance in every teaching unit. According to Greaney (2001), assessment is the process of gathering data about the learning activities i.e. skills, knowledge, abilities and attitudes of the students. Dochy, Gijbels, and Segers, (2006) expressed that in educational institution i.e. schools and higher learning institutions the conventional assessing practices is going to be changing in new, more valid and bona fide assessment process. Educational assessment is part and parcel to teaching profession. Assessment is the procedure or techniques through which educators get information about the performance of the students in classroom situation. In this process the teacher used various methods and techniques and determined the targeted achievements and learning outcome of the students (Gronlund, 2006). According to Clark (2012), assessment is formal procedure of group strategies, formal structures, instruments and practices for producing and utilizing data of student performance.

Assessment has a great role to play in examining of the students' comprehension of the concepts and skills which are taught to them (Noraini, 2005). According to Azizi (2010), Assessing is a continuing procedure and should be constantly applied in instructional process. The key aims of the assessment process are; assessing of learning process, assessing for learning and assessing as learner. Assessment of learning means to get informed the public about the abilities of the learner, of the curriculum. Assessment for learner is to get allowed the educators to decide the coming strategy to be taken to improve the learning of the student. Assessment as learning is for learner to observe and supervise their learner achievement. For achieving these aims, variety of assessing program are used by the educators. The focal point of the assessment process is always the students' learning, the environment in which learning take place, learning institutions and the system of learning. According to Koh (2011), educational assessment is one of the potent instruments used for the improvement of educational systems. Its effectiveness is depending upon the skills, knowledge, attitudes and competence of educator and the practice due the frequent contacts and communication between these elements or dimension (Calderhead, 1996). The primary and basic role of assessment program is to give information that helped the educators i.e. teachers, students, administrators and other decision and polices makers to arrive the correct decisions (Pelligrino et al., 2001). A successful and effective assessing programming is usually based on

systematic procedure. It should be in proper order and based on open method of obtaining assessment information. It should be the integral part of departmental mission. It must be ongoing, collective and provide a body of facts to make better the program. Assessment needed to be multifaceted and various strategies needed to be applied. Assessment program needed to be pragmatic, practical and realistic. It should be the program designed by the department or faculty not imposed from outside (Stassen et al., 2001).

Assessing procedure and methods require concentrating of what learner possess in the term of learning and what they needed, and the application of variety of sophisticated assessing instruments that may be in written form, oral or in demonstrative form. Therefore the substitute assessing instruments like rubrics, concept models and maps portfolio, learner journals, self- evaluation program and peers assessing practices are vital for the determination of what learner learnt and what they are learning now (Anderson, 1998; Birgin, 2011).

Kellough and Kellough (1999) characterize the assessment as following:

- a) To provide assistance to students' learning.
- b) Identification of the weakness and strengths of the students.
- c) Evaluation of the effectiveness of teaching and instructional strategies.
- d) Assessment and improvement of the curriculum program.
- e) Assessment and improvement of teaching program.
- f) Providing data for decision making.

### ***Formative Assessment***

Formative assessment is the integral part of the teaching and learning process. It gives information that is required to adjust the teaching learning in time of its happening. Formative assessing get inform both the teacher and learner about the learning of the learner at certain point when modification or adjustment is required. It enables them to be targeted and get the standard as well (ARG, 1999). Black and William (1998) stated that all the activities that are done by the educators or the students by self and which are used as feedback for the improvement and modifying during the learning activities are called formative assessment. According to looney (2005) formative assessment is the regular and inter-active assessing process of the learners' growth and progress that detect and determine student's needs and make adjustment of the instructional process properly. Black and William in Harlen (1999) "all the activities that are take place by the educators and their students to assess their selves and that produce data for using feedback in order to change the instructional process about the program in which they taking part. The assessment that give effects to instructional process as a whole they consider it formative assessing process.

Assessing students is one of the critical stages in the process of teaching learning because not only assessing the learning of the students but also to assess what the students needed more to learn. It also helps the teachers in the selection of suitable instructional techniques. At the start of the lesson it enable the teacher to spot out the core areas which is helpful in the learning process i.e. the previous knowledge, level of learning ability and skills etc. of the learner. Formative assessment enables the teacher to come across the performance of the students during the learning of the specific subject. Assessment at the end of the lesson enables the teacher to know about the target to be achieved and provide feedback for the improvement (McMillan, 2007). Heritage (2007) categories formative assessment into three areas which contribute to the learning cycle:

1. On the fly: It is the assessing that takes place during the lesson.
2. Planning instructions: Making decision before the instruction process and
3. Embedment of curriculum: Rooted in the curriculum and used for the collection of information at the important points during the instructional process.

### ***Purpose of the Formative Assessment***

Shepard et al (2005) define the formative assessment as the assessing process that is held during the teaching learning process for improvisation of learning or teaching. In the opinion of Cowie and Bell, (1999) formative assessment is used by the educators and students to understand and responded to the learning of the students to improve the performance and learning of the students during the learning. According to Ainsworth (2006) the purpose of the formative is:

1. It gives motivation to learner to be kept on connected and busy in the learning process.
2. It provides assistance to the learners to be positive in approach and grow constructive set of mind.
3. It helps in evaluation of learning strategies to be effective and handy.
4. It provides feedback to the learners about their abilities and learning.
5. It provides information about what specific skill or concept learnt by the student the available standard.

AFL (assessment for learning) constitutes the essential component of daily learning. Educators collect information about student learning by asking different question, observation, discussion, listening and appraisal of the students work. According to ARG (2002), AFL is the process of searching and makes interpretation of the collected information for the utilization of learner and teacher to make decision about the targeted goal, how to reach and what the best way to accomplish these goals. The educators can then make use of the collected data by:

- Tracing and spotting out the various lope holes and the growth in the learning process and individual

needs.

- Setting and devising targeted goals
- Providing feedback to the students (ARG, 2002).

#### ***Difference between Formative and Summative Assessment***

Summative assessing is the process to indicate competence and contribute to the students marking and providing grades, degrees or any other certification. While formative assessing provides feedback information to the learner on their achievements and performance. It gives the learner information about their progress and improvement and not used for the summative purpose i.e. final marking or certification (Brown, 2001). According to Knight (2001) the key distinction between the two type of assessments “summative assessment is used for judgment and the formative is used for the improvement of activities”. By the judgment students are awarded with a final grade on the base of numerical feedback. When feedback is provided for improvement that what have been achieved and what are needed to be achieved during the processing of course or program. He considered formative assessing more worthy for learning program. Summative and formative assessments are somewhat different. The vital focus of the formative assessing and formative feedback is to assist the learners to identify the level of learning they have mastered and also assist in the clarification of the expectations and standards (Irons, 2008).

#### ***Principles of Formative Assessment***

The term (AFL) assessment for learning is used in place of formative assessment. ARG (1999) says that assessing for learning is the process of collecting and interpretation of information for the utilization of students and teachers to make decision that where the students are in their learning, what is the destination and how amicably they can reach there. Assessment Reform Group (1999, 2002) recognizes some principles for formative assessing that are:

1. It should be the component of planning.
2. The focal point of the formative assessing how the students learn.
3. It is focus on classroom activities
4. Its need specialized and expertness.
5. It is needed sensitivity, practicability and constructiveness.
6. There should be rapid motivation.
7. It should develop understanding of targets and based on definite principles.
8. It should assist the students to know about the ways of improvement.
9. It should build up the ability of self-assessment.
10. It should acknowledge the entire learning efforts and achievement (ARG, 2002).

#### ***Teacher and Assessment Process***

The job of the teacher is very significant in quality ensuring of the assessment in learning academies Wyatt-Smith et al, (2010). Teachers and academies should have a firm knowledge, specialized and certified skills to expand and utilize this in practical form (GTCNI, 2011).

According to (GTCNI, 2011) professional competency educators are needed to:

1. Utilizing of multiple assessing techniques to make assessment of the students’ learning.
2. Recognizes the values and its uses and margins.
3. Conduct substantial assessment against the criterion.
4. Students’ involvement in the assessing of their learning process.
5. Making of assessment of students’ performance for the relevant benchmark.
6. To understand the relation among the assessment, locating students’ targets and goals directions.
7. To make use of the assessing data for effective instructional practices and to make cooperation with other.

Five strategies for AFL (assessment for learning):

1. *Focus leaning*: Focus should be on learning by cooperation and coordination the learning intents and criteria of success with students.
2. *Effective questions*: Questions should be encouraging and effective to make the students think about their learning.
1. *Formative feedback*: Qualitative feedback enables the educators to recognize students’ achievements, flaws in the learning process and providing strength to the upcoming process of learning.
2. *Scaffolding reflection*: It provide students time to give reflection on their work, approaches etc.
3. *Educators’ reflection*: Teachers’ reflection efficacies of instructional process allow them to confirm that what the students have learned. It helping the teachers to make decision that what they need to teach and to use different strategies for teaching and how to focus on the targeted plans (CCEA, 2009).

#### ***Relation between Formative and Summative Assessment***

Formative assessing and summative assessing performing different function or have different uses. The focal point formative assessing is to improve and enhance the learning while summative assessing make

summarization of learning at the end of the program. Nevertheless, formative assessing and summative assessing have a strong relation and complementary to each other. They are serving both purposes i.e. how the educators use the data and provide feedback (Black et al., 2003; Harlen, 2005; Taras, 2005). ARG, (2002) suggests that teachers could make better use of assessment by taking this interrelationship into account. According to Stiggins (2008), formative assessment is helpful for both the teacher and learner during learning. It provides information that what the student learns and what will be come next. This enhances the performance and learning because it makes adjustment for the instructions before the final gradation or certification. In formative assessing the learner involved itself hence promoting learner reflection and meta-cognition. The educators observe the things, make record of these things and they get information for the efficiency. Although they have better opportunity to make assessment of their students than other, yet they should keep the driving right based on their collected evidences.

#### ***Formative Assessment Used as Feedback***

Sadler (1998) said that the main purpose of the formative assessment is to provide feedback about the performance to enhance and speedup the learning process. Formative assessment is process exercises by the educators and learner during the teaching learning process to provide feedback to strengthen the ongoing learning process and attainment of the learning targeted goals set by curriculum developers (Maine DOE, 2015). Formative assessing is also used to provide benchmarks which are helpful in decide that the particular instructional strategy is useful of not for individual or group of the learners. Thus, the future action can be taken to the bases of this information (LFA, 2013). The aim of the formative assessment is to help the students to develop the ability and skill make management of their own learning, and to develop ability to effectively manage the specific domain of the subject. Learning should be considered as voyage in which the students should know their present location, their destination and how they are moving toward the destination (ARG, 1999). According to Harlen (2005), the data or information obtained from the formative assessment supportive to the summative assessment. According to Pintrich and Zusho (2002), formative assessment and feedback can be utilized to enhance and promote learner self-regulated learning. The concept of self-regulation means that the learner can regulate their judgment, impulses and behavior during the learning process.

#### **Statement of the Problem**

The aim of the study was to investigate the role of formative assessment in teaching and learning process. Formative assessment is very handy in classroom learning. Formative assessing keep very thing on track and give help to teachers and students both in learning process. It is the road toward targets achievements and provides timely feedback to the concerned.

#### **Significance of Problem**

Learning process is composed of multiple activities and every activity has a worth of their own. Classroom assessment is one of these activities as it plays a valuable role in learning process. The success of educational system depends upon the standard assessing process and their outcomes. There are different kinds of assessments practices; formative assessment is one of them. Formative assessment is the back bone of the learning process. It keeps the teachers and the students on right direction and makes timely adjustment if there is any inconvenience found in way of learning. It is always goal directed, supportive to the summative assessment and provides feedback to get achieve the targets. The study will be beneficial for all the stake holders i.e. teachers, administrators, students and parent as well.

#### **Objectives of the Study**

1. To examine the teachers' perception about the usefulness of formative assessment in learning process.
2. To develop the understanding of educators about the worth of formative assessment process.
3. To get inform the educators about the worth of formative assessment process.

#### **Methods and Procedure**

The study was aimed to investigate about the teachers' perception about the usefulness of formative assessment in learning process and to get inform the educators about the worth of formative assessment process.

#### ***Population***

All the working government primary, secondary and higher secondary school teachers for boys of district Mardan constituted the population for the study. According to the Annual Statistical Report of Government School, there were total 5,160 teachers working at primary, secondary and higher secondary level in District Mardan (EMIS, 2015).

#### ***Sample and Sampling Technique***

As the population was heterogeneous due to level of the school, therefore, stratified random sampling was used for selecting sample. In this way, three strata were formed i.e., primary school teachers, secondary school

teachers and higher secondary school teachers. A total four hundred government school teachers for boys were selected as sample of the study. Among those 400 teachers, 300 were randomly selected for filling the questionnaires and 100 for conducting of informal interview.

### **Research Design and Instrumentation**

The study was descriptive and quantitative in nature and therefore, survey research designed was applied. In order to seek the responses of the participants, questionnaire and informal interview were used. Questionnaire was composed of two sections one about getting information about the worth of formative assessment which was composed of 15 items and the other about the teachers composed of 10 items.

### **Pilot Testing**

Before administration of the questionnaire it was pilot tested in 10 schools in order to remove the misconception and ambiguities of the items. Consequently, some items were found weak and were deleted. Initially, the questionnaire was composed of 32 items and 7 items were found weak and removed. Some items were rephrased to make them more understandable. Then its final version was prepared in the light of the suggestions given by the experts.

### **Validity and Reliability**

Apart from pilot testing, it was imperative to confirm the validity and reliability of the research instruments. Validity of the instruments was checked by the expert opinions of the educational and subject specialists. To confirm the reliability of the formal interview, inter-rater reliability was used. On the other hand, Cronbach's Alpha test was conducted to determine the internal consistency of the questionnaire which was found to be 0.88 which confirmed that the questionnaire was reliable.

### **Data Collection**

Data was collected through personal visits as the population area was Mother District of the principal author. Before, distributing the questionnaires, proper permission was taken from the principals of the schools. 300 questionnaires were distributed among the participants and 280 of the questionnaire were received.

### **Data Analysis**

The collected data of the questionnaire were analyzed by percentages and inferential statistics chi-square by SPSS version 16. Themes, pattern were drawn and codification made from the collected data of interviews. Then it was interpreted and conclusions were drawn. Chi-square and percentages were used for the data obtained through questionnaires.

## **Results**

Table 1 and 2 shows the analysis and interpretation of the data. The statement was supported, when the calculated value was found greater than the table value ( $X^2 = 3.841$ ) at 0.05 level of significance and not supported when the calculated value was found to be less than the table value.

**Table 1: Teachers Responses about Formative Assessment**

Statements	Yes	% age	No	%age	X <sup>2</sup>
Focuses on goals	230	82.14%	50	17.85%	115.71
Focused on content	255	91.07%	25	08.92%	188.92
Focused on SLO of the lesson	257	91.78%	23	98.21%	195.55
Integral part of the teaching & learning process.	222	79.28%	58	20.70%	96.05
Encourages students to self-monitor progress	260	92.85%	20	07.14%	205.71
Emphasize the needs of each student	236	84.28%	44	15.71%	131.65
Should be constructive	264	94.28%	16	05.71%	219.65
Based in a variety of tools or strategies	273	97.50%	07	02.50%	252.70
Planned and intentional part of the learning	200	71.42%	80	28.57%	51.42
Supportive to the Summative assessment.	162	57.85%	118	42.14%	6.91
Timely adjustment possible	172	61.42%	108	38.57%	14.62
promote understanding of goals and criteria	243	86.78%	37	13.21%	151.55
Information for next steps	239	85.35%	41	14.64%	140.01
Provide timely feedback	245	87.50%	35	12.5 %)	157.50
Motivate the students	244	87.14%	36	12.85%	154.51

**Level of significance= 0.05**

**df= 1**

**table value= 3.841**

Table 1 shows that for all the statements the calculated values were found to be greater than the table value ( $X^2 = 3.841$ ) at the 0.05 levels of significance. Henceforth all the statements were supported. The teachers responded that the formative assessment should be focused on the learning goal and should be content based. They responded that while conducting formative assessment SLOs of the lesson should be kept in mind. They hold that formative assessing should be the integral part of the teaching and learning process. Teachers opined that the role of the formative assessment should encourage the students to self-monitoring and it should be based



on the need of each student. The teachers agreed to the statement that formative assessment should be constructive and be based on variety of strategies. The most of the respondents were agreed that formative assessment should be planned and intentional part of the instructional process. Formative assessment should be Supportive to the Summative assessment and should be timely adjustable. The respondents were opined that formative assessment is helpful in understanding of goals and targets. The teachers agreed that it should be helpful in providing information for next steps to be taken in learning and providing timely feedback to the educators.

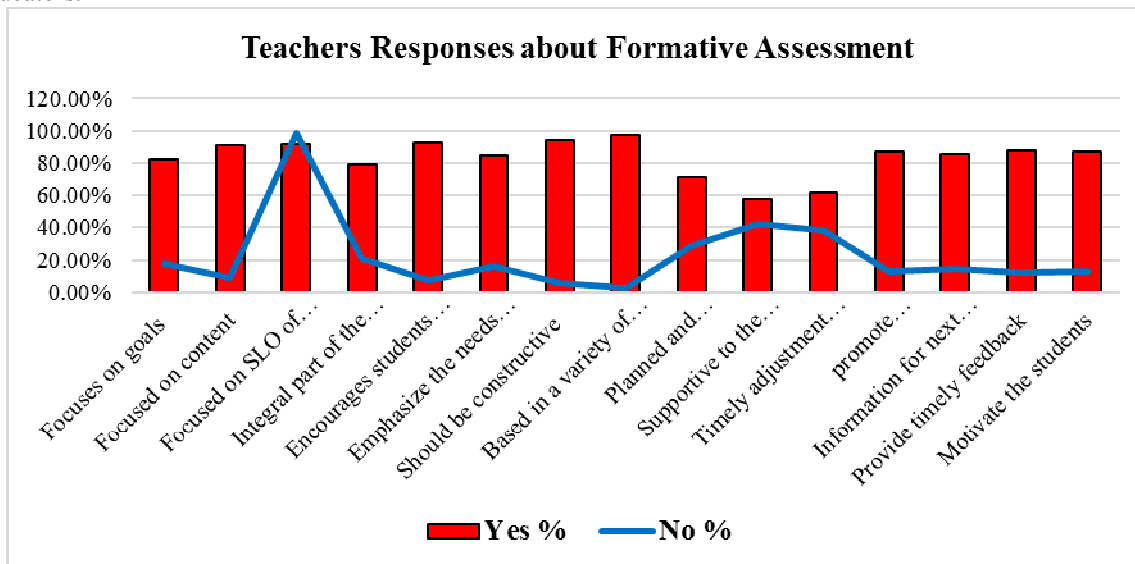


Fig. 01: Teachers Responses about Formative Assessment

Table 2: Teachers and Formative Assessment

Statements	Yes	%age	No	%age	X <sup>2</sup>
Teachers interest	216	77.14%	64	22.85%	82.51
Using different techniques	220	78.57%	60	21.42%	91.42
Identify learning needs	200	71.42%	80	28.57%	51.42
Establish relation between learning and contents	210	75.00%	70	25.00%	70.00
Competency of teachers	244	87.14%	36	12.85%	154.51
Teacher formal training	261	93.21%	19	06.78%	209.15
Help teachers to improve their teaching	207	73.92%	73	26.07%	64.12
Practical knowledge/skills	244	87.14%	36	12.85%	154.51
Keep teachers on track	236	84.28%	44	15.71%	131.65
Provide immediately feedback to the teachers	269	96.70%	11	03.92%	237.72

Level of significance= 0.05

df= 1

table value= 3.841

Table 2 shows that for all the statements the calculated values were found to be greater than the table value ( $X^2 = 3.841$ ) at the 0.05 levels of significance. Henceforth all the statements were supported. Majority of the respondents were of the opinion that the teachers are interested in the formative assessment and they are using different techniques while conducting formative assessment. Most of the respondent believed they identifying the need of the students. They establish relation between the learning and contents. The respondents supported the statement that most of the teachers have the competency level required for the formative assessment and they are formally trained. The teachers affirmed the statement that formative assessment is helpful to them in classroom instructions. They responded that they have practical knowledge/skills of the formative assessment. It was find out that formative assessment keep the teacher on track and it provide immediate feedback to the teachers.

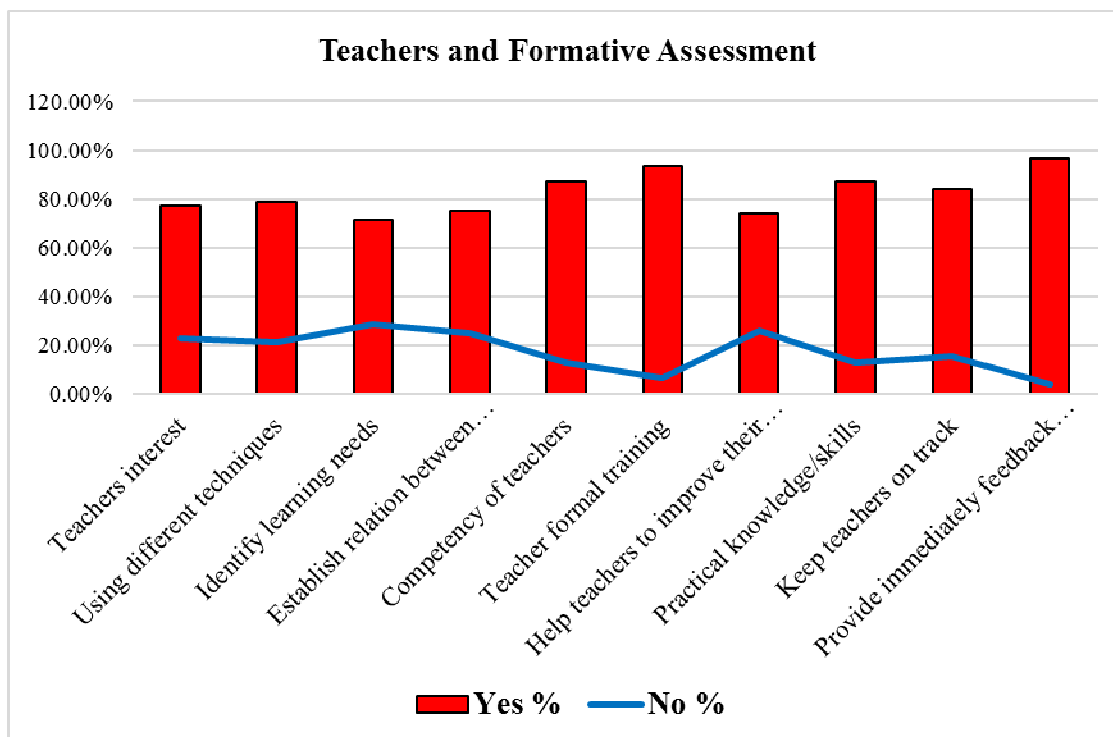


Fig. 02: Teachers and Formative Assessment

### Finding of the Interviews

Finding of the interviews differ in some areas as compared to the findings of the questionnaire. It was find out the formative assessment should be focused on the learning goal and should be content based. The teacher said the formative assessment should be the integral part of the instructional process and it must be constructive and not just wasting of time. They responded that variety of strategies and techniques should be used for formative assessment but in real situation they did not use such techniques and method. The interviews revealed that about 50 % teachers were not interested in formative assessment. The study also revealed the most of the teacher were interested on the summative assessment because of the certification, final marking and awarding the gradation. Henceforth their main aim was just to pass the annual examination. The teacher admitted that formative assessment is helpful in summative assessments and the feedback provide by the formative assessment can strengthen the final assessment. 90% of the teachers opined that formative assessing provides timely feedback to the teacher as well as to student to be on track and make decision for taking next step to improve the teaching learning process. About 60 % of the teachers confirmed that teachers are not competent and have no practical knowledge and proper skills to conduct formative assessment in time and to make the learning process more lucrative and fruitful.

### Discussion and Conclusions

Finding of the study revealed the formative assessment has a great role to play in the teaching and learning process. Actually, it is the back bone of the learning process. The study exposed the factor that it is beneficial to both i.e. the teachers and students. It provides timely feedback to them to keep the driving on track towards the destination i.e. the targeted goals. It enhances the performance of the teacher and student to make them aware of the flaws during the learning process. Shepard *et al* (2005) is also of the same opinion that it is helping in the improvisation of learning and teaching. Formative assessing identifies the learning needs and teachers are able to adjust their instructional strategies (Black and Wiliam, 1998; OECD, 2005). The study find out that formative assessment should be planned and intended part of the learning. Recognition and identification of the learner's existed knowledge, the ability of learning, his weakness and strength should be known to the teachers and learner as well. Formative assessment answers all these questions (McMillan, 2007). The study find out that the formative assessing process motivate students for learning, so by increasing motivation it can affect on the students learning (Stiggins, 2008). The study exposed that most of the teachers are neither skillful and have knowledge of the formative assessment nor the got any formal training in this field. It is necessary that teachers should be skillful and have specialized knowledge of formative assessment to utilize them in classroom practice (ARG, 2002; GTCNI, 2011). Feedback has a crucial role in the teaching learning process and should be fully utilize for the improvement of learning process (Sadler 1998). The study find out that formative assessment

provides immediate feedback to the educators and students as well to enhance the growth level, performance and learning of the students (Maine DOE, 2015). In nutshell, it can be said the use of formative assessment and its result can be utilized as productively by determining the flaws and shortfall in the learning process by adjustment the instructional process accordingly (Caffrey, 2009).

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