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# An Exploration on the Effect of Formative and Summative Assessment on Professional Development of Iranian EFL University Instructors

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### ABSTRACT

The purpose of this study was to examine whether the students' formative and summative assessment had any significant effect on professional development of Iranian EFL instructors at universities. Therefore, the primary purpose of this study was to investigate the impact of formative and summative assessment but this time from the students' point of view regarding their teachers' performances. Teachers need to be evaluated not by somebody outside the system, but by those who live every minute, taste, smell, touch, every second, and enjoy or tolerate every moment of the classroom. It seems that the only person with these characteristics is the *student* or more precisely the *students*. On the other hand, teachers have to keep up dated based on the feedback they receive from their students. One way to check students' feedback regarding methodology, teaching materials, syllabus, artifact, etc. is the formative and summative evaluation carried out by the students. The present study is qualitative/quantitative in nature and was conducted within the ethnography of Islamic Azad University South Tehran Branch. To do so, two M.A classes were chosen and the data were collected via observations, field notes, interviews, stimulated recalls, questionnaires and audio-video recordings. The findings of this study suggest that the formative and summative assessment enhances the practices of teaching by university instructors and that the formative assessment is more effective and beneficial.

**Keywords:** *Formative assessment, Summative Assessment, Professional development, Evaluation.*

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### INTRODUCTION

According to Weiss (1972 as cited in Bachman 1995) "Evaluation is the systematic gathering of information for the purpose of making decisions". Making correct decisions relies on two factors, first the capability of the decision maker and second the quality of the information gathered for such a decision. As a matter of fact, an important characteristic of evaluation can be the collection of reliable and related information. This type of information is not always in a quantitative form, though. Oral description, overall impression and referring to performance profile are just some of the examples of sources of information for evaluation individuals. Therefore, evaluation is not just testing. Tests by themselves are not evaluative. Tests are mostly used for pedagogical reasons, for instance, to motivate students to study or to review the previously taught materials. In both cases, however, there is no evaluative decision made based on the results of the test. Moreover, tests can be used to describe a phenomenon. Evaluation is involved only when test results are used as a source of information for the purpose of making a decision (Bachman, 1995).

In other words, according to Genesee and Upshur (1996, p. 144) "evaluation in TESOL setting is a process of collecting, organizing and interpreting information about teaching and learning in order to make informed decision that enhance student achievement and the success of educational programs".

An important point should be taken into consideration here and that is to distinguish the difference between evaluation and assessment. These terms may seem to be synonymous and may often be used interchangeably; however, they are different technically speaking.

Assessment of a student's progression or achievement is a significant component of evaluation, which encompasses the gathering and analysis of information about student learning. On the other hand, the purpose of assessment in TESOL has been language assessment and the role tests play in assessing students' language skills (Genesee, 1996). Evaluation, then, goes far beyond student and language achievement to take into account all features of teaching and learning, and to observe how pedagogical decisions can be influenced by the results of alternative forms of assessment (Genesee, 1996).

Evaluation is a kind of process that starts with the involvement of what information to collect and finishes with causing changes in present activities or affecting future ones. In short, it is believed that evaluation must be more than collecting and analyzing data and evaluation process must include action (Dudley-Evans and St John, 1998).

Formative evaluation also known as process evaluation begins at the start of the program and continues up to the end. In other words, it takes place while the task is active (Garey, 2009). Information gathered within formative evaluation is used to address problems which have been noticed and to enhance the progress of the program (Richards, 2001).

According to Richards (2001) summative evaluation seeks to determine the effectiveness of a program, its efficiency, and its acceptability. It occurs after the implementation of the program.

### **Research Questions**

The present study intended to answer the following research questions:

- 1) Is the students' formative assessment more effective than their summative assessment in enhancing the practices of teaching by Iranian EFL instructors?
- 2) To what extent is the instructor's reaction toward formative assessment different from the instructor's reaction toward summative assessment?
- 3) How does the students' *formative* assessment affect the professional development of Iranian university EFL instructors?
- 4) In what ways does the students' *summative* assessment affect the professional development of Iranian university EFL instructors?

### **METHOD**

Evaluation is an inseparable part of teaching/learning process. There are a number of approaches toward evaluation, among which are formative and summative evaluations. Moreover, due to the qualitative/quantitative (mix-methods) nature of this study an attempt was made to use a variety of measurement instruments. Students carried out both formative and summative assessment of their instructors' teaching procedures during a university semester.

### **Participants**

The participants of this study were of two types, students and university instructors. Two M.A university classes were chosen from among the available classes whose teachers were willing to cooperate in the study; one of them consisted of 21 students (the formative group) and the other one 23 (the summative group). Students were all in the first year of their education studying EFL. One class was assigned to do a formative assessment of their teachers' performance and the other one in which the students carried out a summative evaluation of their teachers' performance. The instructors of the above-mentioned classes were also included as the participants. They were involved in the feedback sessions and filled in the questionnaires to assess their developmental progress regarding formative and summative assessments.

### **Instrumentation**

1. In order for the first group to perform a *formative* assessment of the teachers' performances in the class the following instruments were used:

- (1) A 50-item researcher-made open-ended questionnaire was administered among both the students and the teachers out of which a 25-item likert questionnaire was developed and validated. A factor analysis through the varimax rotation was run to probe the underlying construct validity of the 25 items of the questionnaire. Furthermore, Teacher Observation Questionnaire and Teacher Reaction Questionnaire that were used in this study were administered in a pilot study with 15 university EFL instructors. The piloting results indicates that the reliability of Teacher Observation Questionnaire consisting of 25 items was estimated .82 using Cronbach Alpha. And also the reliability of Teacher Reaction Questionnaire composed of 20 items was estimated .79 using Cronbach Alpha as well. The questionnaire was, then, delivered to the students every three sessions (5 times altogether) in order to evaluate their instructor regarding social climate of the class, preparation, presentation, teacher's professional qualities, teacher's personal qualities, and student- teacher interaction.
- (2) The class was audio taped.
- (3) There were cases of video tape recording in the class.
- (4) A 20-item likert questionnaire was given to the teacher at the end of the semester to evaluate the effectiveness of the research on his professional development including the factors such as syllabus design, teaching methods, merits and demerits of teaching,

choice of course book and relevant supplementary materials, student- teacher interaction inside and outside the class, course objectives, assignment and projects, assessment procedure, appearance and personality.

(7) Field note was also used.

(8) Ten cases of informal interviews with the students plus follow-ups were performed.

2. The second group carried out their summative assessment by making use of the following instruments:

(1) A 25-item likert questionnaire was delivered to the students at the end of the term (once only) in order to evaluate their instructor regarding social climate of the class, preparation, presentation, teacher's professional qualities, teacher's personal qualities, and student- teacher interaction.

(2) The class was audio taped.

(3) There were cases of video tape recording in the class.

(6) A 20-item likert questionnaire was given to the teacher at the end of the semester to evaluate the effectiveness of the research on the professional development of the teacher including the factors such as syllabus design, teaching methods, merits and demerits of teaching, choice of course book and relevant supplementary materials, student- teacher interaction inside and outside the class, course objectives, assignment and projects, assessment procedure, appearance and personality.

(8) Field note was also used.

(9) Ten cases of informal interviews with the students plus follow-ups were performed.

### **Procedures**

(1) The course was held for a university semester (16 sessions), one session a week and each session lasted for an hour and a half.

(2) In the very first session prior to the course the students in the first group were informed about the procedure and the questionnaires were delivered to them. They were required to read the questionnaires before attending the class each session in order to remember the items.

(3) After the class was over they were to fill in the questionnaires and handed them to the researcher the following session.

(4) The teacher was provided with the data collected from students' questionnaires before each class session.

(5) Accordingly, there was a feedback session to discuss the data over with the teacher and the researcher. The teacher was provided with the audio and video tapes recorded if necessary.

(6) The teacher was required to fill out a 20- item likert questionnaire to evaluate the effectiveness of the research on his professional development at the end of the term.

(7) One questionnaire was delivered to the students in the second group at the end of the course in order to perform the summative assessment only.

(8) There was only one feedback session at the end of the term with the teacher and he was required to fill out a 20- item likert questionnaire to evaluate the effectiveness of the research on his professional development as well.

(9) The researcher took part in the class as an observer.

(10) Two cases of stimulated recalls were used in this study.

## **RESULTS and DISCUSSION**

### ***The Quantitative Phase***

This part provides us with the results and discussion about the current study which was an attempt to explore the possible effect of students' formative assessment on the professional development of Iranian university EFL instructors. To obtain this goal, the researcher tested the null hypothesis stated on the basis of the research question.

### ***Investigating Research Question Number One***

The first step to answer the research question was to calculate the descriptive statistics for the dependent variable, teaching performance. And the second step was to submit the data to SPSS Software Version (19.0) in order to run Independent Samples T-test comparing the teaching performance scores obtained by two formative and summative groups.

The first research question of this study asked whether the students' formative assessment is more effective than summative assessment in enhancing the practices of teaching by Iranian EFL instructors. In order to answer this research question, Independent Samples T-Test was used. Table 1 displays the group statistics of the formative and summative groups. Table 1 shows that the formative group ( $M = 84.33$ ,  $SD = 7.71$ ) exceeded the summative group ( $M = 76.57$ ,  $SD = 7.16$ ).

Table 1. Group Statistics of Teaching Performance Scores Acquired on Teacher Observation Questionnaire

Group	N	Range	Min.	Max.	Mean	Median	Mode	SD
Formative	21	25	71	96	84.33	86.00	89	7.71
Summative	23	23	66	89	76.57	75.00	73	7.16

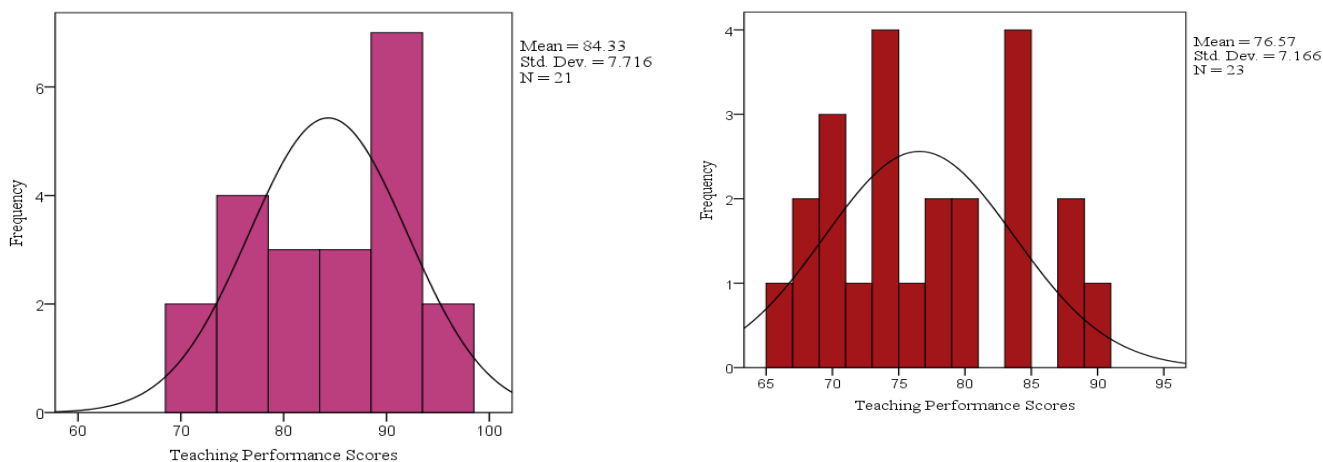


Figure 1. Histogram of teaching performance scores and their frequencies in formative group is graphically demonstrated on a normal curve

Histogram of teaching performance scores and their frequencies in summative group are displayed on a normal curve in Figure 2.

One-Sample Kolmogorov-Smirnov Normality Test results (see Table 2) was not significant for teaching performance scores in both formative group ( $p = .67, Z = .719, p > .05$ ) and in summative group ( $p = .86, Z = .601, p > .05$ ) showing normal distribution of the scores. Therefore Independent Samples Test which is parametric was used to compare the two sets of scores; otherwise Mann Whitney U Test which is nonparametric could be applied.

Table 2. One-Sample Kolmogorov-Smirnov Test of Normality for Two Groups' Teaching Performance

Group	N	Mean	Kolmogorov-Smirnov Z	Sig.
Formative	25	84.33	.719	.679
Summative	25	76.57	.601	.863

Table 3 represents the results of Independent Samples T-Test to compare the teaching performance scores of the two groups. Levene's Test in the table reveals that variances are equal ( $F = .306, p = .58, p > .05$ ).

Table 3. Independent Samples T-Test to Compare Formative and Summative Groups' Teaching Performance Scores

Levene's Test for Variances			T-test for Means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.
Equal variance assumed	.306	.583	3.463	42	.001	7.768

Independent Samples T-Test results in Table 3 indicates that T-test for the difference in teaching performance scores between the two formative and summative groups was significant ( $t = 3.46, p = .001, p < .05$ ), in which  $p$  value, .001 was less than the selected level of significance, .05, and  $t$  value, 3.46 was well above  $t$  critical, 2.02; as a result, the null hypothesis of the present study as the students' formative assessment is not more effective than summative assessment in the professional development of Iranian university EFL instructors is **rejected**, indicating that the students' formative assessment is more effective than their summative assessment in the professional development of Iranian university EFL instructors.

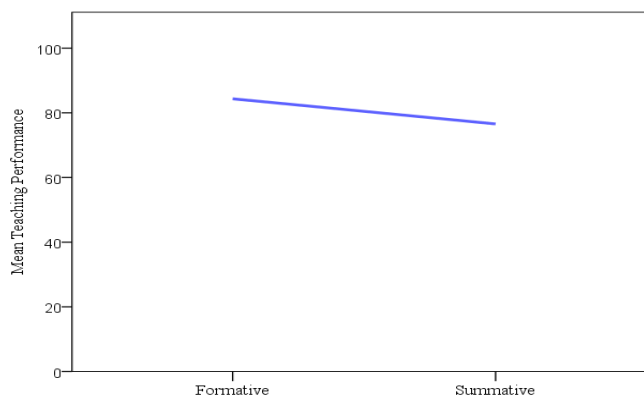


Figure 3. Mean teaching performance scores of two groups above graphically illustrates the results as appeared in Table 1.

### The Qualitative Phase

Qualitative methods are concerned with studying human behavior within the context in which that behavior would take place naturally and in which the role of the researcher would not affect the normal behavior of the subjects. Moreover, the data are often collected by means of a number of procedures used simultaneously with one set of data leading to the next. The aims of these methods are, then, to present the data from the perspectives of the subjects or observed groups so that any form of biases from the researcher would not distort the collection, interpretation, or presentation of data (Jacob, 1987, as cited in Seliger & Shohamy, 1989).

According to Carter and Nunan (2002) **triangulation** is ethnographic processes of verification which give us confidence in our observations. There are four different types of triangulation: *data triangulation*, in which different sources of data (teacher, student, parents, etc.) contribute to an investigation; *theory triangulation*, when various theories are brought to bear in a study; *researcher triangulation*, in which more than one researcher contributes to the investigation; and *methods triangulation*, which entails the use of multiple methods (e.g. interviews, questionnaires, observations, tests, field notes, etc.) to collect data.

In the present study the **data triangulation** (student, teacher) and **method triangulation** (observations, interviews, questionnaires, field notes, stimulated recalls, and audio-video recordings) were used and the data collected via the above-mentioned sources led the researcher to the following conclusions.

### Investigating Research Question Number Two

The second research question of the current study inquired the extent the instructor’s reaction toward formative assessment is different from their reaction toward summative assessment. In order to answer this research question, the instructors’ responses to the 20 items of Teacher Reaction Questionnaire about the impact of formative assessment and summative assessment were assessed. The results indicated that the teacher’s reaction to formative assessment in almost all 20 items of the questionnaire is better than their reaction to summative assessment. A quick glance at the figure 4 below reveals that the teacher’s reaction to formative assessment (Sum = 53) is considerably greater than summative assessment (Sum = 40). It means that the teacher in formative group had a more positive attitude toward formative assessment in comparison to summative assessment in developing EFL professional teaching.

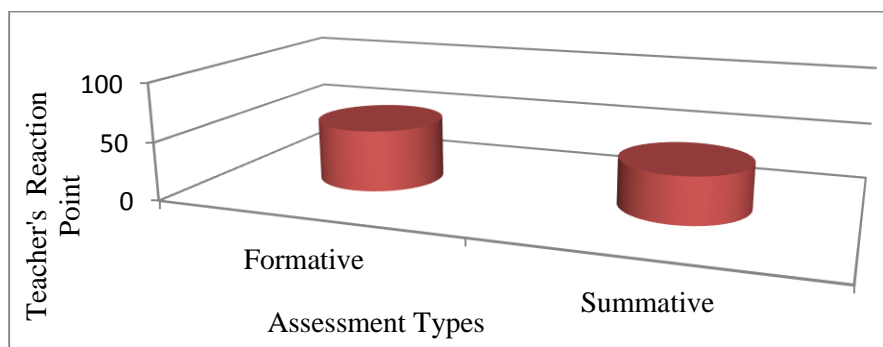


Figure 4. Teachers’ reaction to formative and summative assessment

### **Investigating Research Question Number Three**

How does the students' formative assessment affect the professional development of Iranian university EFL instructors?

Based on the data collected from the questionnaires distributed every three sessions among the students in the *formative* group, the teacher was informed about every single item in the questionnaire in the feedback sessions with the researcher. Whenever any miscomprehension arose, the audio or, in case, the video recordings came into play. Moreover, the researcher conducted informal, unstructured interviews with the students plus follow ups which were really helpful to inform the teacher about every single detail of the procedures of the classroom. The presence of the researcher as an insider or participant observer (i.e. participating in the very act that they are describing) were also helpful to untie any necessary knots in the process of data collection.

The following results were drawn from the above-mentioned sources of information:

1. The teacher became aware of hidden advantages/disadvantages of his/her teaching methodologies.
2. The teacher observed how effective his/her scoring system is regarding students' point of view.
3. The teacher understood about students' reaction toward his/her appearance-personality qualifications.
4. The teacher became aware of students' reaction about usefulness of books introduced for the course.
5. The teacher became aware of any possible discrimination (gender, race, religion, etc.) in the class and tries to eliminate it.
6. The teacher felt more responsible to be punctual.
7. The teacher felt more responsible to be well-prepared and well-organized.
8. The audiovisual aids or other supplementary materials were used more effectively to enhance the lesson.
9. The teacher got a proper feedback from students about the assignment/ projects given to them.
10. The teacher was provided with a number of suggestions from students during the formative evaluation which might have been helpful to enhance the practices of teaching for this or following semester.

The above-mentioned items all affected the teacher to employ more useful and effective methodologies, strategies, techniques, and mannerism which result in his/her professional development.

### **Investigating Research Question Number Four**

In what ways does the students' summative assessment affect the professional development of Iranian university EFL instructors?

A 25-item likert questionnaire was delivered to the students in the summative group at the end of the term (once only) in order to evaluate their instructor regarding social climate of the class, preparation, presentation, teacher's professional qualities, teacher's personal qualities, and student- teacher interaction and only one feedback session was held with the researcher. The data collected from the observations, field notes, interviews, stimulated recalls, and audio-video recordings came into play when needed and the following results are drawn:

1. The teacher was provided with a sense of summary to the whole process of teaching.
2. The teacher was provided with more realistic information since the course was not running and students felt free to answer more critically to the questionnaires.
3. The final satisfaction or dissatisfaction of students along with the reasons was revealed by the summative evaluation and for the teacher.
4. The teacher could make a judgment about his/her performance (self-assessment) based on the given data derived from questionnaires, interviews and field notes.

The items mentioned just above all were effective in enhancing the practices of teaching by Iranian EFL university instructors.

### **CONCLUSION**

The purpose of the present study was to investigate the impact of *formative* and *summative* assessment on the professional development of Iranian university EFL instructors and that which one of the assessments is more effective in enhancing the practices of teaching by Iranian university EFL instructors. To have a more comprehensive discussion, it is reasonable to restate the null hypothesis of the study here and then discuss the results.

**H<sub>0</sub>:** The students' *formative* assessment is not more effective than their *summative* assessment in enhancing the practices of teaching by Iranian university EFL instructors.

The obtained data from the two formative and summative groups were analyzed and based on the findings, the null hypothesis was rejected. The two groups scored differently in the questionnaires and the difference was statistically significant.

By rejecting the null hypothesis, the researcher can claim that the students' *formative* assessment is more effective than their *summative* assessment in enhancing the practices of teaching by Iranian university EFL instructors.

However, the following conclusions were reached by the researcher based on the obtained data of the qualitative phase of the study:

### ***The Formative Assessment***

1. The formative assessment helped the teacher to improve, modify or amend his/her teaching methods.
2. The formative assessment helped the teacher figure out the shortcomings and pitfalls of his/her teaching as well as the strong points and the advantages.
3. The formative assessment satisfied the teacher to modify or change his/her choices of course books as well as the supplementary materials during the semester.
4. Teacher's expectations of course objectives differed from those of his/her students revealed by the formative assessment in some cases.
5. The formative assessment had effects on the teacher's choices of homework, assignments and projects.
6. The formative assessment influenced the way the teacher had chosen to give his/her quizzes, tests, assessments and evaluations.
7. The formative assessment satisfied the teacher to change or modify his/her scoring system.
8. The existence of the formative assessment made the teacher for a better preparation.
9. The formative assessment helped the teacher keep updated.
10. The formative assessment affected the teacher's course syllabus within the semester.

The following conclusions were also drawn according to the data obtained qualitatively for the summative group of the study.

### ***The Summative Assessment***

1. The teacher summarized the whole process of teaching/learning based on the relevant obtained data.
2. Since the course was not running students did not feel ceremonious or even frightened in order to answer more critically and honestly to the questionnaires which resulted in more realistic information provided to the teacher.
3. The students' final satisfaction or dissatisfaction about the course in general and the teacher in particular was revealed for the instructor.
4. The teacher could make use of the obtained data in order to self-assess himself as opposed to students' assessment.

### ***Students' Evaluations of Teaching Effectiveness***

According to the findings of this study the following general conclusions on the basis of both students' formative and summative evaluations were reached:

The process of students' evaluation of the teachers' work:

- was useful, necessary and was not conducted for paperwork formalities and regulations.
- was not more or less "looking for errors".
- was democratic rather than authoritative.
- included sharing mutual responsibilities and participation between the teacher and the students as evaluators.
- was done with the aim of improvement, rather than control and destruction.
- was collaborative rather than an inspection process.
- did not focus only on the teacher but on the student and course as well.
- guided the teacher in needs-analysis problem-solving.
- provided educational materials and assisted in the course.
- increased both the students' and teachers' motivation and morale.
- made contribution to the teachers' professional growth.
- enhanced the teachers' teaching skills and practice.
- helped the teacher discover his/her shortcomings and strengths.
  - helped the teacher overcome instructional problems.

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