## Original Paper

# Assessment Literacy: Secondary School Teachers' Conception of Formative Assessment 

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#### Abstract

Formative assessment has been proved to be one of the means of improving quantity and quality of students learning. However, it hasn't been implemented effectively in classrooms may be because of misconceptions. The purpose of this research is to find out how English language teachers conceptualize formative assessment, and if their conceptions vary with level of their qualification. A total of 252 randomly selected secondary school English language teachers with different level of qualification filled in Teachers' Conception of Formative Assessment (TCFA), questionnaire adapted from Teachers' Conception of Assessment (TCOA III). They were also interviewed in groups of their qualification. The data from the questionnaire was analyzed running one-sample t-test and The One-way between groups ANOVA. The interview data was analyzed thematically. The result indicated that the participants' conception is mixed and partially deviates from proper notion of formative assessment; It also revealed that the higher the level of qualification, the better conception of formative assessment. This implied poor conceptualization of the relation of teaching-learning and assessment that can impede its implementation.


Keywords
formative assessment, language assessment, EFL classroom, conceptions, secondary school

## 1. Introduction

The Ethiopian Ministry of Education is making numerous efforts to improve quality of education in general and of English in particular. For instance, recently, much work has been done in revising the textbooks and improving its provision, upgrading teachers' qualification and the use of learner-centered active learning method. Attempts are also being made to promote aligning teaching-learning with assessment method, i.e., use of formative assessment, as part of the effort being made to improve
quality of education (MoE, 2015).
Despite all these efforts, learners' performance in primary and secondary schools in the core subjects in general and English in particular is not satisfactory. National Educational and Assessment Agency (NEAEA) (2017) in the report on National Learning Assessment revealed that the composite mean score of all subjects of grade 10 and 12 national exams is less than the $50 \%$ which is the minimum achievement level set by MOE; and particularly, the results of English National exams of grades 10 and 12 was 32.04 and 45.59 respectively. The report also indicated that especially, the results of Math and English have actually declined over time. In addition, Mesaye et al. (2019) observes that though the policy priority and financial input to the education sector improved access of education, quality is still a critical challenge; and they recommend that "the assessment system should be strengthened in order to support evidence-based intervention and decision making" (p. 5).
One of the major issues to be addressed in strengthening the assessment system in improving the quality and quantity of learning is the need to align the assessment practice with the learner-centered classroom teaching/learning, i.e., use of formative assessment in classroom because researches has confirmed that it enhances the quality and quantity of students learning. For instance, CERI (2005) in a study of formative assessment confirmed that that formative assessment works well - it is effective in promoting student learning across a wide range of disciplinary areas, in different types of outcomes including increasing equity of student outcomes, and improving students' ability to learn in different grade levels. It also helps to build stronger relationships with students and increased contact with parents.

Although the research findings on the effectiveness of formative assessment relate to all schools subjects, the use of formative assessment in EFL classrooms is of paramount value. As language learning process by itself is complex and the nature of the constructs of what is to be learned and assessed is elusive (Bachman, 1990; Coombe, 2002; Dickinson \& Carver, 1980), assessment appears to be more doubtful in language classrooms than the content area classrooms for various reasons. Unlike assessment in other areas of knowledge where language is used in the process of measuring something else other than language, in foreign language classroom language is both what is to be learned, and at the same time, the means by which it is learned and assessed. Consequently, there is high probability of occurrence of a number of unnoticeable errors of certain sort. This makes the need of using formative assessment more important in EFL classrooms when compared with the content area classrooms where the focus of the evaluation is the degree of acceptability of the content information (Bachman, 1990; Tsui, 1996; Allwright \& Bailey, 1991).

While the benefit of formative assessment in classroom is praised, there are a number of challenges to implement it. One of the challenges is the way the teachers conceive it. Conception highly influences the teachers' and students' multiple classroom activities including implementation of assessment practices (Pajares, 1992; Williams \& Burden, 1997). Brown, Gebril and Michaelides (2021) also explain that "How teachers conceive of the nature and purpose of assessment matters to the
implementation of classroom assessment" Thus, formative assessment practiced accordingly and serves its purpose only when it is clearly and positively conceived by both the teachers and the learners, otherwise, as observed by Yorke (2003), it can have detrimental effect on learning. Carless (2007 cited in Xie \& Lei, 2019) also stresses that effective implementation of formative assessment depends largely on teachers' understandings. Thus, it would be crucial that teachers and students, and other stakeholders have clear and positive conception of formative assessment so that it would be used appropriately. Therefore, it is important that the conceptions held by the teachers and the students about formative assessment are studied and made explicit so that necessary interventions are done to modify unfavorable behaviors and improve the practice.

However, there are few researches that studied conceptions of formative assessment in its complete and full-fledged sense. Many of the studies on formative assessment, Widiastuti and Saukah (2017); Kaur and Lim-Ratnam (2022); Rahman, Hasan, Namaziandost and Ibna Seraj (2021) for instance focused on its implementation, and found out that the implementation is poor because of the poor understanding of the teachers. Others focused on separate and specific aspects of assessment. For example Brown (2002, 2004, 2011), Opre (2015) and Brown, Gebril, \& Michaelides (2019) focused on the purpose of assessment. The report shows that the teachers' perception is mixed; some perceive it as means of improvement and others think it in means of accountability, and it seems that they have no clear understanding of the real purposes of formative assessment. Others like Modupe and Sunday (2015) who focused on Perception and implementation of continuous assessment reported that the implementation is againest its definition, and recommended orientation for the teachers. This generally implies that there is scarcity of empirical literature that provides the conception of formative assessment in its complete image.

In addition, studies that focused on the factors that influence the teachers' concetion of assessment are secarce and the findings are inconsistent. For example, in Brown (2004) report, variables like age, gender, training and practices, school size, location, or socio-economic status did not make any differences on the participant teachers' conception. EMINE (2010) also reported that the subject they teach and in-service training did not influence the teachers' conception of assessment. However, Xu and He (2019) found out that teaching practicum has changed the pre-service teachers' conception of assessment. This also indicates the need of further studies on the variables that influence the conceptions. Therefore, this study is set out to fill these gaps.

To that effect, it is aimed at answering the questions:
(1) What is the teachers' existing conception of formative assessment?
(2) Do the conceptions vary with level of qualification?

## 2. Review of Literature

Assessment is one of the major components of a course because it has a big effect on students' learning; it informs the students about what and how they learn and how much effort they should invest on it. For
the assessment to bring positive effect on students learning, it should be aligned to the teaching-learning process. Formative assessment is the tool for this alignment.

### 2.1 Formative Assessment

One of the prominent recent reforms in education is re-establishing the relationship between and alignment of the teaching/learning and assessment. Assessment has been re-defined and the assessment culture has been changed from being a means of auditing learning outcomes as a way of controlling the students and the schools accountability to the means of helping learners to improve their learning. In generic terms, it has moved away from controlling to supporting and learners are put in the mainstream of the assessment scheme. This form of assessment is generally referred to as formative assessment or Assessment for Learning (AfL) (Black \& Wiliam, 1998; Yorke, 2003).
Cognizant of this major shift, Ethiopian Ministry of Education $(2003,2005)$ recommends the use of learner-centered active learning method and formative assessment in all levels of educational institutions to improve the quality and quantity of learners learning outcome.

Formative assessment is rooted in Constructivism. Constructivists believe that learners are better able to process, comprehend and analyzed information if they have had some input in the construction of this information. The learners must be the central focus and hub of the learning process. A teacher working within constructivist way of thinking becomes a facilitator; support to plan, organize, and direct the learner, who is held responsible for her/his own learning.
Formative assessment is a concept that is more complex than it might appear at first sight. The basic idea is that the central purpose of formative assessment is to contribute to student learning through the provision of information about performance. Assessment of learning, becomes formative when it "provides information to be used as feedback to modify teaching and learning activities" and "the evidence is actually used to adapt the teaching to meet the student needs" (Black \& William, 1998, p. 2).

Typical characteristics of formative assessment, according to CERI (2005), are:
a. It primarily aims at improving learning outcomes, not judgment
b. integrated into the teaching/learning process, not separate entity
c. provides instant and rich feedback
d. involves learners
e. uses variety of assessment techniques

First of all, the major objectives of the teacher working with formative assessment is not grading and counting on how much students learned to check the extent to which students achieved the curricular objectives. The emphasis is on helping students not only cognitively but also emotionally and socially feel safe; engage them in the whole process of learning and encourage them take risks and responsibility and develop self-confidence in the classroom.

Next, formative assessment is not external to the learners and come in periodically, at an end of instruction; it is considered not just an integral part, but also the major component of the classroom
instruction. In classrooms featuring formative assessment, teachers make frequent, interactive assessments of student understanding. This enables them to adjust their teaching to meet individual student needs, and better help all students to reach high standards.

Rapid and quality feedback is also an important aspect of formative assessment. Feedback is information about the gap between the actual and the reference level of quality and quantity of performance expected of the learners. Comments can be given in written forms or orally so that students learn from the feedback. The information on the gap between the student's current performance and the reference point can be provided by the assessor: self, peer or the teacher. This information should also provide students and staff with opportunities to reflect on both their practice and gathering information on which teachers can base their subsequent instruction.

Another distinctive feature that underpins formative assessment is student involvement. If students are not involved in the assessment process, formative assessment is not practiced or implemented to its full effectiveness. Students need to be involved both as assessors of their own learning and as resources to other students in the form of peer and self-assessment. When learners are involved in assessment, they develop sense of ownership and worthiness, sense of responsibility for their own learning and are motivated to learn. Learners need to participate in the whole aspect of assessment: setting standard for quality of the work expected of them, developing criteria to meet the set level of quality work and marking their own or their peer's performance (Boud \& Brew, 1995).
Assessing students also involves use of variety of assessment techniques and forms ranging from the very informal and almost casual to the very formal, perhaps even ritualistic one (Yorke, 2003). These include use of written and oral task performances, portfolios, project works, individual and group assignments, presentations, poster works, etcetera.

### 2.2 Benefits of Formative Assessment

Studies of formative assessment have unanimously shown that it is highly effective in raising the level of student attainment, increasing equity of student outcomes, and improving students' ability to learn. The achievement gains associated with formative assessment have been described as "larger than most of those found for educational interventions" (Black \& Wiliam, 1998, p. 3).

The study carried out by the Centre for Educational Research and Innovation (CERI) supports these findings. Formative assessment also improves equity of student outcomes. Schools that use formative assessment show not only general gains in academic achievement, but also particularly high gains for previously underachieving students. Attendance and retention of learning are also improved, as well as the quality of students' work.

### 2.3 Challenges

Though the empirical literatures show that the benefits of formative assessment are impressive, the implementation and practice is not straightforward as such. The challenge can be at the systemic level or grass root level. There can be lack of policy support for formative assessment or tension between the policy, its conception and the practice.

The more important serious challenge to formative assessment, however, like any other innovation in education is that there can be resistance from the teachers and students because of the kind of conceptions they hold about teaching-learning in general, and formative assessment in particular. For example, beliefs and assumptions about learning, about their roles as assessors and about the "abilities" and prospects of their students, will affect their interpretations of their students' learning work, and will thereby determine the quality of their formative assessment. Similarly, perceptions and beliefs held by students about themselves as learners, and their experience of the changes that follow from innovations in formative assessment affects the practice (Black \& Wiliam, 1998; Lajane et al., 2020).

### 2.4 The Concept of Conception

It is difficult to demarcate precisely the distinction between/among the plethora of terms that are used to refer to psychological constructs that define and describe the structure and content of mental states that drive a person's actions. These terms include belief, knowledge, attitudes, assumptions, values judgments, axioms, opinions, perceptions, conceptions, conceptual systems, preconceptions, dispositions, implicit theories, and personal theories (Pajares, 1992; Woods, 1996). The interest, however, here is the term conception and its affiliates like knowledge, perception and belief. In some literature (e.g., Abiy, 2005) these terms are used interchangeably and in some others (e.g., Struyven, et al., 2005; Kreber, 2003) the researchers bypass defining the terms. However, although these terms have some commonality, they have differences in some aspects; therefore, they should be used accordingly. Perception refers to a person's understanding of her/his surrounding world by organizing brief experiences, sensory information and feelings. Knowledge is a set of relatively universal facts and information a person possesses about his/her world. Belief is a valued Knowledge that refers to relatively more developed idea or opinion acquired through evaluation and judgment of the knowledge, perception and reflection or experience which felt to be true, deeply personal and is more stable than knowledge and perception (Bunts-Anderson, 2004; Heal, 2003; Pajares, 1992).
Conception, as invoked by Thompson (1992), represents general mental structure of phenomena encompassing knowledge, perceptions, beliefs, attitudes, meanings, preferences, and other mental images that explain complex and difficult categories of experience. It represents comprehensive, organized, and unified body of knowledge (Brown, 2004; Freeman \& Richards, 1993). As the context of teaching learning and assessment is characterized by such complex phenomena and the attempt of this study is to gain insight of it, this meaning of the term conception is maintained in this study and used accordingly; i.e., it includes the cognitive (beliefs and perceptions about) and the affective behavior toward assessment that teachers exhibit.

## 3. Research Methods

### 3.1 Design

To study the existing conception of the teachers about formative assessment, descriptive survey design is used. The study is also dominantly quantitative in approach, and qualitative data is used to
corroborate the quantitative data.

### 3.2 Participants of the Study

Participants of this study are 252 English language teachers selected using stratified simple random sampling from secondary schools (grade 9-12) of East and Wollega zones of Oromiya, Ethiopia. As all the government secondary schools in Oromia have very similar features, the two zones were selected because of convenience considering the time and financial issues. The total number of population was 588 English language teachers from 114 secondary schools; and they were categorized into three groups according to their level of qualification of which 157 were Diploma, (two years of teacher training after Grade 10) 394 were BA degree, (three year university education after grade 12) and 30 were MA degree (two years of graduate study). Then following Cohen, Manion and Morrison (2005) recommendation, stratified simple random sampling is used to select participants from each category. Accordingly, 69, 173 and 13 participants were selected from Diploma, BA degree and MA degree respectively.

Table 1. Participants Data

| Qualification | Frequency | Percent | Valid Percent | Cumulative Percent |
| :--- | :--- | :--- | :--- | :--- |
| Diploma | 66 | 26.2 | 26.3 | 26.3 |
| BA degree | 172 | 68.3 | 68.5 | 94.8 |
| MA degree | 13 | 5.2 | 5.2 | 100.0 |
|  | Total | 251 | 99.6 | 100.0 |
| Missing | System | 1 | .4 |  |
| Total |  | 252 | 100.0 |  |

### 3.3 Instruments

Two instruments are utilized in this study, questionnaire and interview. The questionnaire is the principal one and the interview is supplementary.

### 3.3.1 Questionnaire

Teachers' Conception of Formative Assessment (TCFA) Questionnaire is used as major instrument and interview is used to supplement the questionnaire. The questionnaire containing 33 items is adapted from TCOA III (Teachers' Conception of Assessment III) originally developed and validated by Brown (2004). TCOA III is about conceptions of assessment and is directly related to conceptions of formative assessment. Therefore, it is adapted rephrasing the items (statements) in the way they elicit knowledge, perceptions, beliefs, attitudes, and preferences of the respondents on formative assessment based on the literature by the scholars. TCFA is a Likert scale type with five degrees of agreement to study teachers' conception of assessment. It is made up of 33 first order factors (items) that constitute eight second order factors: student accountability, teacher \& school accountability, improvement, irrelevance,
integration, diversity, learner involvement and feedback. Again, the first four second order factors constitute one third order factor, Purpose.

The validity of the questionnaire was evaluated by two Associate Professors, one PhD in Educational Psychology and the other PhD in Measurement and evaluation. The reliability (internal consistency) of the questionnaire items is checked using Cronbach Alpha, after recoding the negatively worded items, and the test result was found to be 0.723 which is acceptable (Pallant, 2011).

### 3.3.2 Interview

Unstructured group interview is also conducted with three groups of six (a group from each stratum) randomly selected teachers. The points for the interview are derived from the literature on formative assessment and are related to the questionnaire items so that the responses are compared to the questionnaire.

### 3.4 Procedure

First, the questionnaire was administered to the teachers face-to-face in their respective schools during the visit to schools for community service and practicum. All the papers were collected, but three papers were discarded because not filled appropriately.

### 3.5 Data analysis

Data gathered through the questionnaire was analyzed quantitatively using SPSS version 24. To describe the teachers' existing conception, one-sample $t$-test is computed to get sample mean values and compare against the expected mean (Myers \& Well, 2003; Gaur \& Gaur, 2009) to see whether the differences are significant. To see whether the teachers' conceptions vary with differences of qualification the One-way between groups ANOVA was run and the result is interpreted.

The qualitative data gathered through the interview is analyzed by qualitative content analysis technique, i.e., transcribing, coding for themes, looking for patterns, and making interpretations (Dörnyei, 2007; Given, 2008). The findings from quantitative and qualitative data were merged at discussion level.

### 3.6 Findings

As mentioned in the methodology part, the quantitative data was collected using TCFA questionnaire from a total of 252 teachers of different level of qualification as shown in the following tables.

### 3.6.1 Over all Conceptions of Formative Assessment

As discussed in the literature, the conception of formative assessment is characterized by the five elements (factors) it involves. Accordingly, the data from the questionnaire is analyzed by category of the factors.

Major Purpose of Formative Assessment: In the questionnaire, the first factor, i.e., purpose factor, is a second order factor made up of 19 items which are categorized into three first order factors of Accountability, Improvement and Irrelevant; and the Accountability factors were again subcategorized into two sub scales of Students Accountability and School and Teacher Accountability. The following table shows One-Sample t-test statistics of data on the purpose factors.

Table 2. One-Sample t-test of the Purpose of Formative Assessment

|  |  |  |  |  |  | Mean | $95 \%$ Confidence Interval |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Analysis of the data in Table 2 indicates that the calculated mean value of the first three purpose factors, Student Accountability ( $\mathrm{M}=26.84 ; \mathrm{SD}=1.2$ ), School and Teacher Accountability ( $\mathrm{M}=17.47$; $\mathrm{SD}=1.94$ ), and Improvement $(M=22.39 ; S D=1.27)$ exceed their respective expected mean values 12,18 , and 15 . The mean differences for the three factors ( $\mathrm{MD}=5.472$ ), ( $\mathrm{MD}=8.837$ ), ( $\mathrm{MD}=7.393$ ) respectively, are also statistically significant at $(\mathrm{P}<0.05)$. In addition, the calculated mean value of the fourth factor, Irrelevance, $(\mathrm{M}=7.19 ; \mathrm{SD}=0.97)$ is less than the expected mean and the difference $(\mathrm{MD}=5.913)$ is significant ( $\mathrm{P}<0.05$ ). This suggests the disagreement of the respondents to the proposition that formative assessment has nothing to do with the students learning and the teachers' teaching, the analysis indicates that the School and Teacher Accountability subcategory stood first with the highest mean difference ( $\mathrm{MD}=8.837$ ) followed by Improvement and Student Accountability subcategories with mean difference ( $\mathrm{MD}=7.24$ and 5.23) respectively. This indicates that the participants' understanding about the major purpose of formative assessment is confused, i.e., they agreed to two contrary ideas simultaneously, but they gave priority to School and Teacher accountability.

The result of analysis of the group interview on the participants' thinking about the major purpose of formative assessment is consistent with the result of the questionnaire. It shows that they assess students continuously to evaluate and grade the students' performance, to rank (categorize) them and to help them learn better through the feedback they provide. For instance the group member answering to the question why they primarily assess their students during the classes, teacher A said "it helps to grade our students. It is obvious that there are three kinds of students in the class so that evaluation helps us to grade our students in their level. It is also good to motivate the students to learn." The other teacher added, "... we have to evaluate how much they have understood, formative assessment also helps the students to correct their mistakes frequently."
Aspects of Formative Assessment: The next four second order factors are formed from statements about the aspects of formative assessment. Table 3 displays One-Sample t-test statistics of the data.

Table 3. Result of One-Sample t-test of Aspects of FA

|  | N | Mean | Std. <br> Deviation | t | df | Sig. <br> (2-tailed) | Mean <br> Difference | 95\% Confidence Interval of the Difference |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Lower | Upper |
| Integration | 252 | 14.46 | 1.094 | -22.395 | 251 | . 060 | -0.544 | -1.68 | -1.41 |
| Diversity | 252 | 10.62 | . 935 | -74.380 | 251 | . 000 | 1.381 | -4.50 | -4.26 |
| Learner Involvement | 252 | 5.36 | 1.941 | -29.790 | 251 | . 000 | -3.643 | -3.88 | -3.40 |
| Feedback | 252 | 10.67 | 1.897 | -32.668 | 251 | . 000 | 1.669 | -4.14 | -3.67 |

The expected means of the four factors: Integration, Diversity, Learner involvement and feedback factors are 15, 9, 9 and 9 respectively. As indicated in Table 3 above, the calculated mean values of the Integration factor $(\mathrm{M}=14.46 ; \mathrm{SD}=1.094)$ is less than the expected mean. However, the P value $(\mathrm{P}>.05)$ indicate that the difference is not significant. This implies that the participants' hesitate to clearly disagree or agree with the proposition that assessment is and must be integrated with the teaching-learning process.

The table also shows that the calculated mean of Diversity factor ( $\mathrm{M}=10.62 ; \mathrm{SD}=.935$ ) and Feedback factor ( $\mathrm{M}=10.67 ; \mathrm{SD}=1.897$ ) are greater than the expected means; and the difference is statistically significant ( $\mathrm{P}<0.05$ ). This signifies that the respondents supported statements that propose that assessment techniques should be diversified and feedback should be immediate and frequent.

The mean value of the Learners involvement factor ( $\mathrm{M}=5.36 ; \mathrm{SD}=1.941$ ) is less than the expected mean (9); and the P value ( $\mathrm{P}<0.05$ ) indicates that the difference is significant, and this signals that the respondents strongly disagree to the notion that learners should take part in the assessment process.

As indicated in Table 3, the calculated mean ( $\mathrm{M}=10.67$; $\mathrm{SD}=1.897$ ) of the Feedback factor is bigger than the expected mean. The table also shows that this difference is statistically significant $(\mathrm{P}<0.05)$ signaling that the participants agree to the proposition that immediate and frequent feedback is an element of assessment.

The result of the analysis of responses to interview questions related to the aspects of formative assessment reflects the result of the questionnaire. The interviewees assumed that assessment is what comes as means of evaluating the learning after covering certain portion of the curriculum. They also mentioned that variety of assessment techniques be used and feedback should be given soon, but categorically denied the need and possibility that learners participate in the assessment process. For example, responding to the question "what are the features of formative assessment?" the interviewees said, when we give different kinds of assessment on what we teach and we mark it and give them the right answers it is formative."; and responding to the question "should the students allowed to assess their own work? said, "no, students cannot mark it correctly they just mark all of it correct."

### 3.6.2 Comparison of the Conception among Groups

The second objective of this study is to find out whether qualification has an impact on the conception of the participants as measured by the TCFA questionnaire. To achieve this, the one-way between-groups ANOVA with post-hoc tests is computed and interpreted.

Major Purpose of Formative Assessment: Table 4 displays the result of the descriptive statistics of the data obtained from TCFA questionnaire.

Table 4. The Descriptive Statistics

|  |  | N | Mean | Std. <br> Deviation | Std. <br> Error | 95\% Confidence Interval for Mean |  | Minimum | Maximum |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Lower | Upper |  |  |
| Total Studen | entDiploma | 66 | 18.14 | . 943 | . 116 | 17.90 | 18.37 | 15 | 20 |
| Accountability | BA degree | 172 | 17.76 | 1.020 | . 078 | 17.60 | 17.91 | 15 | 20 |
|  | MA degree | 13 | 10.38 | 1.044 | . 290 | 9.75 | 11.02 | 9 | 13 |
|  | Total | 251 | 17.47 | 1.944 | . 123 | 17.23 | 17.72 | 9 | 20 |
| Total school an | andDiploma | 66 | 26.92 | 1.232 | . 152 | 26.62 | 27.23 | 24 | 29 |
| Teacher | BA degree | 172 | 26.80 | 1.184 | . 090 | 26.62 | 26.97 | 24 | 29 |
| Accountability | MA degree | 13 | 26.85 | 1.345 | . 373 | 26.03 | 27.66 | 25 | 29 |
|  | Total | 251 | 26.83 | 1.202 | . 076 | 26.68 | 26.98 | 24 | 29 |
| Total | Diploma | 66 | 22.20 | 1.166 | . 144 | 21.91 | 22.48 | 20 | 25 |
| Improvement | BA degree | 172 | 22.30 | 1.164 | . 089 | 22.12 | 22.47 | 20 | 25 |
|  | MA degree | 13 | 24.77 | . 599 | . 166 | 24.41 | 25.13 | 23 | 25 |
|  | Total | 251 | 22.40 | 1.268 | . 080 | 22.24 | 22.56 | 20 | 25 |
| Total Irrelevance | Diploma | 66 | 17.86 | 1.094 | . 135 | 17.59 | 18.13 | 15 | 20 |
|  | BA degree | 172 | 17.94 | . 928 | . 071 | 17.80 | 18.08 | 16 | 20 |
|  | MA degree | 13 | 17.85 | . 801 | . 222 | 17.36 | 18.33 | 17 | 19 |
|  | Total | 251 | 17.92 | . 966 | . 061 | 17.80 | 18.04 | 15 | 20 |

Table 5 displays the result of the statistics of one way ANOVA.

Table 5. Result of the One way ANOVA

| Major Purposes of <br> Formative Assessment |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sum of Squares$695.988$ | $\begin{aligned} & \mathrm{df} \\ & \hline 2 \end{aligned}$ | Mean Square F |  | $\begin{gathered} \text { Sig. } \\ \hline .000 \end{gathered}$ |
| Total Student Accountability Between Groups |  |  | 347.994 | 347.16 |  |
| Within Groups | 248.594 | 248 | 1.002 |  |  |
| Total | 944.582 | 250 |  |  |  |
| Total school and TeacherBetween Groups | . 781 | 2 | . 390 | . 269 | . 765 |
| Accountability Within Groups | 360.191 | 248 | 1.452 |  |  |
| Total | 360.972 | 250 |  |  |  |
| Total Improvement Between Groups | 77.534 | 2 | 38.767 | 29.617 | . 000 |
| Within Groups | 324.625 | 248 | 1.309 |  |  |
| Total | 402.159 | 250 |  |  |  |
| Total Irrelevance Between Groups | . 359 | 2 | . 180 | . 191 | . 826 |
| Within Groups | 232.884 | 248 | . 939 |  |  |
| Total | 233.243 | 250 |  |  |  |

Table 6. The Post-HOC Comparison

## Multiple Comparisons

Tukey HSD


| Total Irrelevance | BA degree | Diploma | . 100 | . 166 | . 820 | -. 29 | . 49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MA degree | $-2.473^{*}$ | . 329 | . 000 | -3.25 | -1.70 |
|  | MA degree | Diploma | 2.572* | . 347 | . 000 | 1.75 | 3.39 |
|  |  | BA degree | 2.473* | . 329 | . 000 | 1.70 | 3.25 |
|  | Diploma | BA degree | -. 078 | . 140 | . 843 | -. 41 | . 25 |
|  |  | MA degree | . 017 | . 294 | . 998 | -. 68 | . 71 |
|  | BA degree | Diploma | . 078 | . 140 | . 843 | -. 25 | . 41 |
|  |  | MA degree | . 096 | . 279 | . 937 | -. 56 | . 75 |
|  | MA degree | Diploma | -. 017 | . 294 | . 998 | -. 71 | . 68 |
|  |  | BA degree | -. 096 | . 279 | . 937 | -. 75 | . 56 |

*. The mean difference is significant at the 0.05 level.

The descriptive statistics in Table 4 shows that there are differences in the mean values of all the three qualification groups for all the four purpose factors. To check if these differences are real (significant) we turn to Table 5.

Table 5 shows that there is statistically significant difference at the $\mathrm{p}<.05$ level between the three qualification groups for Students Accountability and Improvement factors $\mathrm{F}(2,248)=347.16, \mathrm{P}=.000$ and $\mathrm{F}(2,248)=29.6, \mathrm{P}=.000$ respectively. Nevertheless, the mean differences for the School and Teacher accountability and Irrelevance $\mathrm{F}(2,248)=.269, \mathrm{P}=.765$ and $\mathrm{F}(2,248)=.191, \mathrm{P}=.826$ respectively are not statistically significant.

While Table 5 show whether the differences in the mean values between the groups are significant or not, Table 6 shows where the differences exist. The Post-Hoc test result (Table 6) indicates that for the Student Accountability factor, the mean score of the Diploma group ( $\mathrm{M}=18.14, \mathrm{SD}=.943$ ) is significantly different from both $B A$ and $M A(M=17.76, S D=1.02$ and $\mathrm{M}=10.38, \mathrm{SD}=1.044$ respectively). The table also shows the means for $\mathrm{BA}(\mathrm{M}=17.76, \mathrm{SD}=1.02)$ is significantly different from MA $(\mathrm{M}=10.38, \mathrm{SD}=1.044)$. In addition, the difference exists between BA Group $(\mathrm{M}=22.3$, $\mathrm{SD}=1.16$ ) and MA group $(\mathrm{M}=24.7, \mathrm{SD}=.59$ ), and MA group and Diploma group ( $\mathrm{M}=22.2, \mathrm{SD}=1.16$ ) for the Improvement factor.

Thus, referring to Tables 5 and 6 , it is possible to infer that qualification has no influence on the thinking of assessment as means of checking School and Teacher accountability and Irrelevance, but it has impacted the participants thinking of the formative assessment as means of checking student accountability and means of improvement. Comparing the mean score for the MA group with the expected mean of the whole (analysis of Table 2 and Table 6), the MA group disagree with the idea that formative assessment is used for checking students' accountability and are more positive about its use as means of improving learning.

Aspects of Formative Assessment: The following three tables display descriptive statistics, the result of one-way ANOVA test and multiple comparisons on the data gained through TCFA questionnaire.

Table 7. The Descriptive Statistics


Table 8. The Result of One Way ANOVA Test

|  |  | Sum of Squares | df | Mean Square | F | Sig. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Integration | Between Groups | 2.231 | 2 | 1.115 | . 928 | . 397 |
|  | Within Groups | 297.992 | 248 | 1.202 |  |  |
|  | Total | 300.223 | 250 |  |  |  |
| Total Variability | Between Groups | . 001 | 2 | . 001 | . 001 | . 999 |
|  | Within Groups | 219.282 | 248 | . 884 |  |  |
|  | Total | 219.283 | 250 |  |  |  |
| Total L | LearnerBetween Groups | 663.912 | 2 | 331.956 | 29.21 | . 000 |
| Involvement | Within Groups | 281.817 | 248 | 1.136 |  |  |
|  | Total | 945.729 | 250 |  |  |  |
| Total Feedback | Between Groups | 743.930 | 2 | 371.965 | 57.73 | . 000 |
|  | Within Groups | 159.775 | 248 | . 644 |  |  |
|  | Total | 903.705 | 250 |  |  |  |

Table 9. Result of the POST HOC Test

## Multiple Comparisons

Tukey HSD

*. The mean difference is significant at the 0.05 level.

Table 7 indicates that the mean values of the three qualification category are different for all factors except for Diversity factor. Table 8 displays whether these differences are significant or not. Accordingly, the reading on the table shows that the differences are not significant at the $\mathrm{p}<.05$ level for the three qualification groups in Integration $\mathrm{F}(2,248)=.928, \mathrm{P}=.397$. However, the differences are significant at the $\mathrm{p}<.05$ level for the three groups in Learner involvement and Feedback factors: F (2,
$248)=29.21, \mathrm{P}=.000$ and $\mathrm{F}(2,248)=57.7, \mathrm{P}=.000$ respectively.
The Post-hoc test of comparisons using the Tukey HSD (Table 9) indicates that for the Learner involvement factor, the mean score for MA ( $\mathrm{M}=12.31, \mathrm{SD}=.63$ ) differs significantly from both BA and Diploma group ( $\mathrm{M}=5.12, \mathrm{SD}=1.103$ and $\mathrm{M}=4.92, \mathrm{SD}=1.076$ respectively); and the difference between means for Diploma $(\mathrm{M}=4.92, \mathrm{SD}=1.076)$ and $\mathrm{BA}(\mathrm{M}=5.12, \mathrm{SD}=1.103)$ are not statistically significant. Again, the same situation is true for the Feedback Factor: the table shows the mean score for MA ( $\mathrm{M}=12.46$, $\mathrm{SD}=.776$ ) differs significantly from both BA and Diploma groups ( $\mathrm{M}=4.7, \mathrm{SD}=.802$ and $\mathrm{M}=4.67, \mathrm{SD}=.81$ respectively); and the difference between means for Diploma ( $\mathrm{M}=4.67, \mathrm{SD}=.81$ ) and $\mathrm{BA}(\mathrm{M}=4.7, \mathrm{SD}=.802)$ is not statistically significant.

The analysis indicates level of qualification does not influence the participants mental set about the two aspects of formative assessment, Integration and diversity. However, it has an impact on their thinking about learner involvement and feedback. Comparison of the three groups means with the calculate means of the whole (table 3 and table 7) shows that the MA group agree to the proposition of learner involvement in assessment process and the need of quick and frequent feedback while the rest groups disagree.

## 4. Discussions

As the finding indicated, the respondents reflected contradictory conceptions regarding the major purpose of assessment but with certain priority. This is consistent with some studies and not so with others. As it is found out in many studies like Brown (2002, 2004), Azis (2015) and Opre (2015) that are conducted in different contexts, it is not unexpected that teachers can simultaneously have more than one conception of the purpose of assessment and even conflicting ones. Similarly, the pattern of the participants' agreement in the current study is also consistent with other similar studies. For example, Brown (2004) in his study of New Zealand Primary school teachers and managers' conception of purpose of assessment reported that "Teachers who believe assessment as School Accountability are highly likely to also conceive of assessment as a means of Student Accountability and Improvement.

Besides the similarities, there are also inconsistencies with the findings of some similar researches in the priority given to the purpose factors. For example in Azis (2015), Yetkin and Özer (2019) Brown, Lake and Matters (2011) studies, the Improvement purpose gets the highest score while the School and Students Accountability follow. The possible explanation for such variation can be related to the source of teachers' conception of assessment. As studies like Jane (2012) and Brown, Gebril and Michaelides (2019) reported, teachers' conception of assessment is highly shaped by local factors such as culture, assessment policy, social and personal experiences of assessment contexts. According to Brown (2011), teachers develop or adopt conceptions of assessment that allow them to successfully function within their own policy or legal framework. Thus, the divergence of the responses of the participants of this study to the conception of purpose of assessment can be attributed to the Ethiopian social and
educational context.
Although, as far as my search goes, there is no study that included all the aspects of formative assessment, the findings of this study that are related to the aspects of formative assessment, (the respondents are diffident about whether assessment should be integrated into classroom teaching, and strongly disagreed to learner involvement) are similar to some and deviate from other studies that focused on specific elements of formative assessment. For instance, in Modupe and Sunday (2015) study of Nigerian secondary school teachers' perception of continuous assessment, the participants clearly agree to the conceptions that variety of assessment techniques should be used to assess students' performance, and there should be regular, frequent and immediate feedbacks to students assessment performance; and the teachers perceive assessment as a separate entity that is conducted every 3 or 4 weeks of teaching.

These results of the comparison of the conceptions across qualification levels again seem to be consistent with Xu and He (2019) finding that concluded practicum has significantly influenced teachers' conception, but contradict with findings of some studies that concluded that number of years in education (Brown, 2004) and in-service training (Emine, 2010) did not influence teachers perceptions related to assessment. This suggests that further research is needed to understand what really influences the teachers' conceptions of the purpose and aspects of formative assessment.

## 5. Conclusions

Teachers are expected to have clear and favorable conceptions about every aspect of their profession so that they practice it effectively. This study tried to check if teachers have the appropriate conception of formative assessment, and if their conception varies with their level of education. Conception of formative assessment is made up of two categories: Purpose and aspects. Data was collected using TCFA questionnaire that comprise 33 items organized into eight second level factors adapted form of TCOA III and analyzed using one-sample t-test and one way ANOVA test.

The findings indicate that the teachers reflected mixed conception of formative assessment. Regarding the purpose of formative assessment in teaching, they reflected conflicting views by agreeing to two contradictory propositions. Concerning the four elements that characterize formative assessment, the teachers favored two of the elements, rejected one of them, and were reserved about the rest one. Thus, the teachers failed to clearly articulate the primary purpose of formative assessment, and mistaken the features that define formative assessment. Therefore, it can be concluded that the teachers lack clear and favorable conception about what characterizes formative and non-formative assessment. The findings also show that the MA group has relatively clearer and more favorable conception.

Formative assessment has been proved to be one of the means of maximizing the quality and quantity of students leaning; and to make this happen, teachers need to have clear conception about formative assessment (Brown, 2004; Struyven, et al., 2003). Alavi \& Dashtestani (2015) also assert that to implement formative assessment, teachers should have "knowledge of the assessment and the different
tools and procedures that can be adopted to assess students' performance in the classroom." (p. 67). However, this study revealed that the teachers failed to clearly identify the major purpose and distinctive features of formative assessment, and the group with better educational level got better conception.
As Weeden, Winter \& Broadfoot (2002) observe, given that it has become an explicit focus for attention only recently, though it has become a part of the teaching and learning process, it is not surprising that the teachers are confused about what constitutes formative assessment and how it may best be conducted. Thus it is crucial to bring the topic to teachers' attention by providing training on the topic. As local research on this area is scarce, and the finding is also not consistent with some of the other researches, further research is needed to compare the findings.

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## Appendix: Teacher Conception of Formative Assessment (TCFA)



