

Research Article

## **Examining Indicators of Validity in Online Formative Assessment: Insights from Iranian EFL Teachers**

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### **Abstract**

Valid online formative assessments are crucial for accurate measurement of students' progress and effective pedagogical decision-making in digital learning. This quantitative-based study followed two primary aims. First, it aimed to investigate the extent to which Iranian EFL teachers working in universities and language institutes apply indicators of online formative assessment validity. Twenty-one online classrooms were observed in three sessions using a checklist. The second aim of this study was to determine the effect of EFL teachers' place of living on the validity of online formative assessment. To this end, 316 Iranian EFL teachers from diverse EFL settings, including public schools, private schools, language institutes, and universities were asked to fill out online formative assessment validity scale developed by Maleki et al. (2023). The sample included both male and female teachers with varying age group ranges and academic degrees. The findings of the study indicated that Iranian EFL teachers in universities and language institutes tend to overlook indicators associated with the learner-centered aspects of online formative assessment validity. Furthermore, it was revealed that EFL teachers' place of living could impact the validity of online formative assessment. This study has several implications for online EFL teachers and policymakers. The findings of this study emphasize the context-bound nature of validity in online formative assessment. Besides, it helps Iranian EFL teachers identify specific areas that need more attention and improvement in order to enhance the validity of their online formative assessments.

**Keywords:** Validity; Online formative assessment; Indicators; Place of living; Observation.

### **Introduction**

Online assessment refers to any method used to assess and gauge students' accomplishments, provide feedback, and support their educational advancement in fully online credit courses (Weleschuk et al., 2019). Embedded assessment relies on formative assessment as a vital component, which entails ongoing evaluation of the progress of learning by actively participating in learning activities within a supportive social environment. This form of assessment is generally defined as a process that encourages opportunities for instruction and provides support throughout the learning process (Kilis & Yildirim, 2019; Martin et al., 2019). With the progress and widespread availability of technology, online assessments, including both summative and formative approaches, are quickly replacing traditional paper-based assessments. The educational landscape has been transformed by the advent of modern digital tools, which have introduced novel opportunities and approaches to teaching, learning, and assessment (Waheeda et al., 2023). The integration of information and communication technology in classrooms is essential for facilitating effective formative assessment of learning in the 21st century (Elmahdi et al., 2018).

Over the past few years, there has been a transition in higher education learning and teaching environments, moving the focus from Assessment for Learning (AfL) to online formative assessment (Baleni, 2015). The integration of research on formative assessment and computer-assisted assessments has given rise to the development of online formative assessment (OFA). In the 21st century, incorporating technology in classrooms has become crucial for facilitating effective teaching and learning practices. Technology serves as a valuable tool in supporting teaching and learning by facilitating the process of formative assessment, allowing for ongoing evaluation of learners' skills and knowledge during the instructional process (Elmahdi et al., 2018).

Drawing from the perspectives of Messick (1989) and Shaw and Crisp (2011), Gikandi et al. (2011) provided a definition of validity in relation to online formative assessment. According to their definition, validity in this context refers to the degree to which the assessment activities and processes effectively contribute to and support ongoing learning. Online formative assessment validity is associated with four attributes: the authenticity of assessment activities, the provision of effective formative feedback, the

incorporation of multidimensional perspectives, and the availability of learner support (Maleki et al., 2023; Gikandi et al., 2011).

While previous studies have explored the validity of online formative assessment, most have been qualitative in nature, focusing on subjective perspectives rather than providing empirical, generalizable insights (Liu & Zhang, 2022; Ghanbari & Nowroozi, 2021). This leaves a significant gap in the literature, particularly regarding the quantitative measurement of how validity indicators are applied in practice. Additionally, there is limited research on the role of contextual factors, such as the teachers' place of living, in shaping the validity of online assessments—a gap highlighted by the context-dependent nature of validity as proposed by Messick (1989). This study addresses these gaps by quantitatively examining the extent to which Iranian EFL teachers apply online formative assessment validity indicators and investigating whether their geographical location impacts these practices. By adopting a quantitative approach, this research provides empirical evidence that complements existing qualitative findings and offers a more comprehensive understanding of the factors influencing the validity of online formative assessments in diverse educational contexts. This, in turn, can inform targeted interventions to enhance online assessment practices in different regions.

Validity, in the context of online formative assessment, has been debated among scholars over several years. Many scholars have discussed and argued about the issue of online formative assessment validity from different perspectives. One of the famous studies in the realm of OFA validity is a review study conducted by Gikandi et al. (2011). A bibliometric analysis study by Sudakova et al. (2022) revealed that the study by Gikandi et al. (2011) ranked first with 426 citations according to the total citations in the field of online formative assessment. According to Gikandi et al. (2011), the validity of online formative assessment is associated with the following attributes: (1) authenticity of assessment activities, (2) effective formative feedback, (3) multidimensional perspectives, and (4) learner support.

#### *Authenticity of Online Assessment Activities*

Numerous scholars have outlined key characteristics that define authentic online formative assessment (OFA) tasks. These tasks should promote deep knowledge construction and higher-order thinking (Kaya-Capocci et al., 2022; Wu et al., 2024), stimulate active problem-solving and logical reasoning, and engage students in meaningful discourse (Rajabalee & Santally, 2021). Additionally, they should involve students directly in the assessment process (Irons & Elkington, 2021), foster collaboration (Marden & Herrington, 2020), and offer flexibility (Kristiyanti et al., 2021). Authentic OFA tasks must also

document and monitor students' achievements and progress (Sudakova et al., 2022; Veerasamy et al., 2021), engage learners in decision-making and problem-solving (Hazaymeh, 2021), and provide clear, analytical rubrics to help students understand the expected outcomes (Yousef & Sumner, 2021). Moreover, it is essential to inform students about assessment rubrics and offer multiple opportunities for reflection (Boss & Krauss, 2022).

#### *Effective Online Formative Feedback*

Panadero and Lipnevich (2022) characterized feedback as information provided by an agent about various aspects and levels of an individual's performance or understanding. They emphasized its central role in formative assessment (FA). In the context of online formative assessment (OFA), feedback must be both informative and supportive, offering detailed insights into students' performance and being delivered in a timely manner (Zhan et al., 2022). Additionally, peer feedback—both giving and receiving—is crucial in an OFA environment, contributing to the formative assessment process (Carless, 2022).

Moreover, online formative feedback should aim to enhance learners' self-regulation (Say et al., 2023). To support this, online educators need to provide personalized feedback through technological tools (Beardsley et al., 2021). Personalized feedback should identify both strengths and weaknesses in students' work (Mahapatra, 2021). Additionally, teachers should help students develop their online feedback literacy to effectively utilize and benefit from the feedback provided (Wongvorachan et al., 2022).

OFA includes dialogic feedback (Espasa et al., 2022). Since students and teachers are not physically together in an online setting to discuss feedback directly, it is essential to make feedback as interactive and dialogic as possible. Furthermore, online dynamic assessment is often employed by educators (Wang et al., 2021). This type of assessment can be conducted either by individuals or automated systems. Occasionally, students might require assistance to guide and scaffold their learning, helping them improve their performance in line with their capabilities.

#### *Multidimensional Perspectives Towards OFA*

Gikandi et al. (2011) emphasized the importance of incorporating multidimensional approaches into OFA. This involves integrating a variety of activities to enhance learner autonomy and flexibility (Kantaridou & Hatzopoulou, 2021). Another critical component is the knowledge and ongoing professional development of online teachers (Bragg et al., 2021). Online educators should engage in diverse aspects of online assessment and

continuously refine their skills to effectively evaluate students. To achieve this, they should participate in professional development programs, stay current with advancements, and utilize technological assessment tools (Kristiyanti et al., 2021).

### *Online Learner Support*

An effective learner support model must align with an institution's values, objectives, strategic priorities, and teaching and learning philosophy. Providing robust student support is critical for overcoming challenges in online higher education, as it significantly enhances learner engagement, motivation, and success (Rotar, 2022). Online educators should serve as guides, helping students find tailored learning opportunities that fit their needs (Alamri et al., 2020). They should also support students in defining and pursuing their learning goals (Singh et al., 2021), assist them in developing clear learning plans (Lase & Zega, 2021), and ensure the creation of consistent course materials (Archambault et al., 2022).

In their paper, McCallum and Milner (2020) examined the effectiveness and implementation of formative e-assessments in first-year courses, focusing on both student perspectives and staff reflections. Their study aimed to assess how these assessments impacted student engagement and learning outcomes. According to questionnaires completed by students, formative e-assessments were perceived as beneficial for monitoring academic progress, motivating additional study, and enhancing overall learning and comprehension. Additionally, the findings provided academic staff with insights into the advantages of using formative e-assessments, such as fostering student engagement and enabling early intervention in the learning process.

In another study, Liu and Zhang (2022) employed a qualitative research methodology based on Grounded Theory to investigate the validity of formative assessment in online learning. Their study specifically focused on analyzing the factors inherent to online learning that impact its validity. The researchers also explored the extent to which these factors manifested in actual online practices. The study revealed that the validity of online formative assessment is influenced by several factors. These factors include the absence of functional alienation, which is caused by the emotional engagement and adaptability of the participants, the objective environment and technology, as well as poor interaction. In order to facilitate the integration of formative assessment into real classroom settings, the researchers developed two models based on their findings: the Formative Assessment Model (FAM) and the Online Formative Assessment Validity Model (OFAV). These models aimed to provide guidance and structure for the effective implementation of formative

assessment in online educational contexts. To be more specific, the outcomes of their OFAV model demonstrated that the validity of online formative assessment (OFA) could be influenced by four distinct factors: the influence of agents, interaction, and feedback, the online teaching environment, and the reward and punishment mechanism.

The present study is based on the online formative assessment (OFA) validity scale Maleki et al. (2023) presented in their study. Their study on OFA validity was influenced by the work of Gikandi et al. (2011). To design a scale for OFA validity in EFL contexts, they first investigated the literature and then administered a Delphi method to extract indicators involved in the validity of online formative assessment. Their final online formative assessment (OFA) validity scale in the Iranian EFL (English as a Foreign Language) contexts included 27 indicators that fell into four broad categories: authenticity of online assessment activities, effective online formative feedback, multidimensional perspectives towards online formative assessment, and online learner support. As the first indicator of OFA validity, it was found that the authenticity of online assessment activities could be identified by ten sub-indicators. The second indicator of online OFA validity was effective online formative feedback, including ten sub-indicators. The third indicator of OFA validity was referred to as multidimensional perspectives towards OFA, encompassing three sub-indicators. The fourth indicator of OFA validity was online learner support, which comprised four sub-indicators.

Drawing from the findings of some studies (Esfandiari & Arefian, 2023; Nayernia & Mohebbi, 2023; Arefian, 2022; Ghanbari & Nowroozi, 2021), one can discern that Iranian EFL teachers lack the necessary knowledge and skills to conduct effective student assessment in an online learning environment. This is to say that they lack online assessment literacy. As Esfandiari and Arefian (2023) highlighted this, Iranian EFL teachers need to learn, unlearn, and improve their online language assessment literacy. Also, according to McLaughlin and Yan (2017), there is a lack of empirical research in the area of online formative assessment. Next, since the spread of COVID-19, as far as it was searched, there appears to be a limited number of studies available to examine issues related to validity indicators of online formative language assessment. Finally, as highlighted by Messick (1989), validity is context-dependent and can be influenced by various factors. In this study, we considered this notion and investigated whether the place of living, as a contextual factor, could impact the validity of online formative assessments. Therefore, this study aims to investigate the extent to which Iranian EFL teachers working in universities and language institutes apply indicators of online formative assessment validity in their classrooms. Also, it investigates whether EFL teachers' place of living can affect

the validity of online formative assessment. The following research questions were proposed in this research:

1. To what extent do Iranian EFL teachers in universities and language institutes apply indicators of online formative assessment validity in their classrooms?
2. Is there any significant difference in the validity of online formative assessment with regard to the Iranian EFL teachers' place of living?

## Method

### Participants

In this study, the target population to fill out the OFAVS was 316 Iranian EFL teachers majoring in TEFL (Teaching English as a Foreign Language) from various EFL contexts, including public schools, private schools, language institutes, and universities. The sample was selected using a purposive sampling method and included both male and female participants from various age groups, ranging from 20 years old to over 50 years old. They had the minimum two years of online teaching experiences holding different degrees, namely B.A, M.A, and Ph.D. Table 1 displays the participants' demographic information in detail.

**Table 1**  
*Demographic Characteristics of Respondents (n=316)*

Demographic Characteristics	Category	Number
Gender	Male	152
	Female	164
Age	20-30	96
	31-40	128
	41-50	65
	More than 50	27
Teaching experiences	2-5 years	234
	More than 5 years	82
Educational degree	B.A	53
	M.A	159
	Ph.D.	104

For the online observation, 21 Iranian EFL teachers were selected using convenience sampling, with 9 from universities and 12 from language institutes. Table 2 outlines the demographic details of the teachers, including their gender, workplace, age range, academic degree, and the provinces in which they are located.

**Table 2**  
*Demographic Information of EFL Teachers (n=21)*

Demographic Characteristics	Category	Number
Gender	Male	13
	Female	8
Workplace	University	9
	Language institute	12
Age	25-35	3
	36-45	11
	More than 45	7
Academic degree	B.A	3
	M.A	7
	Ph.D.	11
Location (province)	Tehran	6
	Khorasan-e Razavi	5
	Golestan	3
	Isfahan	3
	Kerman	2
	Fars	2

### Instrumentation

#### Online Formative Assessment Validity Scale (OFAVS)

This study administered an online formative assessment validity scale designed by Maleki et al. (2023). The effectiveness of this scale indicated to what extent EFL teachers' online formative assessment is valid. The items of their scale were elicited and extracted based on the Delphi method which they conducted previously. Their final online formative assessment (OFA) validity scale included 27 indicators that fell into four broad categories: authenticity of online assessment activities, effective online formative feedback, multidimensional perspectives towards online formative assessment, and online learner support. They designed a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree". The scale is presented in Appendix A. The reliability of the OFAVS was established with a high Cronbach's alpha coefficient of 0.935, indicating excellent internal consistency. To assess the validity of the scale, both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. The EFA was used to identify the underlying factor structure of the scale, confirming that the items grouped into coherent factors consistent with the theoretical constructs. Following this, CFA was performed to validate the factor structure identified by the EFA, ensuring that the model fit the data well. The results from both EFA and CFA provide strong evidence for the construct validity of the OFAVS, supporting its use in this study.



### **Observation Checklist**

In this study, observation was used to investigate the extent to which Iranian EFL teachers apply indicators of OFA validity in their classrooms. Twenty-one online classrooms were observed in 3 sessions. A checklist consisted of 27 indicators of OFA validity scale (Maleki et al., 2023) was used by the researcher to observe the online classrooms. The presence and application of each indicator were approved using "Yes" or "No" in the checklist by the researcher.

### **Procedure**

Based on a scale designed by Maleki et al. (2023), 27 indicators are involved in the validity of OFA. During the first phase of the study, the researcher employed an observation checklist to assess the extent to which Iranian EFL teachers working in universities and language institutes applied the indicators of online formative assessment (OFA) validity in their classrooms. A total of 21 teachers were observed across three sessions using a checklist derived from Maleki et al. (2023)'s OFA validity scale (OFAVS). The number of participants at this stage was determined based on the saturation level of the observation results. For the second phase, the OFA validity scale was distributed among 316 Iranian EFL teachers, both in online and printed versions, to investigate if Iranian EFL teachers' place of living can affect validity of online formative assessment. They were majoring in TEFL from different EFL contexts, namely public schools, private schools, language institutes, and universities. Also, the participants were asked to indicate their province, as this study aimed to investigate the effect of this variable on OFA validity.

### **Data Analysis**

The data from the observation checklist were analyzed using descriptive statistics to determine the frequency with which each of the 27 indicators of OFA validity was applied by Iranian EFL teachers. Percentages were calculated to provide an overview of the most and least commonly observed indicators across the 21 classrooms.

For the OFA Validity Scale (OFAVS) data, both descriptive and inferential statistics were used. Mean scores and standard deviations were calculated for each indicator and the overall OFA validity score. To assess the impact of teachers' place of living on OFA validity, a one-way between-groups analysis of variance (ANOVA) was conducted to identify any statistically significant differences in scores among teachers from different provinces. Post hoc tests were applied as needed to explore these differences further.

## Results

### Assumptions for the Statistical Analysis

In this study, the researcher used ANOVA to analyze the data. Before conducting this statistical procedure, the researcher investigated their assumptions, including normality, equal variances, and linearity (Pallant, 2016; Larson-Hall, 2015).

The researcher employed descriptive analysis to demonstrate no abnormality in the data distribution, such as kurtosis or skewness. Table 3 shows the outcomes of descriptive statistics for the OFAVS, focusing specifically on ELT experts. The mean score obtained by ELT experts on the OFAVS was 52.20. Moreover, comparing the Mean and Trimmed Mean for ELT experts revealed a distinct resemblance between these values. As a result, these cases were included in the data file for further analysis (Pallant, 2016). Additionally, Table 3 provides information on the standard deviation of the survey data collected for the OFAVS.

**Table 3**

*Descriptive Statistics for the ELT Experts Regarding Online Formative Assessment Validity Scale (OFAVS)*

	Statistic	Std. Error
OFAVS Mean	52.2025	.69733
95% Confidence Interval for Mean Lower Bound	50.8305	
95% Confidence Interval for Mean Upper Bound	53.5745	
5% Trimmed Mean	52.3115	
Median	54.0000	
Variance	153.660	
Std. Deviation	12.39598	
Minimum	29.00	
Maximum	74.00	
Range	45.00	
Interquartile Range	21.00	
Skewness	-.216	
.137		
Kurtosis	-1.123	.273

Table 4 displays the findings of the Kolmogorov-Smirnov statistics, which aimed to evaluate the normality of the score distribution for ELT experts. The Sig. value is .000, indicating a deviation from normality, which is common in larger samples (Pallant, 2016).

**Table 4**  
*K-S Tests of Normality for Participants*

Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
OFAVS .086	316	.000	.951	316	.000

a Lilliefors Significance Correction

The boxplots indicating a normal distribution support the assumption of homogeneity of variance, which means that conducting Multiple Regression is feasible. To check the assumption of linearity, a Q-Q plot was used, as mentioned in Appendix 1. Pallant (2016) suggested that a reasonably straight line on the Q-Q plot indicates a normal distribution. Based on these findings, it appears that the assumptions of homogeneity of variance and linearity have been met, allowing for the possibility of conducting Multiple Regression.

### **Results of Research Question 1: Observation**

In this research question, the present study investigated the extent to which Iranian EFL teachers in universities and language institutes apply indicators of online formative assessment validity in their classrooms. To this end, the researcher observed 21 teachers in three sessions using a checklist and entered the data into SPSS 22. Using descriptive statistics, the researcher estimated the frequency of each indicator used by participants in their classrooms.

Table 5 illustrates the results of observations done by the researcher. The more observed indicators (more than 80%) are as follows: monitoring students' progression to get real-time updates (item 7), providing students with informative and supportive online feedback (item 11), providing students with individualized feedback (item 15), giving feedback that identifies students' strengths and weaknesses (item 16), advising learners on finding and selecting learning opportunities (item 24), and motivating students towards self-regulation. However, the least observed indicators (less than 25%) are related to items 3 and 19: involving students in the planning process of online assessment activities and developing dialogic feedback.

**Table 5**

*The Extent Iranian EFL Teachers in Universities and Language Institutes Apply Indicators of Online Formative Assessment Validity in their Classrooms*

Items		
	Yes	No
1. To involve students in deeper knowledge construction	33.3	66.7
2. To put emphasis on higher-order thinking skills	66.7	33.3
3. To involve students in the planning process of online assessment activities	9.5	90.5
4. To be flexible and offer a variety of tools and options	61.9	38.1
5. To integrate online authentic activities across different subject areas	76.2	23.8
6. To document and monitor students' achievements	58.7	41.3
7. To monitor students' progression to get real-time updates	90.5	9.5
8. To offer online complex and authentic assessment activities	52.4	47.6
9. To include analytical and transparent rubrics in online assessment activities	57.1	42.9
10. To empower learners reflect on their learning both individually and socially	76.2	23.8
11. To provide students with informative and supportive online feedback	90.5	9.5
12. To provide students with timely online feedback	42.9	57.1
13. To promote dialogue by peer online formative feedback	33.3	66.7
14. To motivate students towards self-regulation	81.0	19.0
15. To provide students with individualized feedback	90.5	9.5
16. To give feedback which identifies students' strengths and weaknesses	85.7	14.3
17. To develop students' online feedback literacy	38.1	61.9
18. To develop teachers' online feedback literacy	76.2	23.8
19. To develop dialogic feedback	23.8	76.2
20. To apply online dynamic assessment	47.6	52.4
21. To consider teachers' knowledge, skills, and professional development		

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	66.7	33.3
22. To have tools and further support to carry out high-quality assessment	66.7	33.3
23. To develop complex cognitive processes	42.9	57.1
24. To advise learners on finding and selecting learning opportunities	85.7	14.3
25. To help learners understand their learning orientations and strengths	61.9	38.1
26. To encourage learners to express their learning goals and plans	66.7	33.3
27. To mediate the standard and uniform elements of course materials	38.1	61.9

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### Results of Research Question 2: The Effect of Place of Living on OFAVS

The goal of the second research question was to determine if there were any notable differences in the effectiveness of online formative assessment among Iranian EFL teachers based on their location. To achieve this, a one-way between-groups analysis of variance (ANOVA) was conducted using the Online Formative Assessment Validity Scale (OFAVS) to measure the impact of location and place of living on online formative assessment. The participants were split into 20 groups based on their province of residence. The results in Table 6 indicate a statistically significant difference in OFAVS scores among the 20 groups, with a p-value  $< .05$ ,  $F(19, 296) = 2.28$ ,  $p = .002$ .

**Table 6**

*ANOVA Results for OFAVS Regarding Place of Living*

Sum of Squares	df	Mean Square	F	Sig.	
Between Groups	5552.017	19	292.211	2.288	.002
Within Groups	37810.727	296	127.739		
Total	43362.744	315			

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Table 7 represents the data for the 20 provinces under study. This included information on the number of participants, the mean, and the standard deviation of each group. The Tukey HSD test was used for post hoc comparisons to assess differences between groups based on their place of living. The results indicated that no significant differences were found among the groups. While there was a significant difference in the validity of online formative assessment based on the Iranian EFL teachers' place of living, no

significant difference was observed when comparing different locations for online formative assessment.

**Table 7**  
*Descriptive Statistics for EOFAIS Regarding Place of Living*

	N	Mean	Std. Deviation	Std. Error	95% CI (Mean)	
					Lower	Upper
Alborz	12	56.0833	10.95825	3.16338	49.1208	63.0459
Bushehr	11	47.6364	9.51076	2.86760	41.2469	54.0258
E. Azarbaijan	13	48.1538	11.17919	3.10055	41.3983	54.9094
Fars	14	49.3571	12.56740	3.35878	42.1009	56.6133
Gilan	7	45.2857	3.81725	1.44279	41.7553	48.8161
Golestan	10	53.3000	11.05592	3.49619	45.3911	61.2089
Hamedan	7	47.5714	11.16329	4.21933	37.2471	57.8958
Isfahan	7	41.5714	8.05930	3.04613	34.1178	49.0250
Kerman	13	56.3077	7.88865	2.18792	51.5406	61.0748
Kermanshah	6	47.5000	14.43260	5.89209	32.3539	62.6461
Khorasan R.	86	50.8721	12.45396	1.34294	48.2020	53.5422
Khuzestan	18	44.3333	11.09849	2.61594	38.8142	49.8525
Kordestan	10	57.6000	6.18601	1.95619	53.1748	62.0252
Mazandaran	14	44.8571	9.60655	2.56746	39.3105	50.4038
No. Khorasan	6	57.0000	8.14862	3.32666	48.4485	65.5515
Semnan	9	53.0000	15.09139	5.03046	41.3997	64.6003
Sistan & B.	9	57.7778	10.23203	3.41068	49.9127	65.6428
Tabriz	2	48.5000	17.67767	12.50000	-110.3276	207.3276
Tehran	49	46.2449	11.45922	1.63703	42.9534	49.5364
Yazd	13	55.7692	11.14416	3.09083	49.0349	62.5036
Total	316	50.0285	11.73284	.66002	48.7299	51.3271

## Discussion

Two primary aims were followed in the present study. First, this study investigated the extent to which Iranian EFL teachers in universities and language institutes apply indicators of OFA validity in their online classrooms. Next, it examined if Iranian EFL teachers' place of living can affect the validity of OFA. To achieve these aims, this study used Maleki et al. (2023)'s OFA validity scale. They identified 27 OFA validity indicators that fell into four broad categories: authenticity of online assessment activities, effective online formative feedback, multidimensional perspectives towards online formative assessment, and online learner support.

In the present study, the first research question investigated the extent to which Iranian EFL teachers working in universities and language institutes

apply the indicators of online formative assessment validity in their classrooms. Based on the results, it can be inferred that Iranian EFL teachers working in universities and language institutes possess a basic understanding of fundamental online formative assessment principles, which align with traditional formative assessment practices. The data suggests that these teachers are proficient in certain conventional aspects, such as monitoring student progress and providing individualized feedback. However, they seem less familiar with integrating more innovative, learner-centered approaches into their practice. This emphasis on traditional methods indicates a solid grounding in basic assessment principles but also suggests a potential resistance to, or lack of exposure to, the more collaborative and dynamic dimensions of online formative assessment.

The high frequency of observed practices like offering feedback that identifies students' strengths and weaknesses, advising learners on learning opportunities, and motivating students towards self-regulation suggests that teachers are prioritizing immediate, teacher-driven interventions aimed at enhancing student performance. However, the neglect of indicators such as involving students in the planning of assessment activities and developing dialogic feedback points to a significant gap in fostering a learner-centered environment. This finding implies that while teachers are committed to providing support, they may not fully recognize or be equipped to implement practices that encourage students to take a more active role in their learning process. This is concerning because, as research by Bremner (2021) and Ryan et al. (2021) highlights, learner-centeredness is a critical component of effective online formative assessment. The omission of practices like involving students in assessment planning and offering dialogic feedback suggests that Iranian EFL teachers may be missing opportunities to engage students in deeper, more reflective learning processes. For example, the observation that only 33.3% of teachers apply online peer formative feedback indicates a limited use of peer-assisted learning strategies, which are known to foster critical thinking and collaborative learning. Additionally, with only 38.1% of teachers working to enhance students' feedback literacy, it appears that many are not adequately preparing their students to engage with feedback in a meaningful way.

These findings suggest that the current approach to online formative assessment in these settings may be too focused on teacher-led activities, which could limit students' opportunities for self-directed learning and reflection. The implications of this are substantial, suggesting that students may not be sufficiently equipped for independent learning or active participation in their educational journey—a critical goal in contemporary

pedagogical approaches. Therefore, to address these gaps, it is crucial that professional development programs for Iranian EFL teachers emphasize the importance of learner-centered approaches and equip teachers with the tools and strategies to implement them effectively. By shifting towards a more balanced approach that includes both traditional and innovative assessment practices, teachers can create a richer, more engaging online learning environment that better supports student growth and development.

The second research question aimed to determine whether there were any notable differences in the validity of online formative assessment among Iranian EFL teachers based on their location, particularly their province. The findings revealed a statistically significant difference in OFA validity scale scores among teachers from 20 different provinces, suggesting that geographical location does indeed play a role in shaping how online formative assessments are perceived and implemented. This result underscores the context-bound nature of validity, aligning with Messick's (1989) assertion that validity is inherently tied to the specific context in which an assessment is used. This context dependency suggests that various local factors—such as access to resources, teacher training, institutional support, and even cultural attitudes towards education—may influence how online formative assessments are conducted and perceived.

The lack of a significant difference when comparing different locations directly for online formative assessment validity might initially seem contradictory. However, this could be interpreted as evidence that while regional factors do influence assessment practices, these influences are complex and multifaceted, not easily captured by simple comparisons. The significant differences observed across provinces suggest that the influence of location is not uniform but rather shaped by a variety of interrelated factors that can differ substantially even within the same country. This complexity is consistent with Liu and Zhang's (2022) findings in China and Taiwan, where location was identified as a crucial factor influencing the effectiveness of online formative assessment. However, unlike their study, which emphasized broader regional differences, the results of this research suggest that variability within a single country can be equally, if not more, significant.

These findings imply that efforts to improve the validity of online formative assessments should take into account the specific local contexts in which teachers operate. Professional development programs, for instance, may need to be tailored to address the unique challenges and opportunities present in different provinces. Additionally, policymakers should consider these regional differences when designing and implementing assessment policies, ensuring that they are flexible enough to accommodate the diverse



educational environments across the country. This also raises important questions about equity in education, as it suggests that students' experiences with and benefits from online formative assessments may vary depending on their geographical location. In conclusion, this finding highlights the importance of recognizing the context-dependent nature of validity in online formative assessments. The variability in OFA validity scores across different provinces suggests that a one-size-fits-all approach may not be effective in enhancing assessment practices across diverse educational settings. Instead, a more nuanced understanding of how local contexts influence assessment validity is necessary to ensure that online formative assessments are both fair and effective for all students, regardless of their location.

This study attempted to investigate the extent to which Iranian EFL teachers working in universities and language institutes apply indicators of OFA validity in their classrooms based on Maleki et al. (2023)'s OFA validity scale. Results indicated that the more observed indicators were monitoring students' progression to get real-time updates, providing students with informative and supportive online feedback, providing students with individualized feedback, giving feedback that identifies students' strengths and weaknesses, advising learners on finding and selecting learning opportunities, and motivating students towards self-regulation. On the other hand, the least observed indicators were involving students in the planning process of online assessment activities and developing dialogic feedback.

Furthermore, this study examined whether EFL teachers' place of living can influence the validity of online formative assessment. The results revealed that EFL teachers' place of living could affect the validity of online formative assessment. This highlighted the context-bound nature of validity in online formative assessment.

The findings of this study have important implications for online EFL teachers and policymakers in Iran. Due to the spread of COVID-19, there has been a need to improve teachers' awareness of online assessment principles, specifically focusing on formative assessment. This study provides valuable insights for Iranian EFL teachers, enabling them to identify areas that require greater attention and enhancement in order to enhance the validity of their online formative assessments. Furthermore, assessment organizations and policymakers have the opportunity to design and implement professional development programs for Iranian EFL teachers, specifically targeting the areas that require improvement. Finally, given the contextual nature of validity, it is important for online teachers and assessment designers to consider these factors when developing and implementing formative assessments in the online learning environment. They should consider various

factors and strive to create assessments that are aligned with learning goals, culturally sensitive, and provide meaningful feedback to students, ensuring the validity and fairness of the assessment process.

To further advance the existing scientific understanding of online formative assessment validity, there are several important avenues for future research. One potential direction is to explore the influence of various cultural and contextual factors on the validity of online formative assessments within EFL settings. For example, additional studies could examine the effects of factors such as EFL teachers' years of experience, the level they teach, their certification, age, or gender on the validity of online formative assessments. By investigating these factors, researchers can gain deeper insights into the complex dynamics that impact the validity of online formative assessment in EFL contexts. Also, in the observation phase of this study, participation was restricted to EFL university lecturers and language institute teachers. The inclusion of school teachers was not feasible due to the technical limitations of the Shad platform and the unavailability of online school classrooms. However, it is recommended that future studies incorporate and observe school teachers to obtain valuable insights from their perspective. Furthermore, conducting qualitative studies to observe the extent to which English teachers apply the indicators of online formative assessment (OFA) in various EFL or ESL contexts would be valuable. Comparative studies can be designed and implemented to compare and analyze the application of OFA indicators across different educational settings. Such research endeavors can provide valuable insights into the effectiveness and applicability of OFA indicators in diverse language learning environments.

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