



Examining of Teachers' Views and Practices on Formative Assessment in Terms of Various Variables

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To cite this article:

Arın, H. N. & Ozan, C. (2026). Examining of teachers' views and practices on formative assessment in terms of various variables [Öğretmenlerin biçimlendirici değerlendirmeye yönelik görüş ve uygulamalarının çeşitli değişkenler açısından incelenmesi]. *Electronic Journal of Education Sciences, [Elektronik Eğitim Bilimleri Dergisi]*, 15(29), 43-67. DOI: 10.55605/ejedus.1683219

Research article


Received: 25-04-2025

Accepted: 22-11-2025

Abstract

The aim of this study is to examine whether the views and practices of teachers regarding formative assessment differ significantly according to gender, age, professional seniority, teaching level, undergraduate degree, education status, and settlement area. The survey model was used in this study, in which the views and practices of teachers toward formative assessment were examined in terms of various variables. The sample of the study consists of 252 teachers in the central districts of Erzurum city center. We used the Teachers' Formative Assessment Concepts and Practices Scale to collect data for the research. We performed a t-test and a one-way analysis of variance based on the normal distribution of the data. According to the research findings, no significant difference was found in any dimension of the scale with respect to gender, professional seniority, teaching level, education status, and settlement area. Regarding undergraduate degree, no significant difference was detected in the affective, attitude, subjective norm, self-efficacy, intention, and behavior dimensions, whereas a significant difference emerged only in the controllability dimension. In terms of age, teachers did not differ significantly in any dimension of the scale except for the intention dimension, indicating that only their intention to use formative assessment varied across age groups.

Keywords: Measurement and evaluation, formative assessment, assessment practices, teacher, teacher views.

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Öğretmenlerin Biçimlendirici Değerlendirmeye Yönelik Görüş ve Uygulamalarının Çeşitli Değişkenler Açısından İncelenmesi

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Atıf:

Arın, H. N. ve Ozan, C. (2026). Öğretmenlerin biçimlendirici değerlendirmeye yönelik görüş ve uygulamalarının çeşitli değişkenler açısından incelenmesi [Examining of teachers' views and practices on formative assessment in terms of various variables]. *Elektronik Eğitim Bilimleri Dergisi*, [Electronic Journal of Education Sciences], 15(29), 43-67. DOI: 10.55605/ejedus.1683219

Araştırma Makalesi


Received: 25-04-2025

Accepted: 22-11-2025

Öz

Bu çalışmanın amacı öğretmenlerin biçimlendirici değerlendirmeye yönelik görüş ve uygulamalarının cinsiyet, yaş, mesleki kıdem, öğretim kademesi, lisans mezuniyeti, öğrenim durumu ve yerleşim birimine göre anlamlı olarak farklılaşıp farklılaşmadığını incelemektir. Öğretmenlerin biçimlendirici değerlendirmeye yönelik görüş ve uygulamalarının çeşitli değişkenler açısından incelendiği bu çalışmada tarama modeli kullanılmıştır. Araştırmanın örneklemini Erzurum il merkezine bağlı merkez ilçelerdeki 252 öğretmen oluşturmaktadır. Araştırmada verilerin toplanabilmesi amacıyla "Kişisel Bilgiler Formu" ve "Öğretmenlerin Biçimlendirici Değerlendirmeye İlişkin Görüş ve Uygulamaları Ölçeği" kullanılmıştır. Verilerin normal dağılım göstermesinden hareketle t-testi, tek yönlü varyans analizi yapılmıştır. Araştırma bulgularına göre, öğretmenlerin biçimlendirici değerlendirmeye yönelik görüş ve uygulamalarında cinsiyet, mesleki kıdem, öğretim kademesi, eğitim durumu ve yerleşim yeri değişkenleri açısından ölçeğin hiçbir boyutunda anlamlı bir fark bulunmamıştır. Lisans mezuniyeti değişkeni açısından ölçeğin duyuşsal, tutum, öznel norm, öz-yeterlik, niyet ve davranış boyutlarında anlamlı bir fark görülmezken, yalnızca kontrol edilebilirlik boyutunda anlamlı bir fark tespit edilmiştir. Yaş değişkeni bakımından ise öğretmenler, ölçeğin hiçbir boyutunda anlamlı biçimde farklılaşmamış; ancak yalnızca niyet boyutunda anlamlı bir fark ortaya çıkmış, bu durum öğretmenlerin biçimlendirici değerlendirme kullanma niyetlerinin yaş gruplarına göre değiştiğini göstermiştir.

Anahtar Sözcükler: Ölçme ve değerlendirme, biçimlendirici değerlendirme, değerlendirme uygulamaları, öğretmen görüşleri.

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Introduction

The primary purpose of assessment in education is to monitor students' learning processes and guide them. Especially in contemporary educational approaches, types of assessment that support student learning and are integrated into the instructional process have come to the forefront. Recent research emphasizes that formative assessment significantly enhances student achievement, motivation, and self-regulation skills by integrating assessment into learning (Hattie, 2023; McMillan, 2023; Panadero, 2017). In this context, formative assessment has been increasingly recognized in global education policies, including OECD frameworks emphasizing feedback-rich learning environments and digital assessment innovations (Black & Wiliam, 1998; OECD, 2023).

Constructivism, one of the philosophical approaches that has deeply influenced educational practices over the past three decades, is based on the idea that learning is actively constructed in the learner's mind (Pisa-Schock, 2002). In the constructivist approach, knowledge is acquired through the creation of new meanings based on students' prior learning (Thomas et al., 2011). Recent literature highlights that constructivist learning environments naturally support formative assessment by promoting student engagement, reflection, and meaning-making (Andrade & Brookhart, 2019). By supporting students' active participation in determining learning goals, constructivism provides a basis for formative assessment, which is the main goal of instructional development (Lake & Tessmer, 1997).

At every stage of the lesson, the teacher guides instruction through observations and feedback directed at students; in turn, students participate actively by assessing both their own and their peers' learning (Cowie & Bell, 1999; Moss & Brookhart, 2019). Formative assessment reveals not only the level of students' knowledge but also their learning strategies, understanding, and conceptual errors. In this sense, assessment becomes not just a measurement tool but an integral component of instruction (Andrade & Brookhart, 2014; Karaman, 2019).

Formative assessment is a type of assessment that collects data about students' learning throughout the instructional process and provides guidance for both teaching and learning. Especially within constructivist learning theory, formative assessment represents an approach that centers the learner, focuses on the learning process, and aims to enhance deep understanding (Demirci, 2009; Ün Açıkgöz, 2003). Current studies continue to demonstrate the power of formative feedback, self-assessment, and metacognitive support in improving learning quality (Carless & Boud, 2018; Dawson et al., 2023; Winstone & Carless, 2019).

The principles of formative assessment include centering the learner in the learning process, providing feedback to assist learning, identifying areas for improvement, and promoting constructive assessment cultures (McAlphine, 2002; OECD, 2005, p. 13). According to the Assessment Reform Group (2002), formative assessment should be part of effective teaching and learning, focus on how students learn, be central to classroom practice, be a key skill for teachers, be sensitive and constructive, consider student motivation, encourage commitment to learning goals, provide constructive guidance, develop students' self-assessment capacity, and recognize all aspects of learning.

In an effective formative assessment process, critical components include sharing learning goals, collecting regular data about the learning process, providing timely and meaningful feedback, holding students accountable for their learning, and promoting peer learning (Hattie & Timperley, 2007; Wiliam & Thompson, 2007). It is not enough to simply

inform students whether they are right or wrong; instead, feedback should support students' thinking, be constructive, and guide learning. In this respect, formative assessment, which is based on a student-centered understanding of assessment, provides a mechanism that positively influences both academic achievement and learning motivation (Cauley & McMillan, 2010; Nicol & Macfarlane-Dick, 2006). Recent evidence also demonstrates that feedback literacy and peer assessment—both for students and teachers—is essential for powerful formative assessment practices (Moss & Brookhart, 2019; Panadero et al., 2023).

Involving students in the process of setting learning goals increases their motivation (Moss & Brookhart, 2019). Various techniques (e.g., concept maps, questioning) can be used to collect data on students' learning, and the questions posed should stimulate student thinking (Black & Harrison, 2001; Walsh & Sattes, 2015). The feedback process includes determining the learning goal, comparing student findings with the goal, and providing feedback to help them reach that goal (Hattie & Timperley, 2007). Effective feedback should be descriptive, support student thinking, and avoid judgment (Moss & Brookhart, 2019). Self-assessment and peer assessment practices increase students' sense of responsibility for learning and offer opportunities for learning from one another (İnaltun & Ateş, 2018; Keeley, 2015). Additionally, when teachers adjust their instructional plans based on student needs, achieving learning goals becomes easier (Güngör & Özgür, 2009).

Teachers need various skills—such as pedagogical knowledge, assessment competence, and time management—to fully utilize the potential of formative assessment in classroom practice. However, research in the literature shows that, although teachers generally have positive attitudes toward formative assessment, they face several challenges in its implementation. Overcrowded classrooms, lack of time, limited access to diverse assessment tools, and insufficient in-service training are among the primary challenges (Bennett & Cunningham, 2009; Büyükkarcı, 2014; Sach, 2012; Yan et al., 2021). Research also indicates that teacher competence, beliefs, and assessment literacy play a critical role in successful application (Brown et al., 2012; DeLuca et al., 2016). This study suggests that teachers' assessment understanding and practices may be influenced by individual and professional characteristics such as age, experience, subject area, educational level, and degree status.

However, the extent to which formative assessment is used in educational settings and the level of teachers' knowledge, attitudes, and practices regarding this approach are crucial in determining the quality of instruction. Variables such as teachers' beliefs about assessment, level of knowledge, pedagogical approaches, and instructional level directly affect the quality of formative assessment practices (Brown et al., 2012).

It can be said that teachers' attitudes, intentions, and self-efficacy perceptions play a critical role in the effective implementation of formative assessment. Although the literature contains various studies on formative assessment (Akbaş & Ozan, 2024; Bakan & Buldur, 2021; Bayrak et al., 2021; Bulunuz et al., 2017; Doğan, 2016; Elden, 2019; Gedikli & Buldur, 2020; Gürbulak Töremiş, 2025; İnaltun & Ateş, 2018; Karaman, 2019; Karaman & Karaman, 2017; Kaya et al., 2021; Kincal & Ozan, 2018; Kingston & Nash, 2011; Ozan, 2017; Ozan & Bahadır, 2024), recent systematic reviews reveal a need for studies examining demographic and contextual factors influencing formative assessment practices (Bahadır & Ozan, 2025; Schildkamp et al., 2020; Yan et al., 2021).

In this context, analyzing teachers' views on formative assessment practices based on demographic and professional variables is important for planning practices that will enhance

the quality of education. It may also contribute to generating data that will help shape teacher training and in-service education programs.

The purpose of this study is to determine whether teachers' views and practices regarding formative assessment differ significantly according to various demographic and professional variables. In this study, gender, age and settlement area were considered as demographic variables, while professional seniority, teaching level, undergraduate degree and educational status were categorized as professional variables. Accordingly, the research questions are as follows:

Do teachers' views and practices regarding formative assessment significantly differ according to

- a) gender,
- b) age,
- c) professional seniority,
- d) teaching level,
- e) undergraduate degree,
- f) educational status, and
- g) settlement area?

Method

Research Design

This study aims to examine teachers' opinions and practices regarding formative assessment in terms of various variables. For this purpose, the study was designed using the survey model, which is one of the quantitative research methods. The survey model is a research approach that aims to describe a phenomenon as it exists in the past or present (Karasar, 2016). Based on various demographic and professional variables, we examined teachers' current opinions and practices concerning formative assessment in this context.

Population and Sample

The population of this study consists of a total of 5015 teachers working in the central districts (Palandöken, Yakutiye, and Aziziye) of Erzurum province as of the 2021–2022 academic year. The sample of the study consists of 252 teachers working in different types of schools located in these same districts, selected using a convenience sampling method. Participation in the study was based on voluntary consent. During the data collection process, the convenience sampling technique, which is one of the non-probability sampling methods, was used. This technique allows researchers to select participants from among individuals to whom they have access and can apply the study, especially when faced with limitations such as time, cost, and accessibility (Büyüköztürk et al., 2018).

Although no statistical formula was used to determine the sample size due to the use of convenience sampling, population size was taken into consideration when planning data collection. In educational research, a sample size between 200 and 300 participants is generally considered adequate when employing non-probability sampling methods (Büyüköztürk et al., 2018; Creswell, 2014; Fraenkel & Wallen, 2012;). Accordingly, the

sample of 252 teachers was deemed sufficient to represent the study group and meet the research objectives.

The distribution of the teachers in the sample based on various variables is presented in Table 1.

Table 1. Demographic Characteristics of the Sample

Variable	Group	n	%
Gender	Female	151	60
	Male	101	40
Age	35 years old and under	147	58
	Over 35 years old	105	42
Professional Seniority	Less than 15 years	202	80
	15 years and under	50	20
Teaching Level	Preschool	20	8
	Primary school	70	28
	Middle school	96	38
	High school	66	26
Undergraduate Degree	Faculty of education	207	82
	Other faculties	45	18
Educational Status	Bachelor's degree	211	84
	Graduate degree	41	16
Settlement Area	Urban center	192	76
	Village	60	24

According to Table 1, 60% of the teachers are female, and 40% are male. Among the participants, 58% are 35 years old or younger, while 42% are older than 35. In terms of professional seniority, the majority of the teachers (80%) have less than 15 years of experience. According to the teaching level variable, the highest proportion (38%) of teachers work at the middle school level, followed by primary school teachers (28%), high school teachers (26%), and preschool teachers (8%). In terms of undergraduate degrees, 82% of the teachers graduated from education faculties, while 18% graduated from other faculties. Regarding educational status, 84% of the participants have an undergraduate degree, while 16% hold a graduate degree. 24% of teachers work in rural schools, while 76% of teachers work in city centers, according to the settlement area variable.

In this study, age and professional seniority were categorized into two groups to ensure balanced distribution and sufficient group size for statistical analysis. Since the study was conducted using convenience sampling, sub-group sample sizes varied, and preliminary inspection indicated that further subgrouping would result in cell frequencies below the recommended level for parametric tests (Tabachnick & Fidell, 2019). Additionally, in the Turkish education system, age 35 and 15 years of professional seniority are commonly referenced thresholds reflecting early-career versus mid-/late-career teachers (MEB, 2018; OECD, 2019). Therefore, age and seniority variables were dichotomized based on both empirical and theoretical considerations.

Data Collection Tool

The data collection tool used in this study is the Teachers' Views and Practices on Formative Assessment Scale, developed by Yan and Cheng (2015) and adapted by Karaman and Şahin (2017). The scale aims to measure teachers' views and practices regarding formative assessment. It consists of seven sub-dimensions: affective dimension, attitude, self-

efficacy, subjective norm, intention, behavior, and controllability, with a total of 40 items. The scale is designed in a five-point Likert type, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The researchers reported internal consistency coefficients for the sub-dimensions of the scale ranging from .86 to .95. Additionally, based on the confirmatory factor analysis results ($\chi^2 = 2051.975$, $df = 607$, $p < .001$, $RMSEA = .07$, $CFI = .90$, $TLI = .87$, $IFI = .90$), the model demonstrated acceptable/good fit to the data. In this study, the Cronbach's alpha coefficient for the overall scale was found to be .97, and for the sub-dimensions, the values were as follows: Affective Attitude: 0.92, Cognitive Attitude: 0.94, Subjective Norm: 0.82, Controllability: 0.91, Self-Efficacy: 0.90, Intention: 0.95, and Behavior: 0.91.

Data Collection and Analysis

To conduct the study, ethical approval was first obtained from the Ethics Committee of the Educational Sciences Unit at Atatürk University. Following this, necessary permission for the implementation was obtained from the Provincial Directorate of National Education. The COVID-19 pandemic disrupted the timing of data collection, leading to the suspension of face-to-face training activities. Consequently, we collected the data online. An online survey was created via Google Forms and distributed to the sample via digital communication platforms such as WhatsApp and Telegram. In the introductory part of the survey, participants were informed about the principles of confidentiality and voluntary participation.

The SPSS 24.0 statistical program was used to analyze the data collected in the study. To decide which statistical tests would be used, normality assumptions were tested based on the total scores obtained from the scale. To determine whether the data followed a normal distribution, the measures of central tendency, skewness, and kurtosis coefficients were examined. It was observed that the mean and median values for the independent variable groups were close to each other. This proximity indicates that the distribution exhibited normal characteristics (Can, 2013). In this study, the normality assumption was examined separately for each sub-dimension of the scale across each level of the independent variables (e.g., gender, age groups, professional seniority, teaching level, etc.). Skewness and kurtosis values were calculated for each subgroup, and values between -1 and $+1$ were accepted as indicative of normal distribution (Tabachnick & Fidell, 2019). Although subgroup analyses indicated that the assumption of homogeneity of variances was mostly satisfied, a few groups showed deviations from this assumption. Likewise, normality tests revealed minor deviations from normal distribution in some subgroups. Despite these limitations, parametric tests (t-test and ANOVA) were preferred for several methodological reasons.

First, the sample size of the study ($N = 252$) meets the criteria under which parametric tests remain robust against moderate violations of normality and homogeneity assumptions. Numerous methodological sources emphasize that parametric tests—particularly the t-test and ANOVA—are highly robust when sample sizes are sufficiently large and group sizes are not extremely imbalanced (Box, 1953; Glass et al., 1972; Field, 2018).

Second, when the homogeneity of variances assumption was not met, the analyses were conducted using adjusted statistics, such as the *Welch t-test* and *Welch ANOVA*, which do not require equal variances. For t-tests, the “homogeneity of variances not assumed” line (Welch’s correction) was used, and for ANOVA, Welch F statistics were examined. Welch procedures are recommended as valid and reliable alternatives in cases where the assumption of homogeneity is violated (Delacre et al., 2019; Ruxton, 2006).

Third, although normality assumption violations existed, these deviations were small and within acceptable bounds. Research consistently shows that t-tests and ANOVA are robust to mild and moderate departures from normality, especially when sample sizes exceed 30 per group or when the total sample is large, due to the Central Limit Theorem (Blanca et al., 2017; Lumley et al., 2002). In addition, skewness and kurtosis values were within acceptable ranges, supporting the use of parametric tests.

Therefore, parametric tests (t-test and ANOVA) were deemed appropriate and statistically defensible for the study. Adjusted versions (Welch corrections) were used when assumptions were violated. Detailed subgroup normality and Levene test results are provided in Appendix 1 and Appendix 2.

After confirming normality, the arithmetic mean and standard deviation values for teachers' views and practices on formative assessment were calculated. The following rating scale was used for interpreting the mean values: 1.00–1.80: Very Low; 1.81–2.60: Low; 2.61–3.40: Moderate; 3.41–4.20: High; 4.21–5.00: Very High.

To find out if there were important differences in how teachers viewed and used formative assessment, independent samples t-tests were used for two groups (like gender, age, professional seniority, undergraduate degree, educational status, and settlement area), and one-way ANOVA was used for the teaching level variable, which had three or more groups. The significance level for all statistical analyses was set at .05. The significance level for all statistical analyses was set at .05.

Ethical Approval

For the implementation of this study, ethical approval was obtained from the Ethics Committee of the Educational Sciences Unit at Atatürk University on 21.05.2021 with the number 2100139520.

Findings

The arithmetic mean and standard deviation values for teachers' views and practices on formative assessment are presented in Table 2.

Table 2. The Arithmetic Mean and Standard Deviation Values

Dimensions	n	\bar{x}	Sd
Affective Attitude	252	4.27	.62
Attitude	252	4.28	.59
Subjective Norm	252	3.85	.78
Controllability	252	4.25	.68
Self-Efficacy	252	3.91	.78
Intention	252	4.34	.64
Behavior	252	2.41	.86

According to Table 1, the means of teachers' intention ($\bar{x} = 4.34$), attitude ($\bar{x} = 4.28$), and affective attitude ($\bar{x} = 4.27$) dimensions indicate a very high level of positive attitude. Similarly, the controllability ($\bar{x} = 4.25$) and self-efficacy ($\bar{x} = 3.91$) dimensions are also evaluated at high levels. These findings suggest that teachers have strong confidence in their ability to control the formative assessment process effectively and perceive themselves as capable in it. The subjective norm ($\bar{x} = 3.85$) dimension, while high, has a slightly lower mean compared to the other dimensions. Finally, the behavior ($\bar{x} = 2.41$) dimension has a mean that is evaluated as moderate. This result indicates that despite teachers' positive attitudes and intentions toward formative assessment, they are not adequately reflecting this process in

classroom practices. The generally low standard deviation values indicate that the participants' views are closely aligned, suggesting a high level of consistency within the group.

A comparison of teachers' views and practices regarding formative assessment by gender is presented in Table 3.

Table 3. Findings Related to the Gender Variable

Dimensions	Gender	n	\bar{x}	Sd	df	t	p
Affective Attitude	Female	151	4.25	.64	250	-.593	.55
	Male	101	4.29	.59			
Attitude	Female	151	4.30	.59	250	.354	.72
	Male	101	4.27	.60			
Subjective Norm	Female	151	3.85	.78	250	-.018	.99
	Male	101	3.85	.77			
Controllability	Female	151	4.26	.67	250	.254	.80
	Male	101	4.24	.70			
Self-Efficacy	Female	151	3.89	.82	234.750	-.530	.60
	Male	101	3.94	.71			
Intention	Female	151	4.37	.64	250	1.039	.30
	Male	101	4.29	.63			
Behavior	Female	151	2.41	.85	250	.161	.87
	Male	101	2.40	.88			

There was no significant difference in teachers' views and practices regarding formative assessment based on the gender variable in any dimension of the scale ($t(\text{affective}) = -.593$, $p > 0.05$; $t(\text{attitude}) = .354$, $p > 0.05$; $t(\text{subjective norm}) = -.018$, $p > 0.05$; $t(\text{controllability}) = .254$, $p > 0.05$; $t(\text{self-efficacy}) = -.530$, $p > 0.05$; $t(\text{intention}) = 1.039$, $p > 0.05$; $t(\text{behavior}) = .161$, $p > 0.05$).

The comparison of teachers' views and practices regarding formative assessment based on gender is presented in Table 4.

Table 4. Findings Related to the Age Variable

Dimensions	Age	n	\bar{x}	Sd	df	t	p
Affective Attitude	35 years old and under	147	4.29	.59	250	.837	.40
	Over 35 years old	105	4.22	.65			
Attitude	35 years old and under	147	4.33	.53	192.076	1.450	.15
	Over 35 years old	105	4.21	.66			
Subjective Norm	35 years old and under	147	3.86	.73	250	.181	.86
	Over 35 years old	105	3.84	.83			
Controllability	35 years old and under	147	4.32	.61	250	2.00	.05
	Over 35 years old	105	4.15	.75			
Self-Efficacy	35 years old and under	147	3.98	.77	250	1.846	.66
	Over 35 years old	105	3.80	.77			
Intention	35 years old and under	147	4.44	.53	177.038	3.033	.00
	Over 35 years old	105	4.18	.74			
Behavior	35 years old and under	147	2.39	.85	250	-.340	.73
	Over 35 years old	105	2.42	.86			

There was no significant difference in teachers' views and practices regarding formative assessment based on the age variable in any dimension of the scale ($t(\text{affective}) = .837$, $p > 0.05$; $t(\text{attitude}) = 1.450$, $p > 0.05$; $t(\text{subjective norm}) = .181$, $p > 0.05$;

$t(\text{controllability}) = 2.00, p > 0.05$; $t(\text{self-efficacy}) = 1.846, p > 0.05$; $t(\text{behavior}) = -.340, p > 0.05$). However, a significant difference was found in the intention dimension ($t(\text{intention}) = 3.033, p < 0.05$). Teachers under 35 years of age have more positive intentions to apply formative assessment compared to those over 35 years old.

The comparison of teachers' views and practices regarding formative assessment based on professional seniority is presented in Table 5.

Table 5. Findings Related to the Professional Seniority Variable

Dimensions	Professional Seniority	n	\bar{x}	Sd	df	t	p
Affective Attitude	Less than 15 years	202	4.26	.61	250	.038	.97
	15 years and under	50	4.26	.62			
Attitude	Less than 15 years	202	4.29	.43	250	.458	.65
	15 years and under	50	4.25	.49			
Subjective Norm	Less than 15 years	202	3.84	.77	250	-.403	.69
	15 years and under	50	3.89	.81			
Controllability	Less than 15 years	202	4.26	.65	250	.474	.64
	15 years and under	50	4.21	.65			
Self-Efficacy	Less than 15 years	202	3.92	.52	250	.656	.51
	15 years and under	50	3.84	.72			
Intention	Less than 15 years	202	4.37	.42	64.799	1.686	.10
	15 years and under	50	4.18	.48			
Behavior	Less than 15 years	202	2.38	.85	250	-.764	.45
	15 years and under	50	2.49	.96			

According to the professional seniority variable, no significant difference was found in any dimension of the scale regarding teachers' views and practices on formative assessment ($t(\text{affective}) = .038, p > 0.05$; $t(\text{attitude}) = .458, p > 0.05$; $t(\text{subjective norm}) = -.403, p > 0.05$; $t(\text{controllability}) = .474, p > 0.05$; $t(\text{self-efficacy}) = .656, p > 0.05$; $t(\text{intention}) = 1.686, p > 0.05$; $t(\text{behavior}) = -.764, p > 0.05$).

The arithmetic mean and standard deviation values of teachers' views and practices regarding formative assessment based on the teaching level variable are presented in Table 6.

Table 6. The Mean and Standard Deviation Values for the Teaching Level Variable

Dimensions	Teaching Level	n	\bar{x}	Sd
Affective Attitude	Preschool	20	4.43	.53
	Primary school	70	4.32	.63
	Middle school	96	4.25	.56
	High school	66	4.16	.67
Attitude	Preschool	20	4.51	.44
	Primary school	70	4.34	.62
	Middle school	96	4.24	.53
	High school	66	4.21	.67
Subjective Norm	Preschool	20	3.99	.90
	Primary school	70	3.92	.73
	Middle school	96	3.77	.75
	High school	66	3.86	.82
Controllability	Preschool	20	4.52	.56
	Primary school	70	4.26	.66
	Middle school	96	4.24	.67
	High school	66	4.21	.74

Self-Efficacy	Preschool	20	3.90	.93
	Primary school	70	3.94	.80
	Middle school	96	3.92	.70
	High school	66	3.84	.81
Intention	Preschool	20	4.60	.47
	Primary school	70	4.36	.66
	Middle school	96	4.27	.61
	High school	66	4.31	.68
Behavior	Preschool	20	2.45	.82
	Primary school	70	2.47	.98
	Middle school	96	2.43	.79
	High school	66	2.28	.82

The mean scores for teachers' views and practices on formative assessment according to teaching level are as follows: In the emotional dimension of the scale, preschool teachers scored 4.44, primary school teachers scored 4.32, middle school teachers scored 4.26, and high school teachers scored 4.16. In the attitude dimension, preschool teachers scored 4.51, primary school teachers scored 4.34, middle school teachers scored 4.24, and high school teachers scored 4.21. In the subjective norm dimension, preschool teachers scored 3.99, primary school teachers scored 3.92, middle school teachers scored 3.77, and high school teachers scored 3.86. In the controllability dimension, preschool teachers scored 4.52, primary school teachers scored 4.26, middle school teachers scored 4.24, and high school teachers scored 4.21. In the self-efficacy dimension, preschool teachers scored 3.90, primary school teachers scored 3.94, middle school teachers scored 3.92, and high school teachers scored 3.84. In the intention dimension, preschool teachers scored 4.60, primary school teachers scored 4.36, middle school teachers scored 4.27, and high school teachers scored 4.31. Finally, in the behavior dimension, preschool teachers scored 2.45, primary school teachers scored 2.47, middle school teachers scored 2.43, and high school teachers scored 2.28.

To determine if there is a significant difference between the means, an analysis of variance (ANOVA) was conducted, and the findings are shown in Table 7.

Table 7. Findings of the Variance Analysis for the Teaching Level Variable

Dimensions	Source of Variance	Sum of Squares	df	Mean Square	F	p
Affective Attitude	Between Groups	1.502	3	.501	1.310	.27
	Within Groups	94.786	248	.382		
	Total	96.289	251			
Attitude	Between Groups	1.820	3	.607	1.735	.16
	Within Groups	86.749	248	.350		
	Total	88.570	251			
Subjective Norm	Between Groups	1.352	3	.451	.747	.53
	Within Groups	149.556	248	.603		
	Total	150.909	251			
Controllability	Between Groups	1.842	3	.614	1.327	.27
	Within Groups	114.720	248	.463		
	Total	116.562	251			
Self-Efficacy	Between Groups	.415	3	.138	.226	.88
	Within Groups	151.661	248	.612		
	Total	152.076	251			
	Between Groups	1.810	3	.603	1.485	.22

Intention	Within Groups	100.771	248	.406		
	Total	102.581	251			
Behavior	Between Groups	1.516	3	.505		
	Within Groups	184.042	248	.742		
	Total	185.559	251			

No significant differences were found between the teachers' views and practices regarding formative assessment across any dimension of the scale according to the teaching level variable ($F(\text{affective}) = 1.310, p > 0.05$; $F(\text{attitude}) = 1.735, p > 0.05$; $F(\text{subjective norm}) = .747, p > 0.05$; $F(\text{controllability}) = 1.327, p > 0.05$; $F(\text{self-efficacy}) = .226, p > 0.05$; $F(\text{intent}) = 1.485, p > 0.05$; $F(\text{behavior}) = .681, p > 0.05$).

The comparison of teachers' views and practices regarding formative assessment according to their undergraduate degree is shown in Table 8.

Table 8. Findings Related to the Undergraduate Degree Variable

Dimensions	Undergraduate Degree	n	\bar{x}	Sd	df	t	p
Affective Attitude	Faculty of education	207	4.26	.59	57.115	-.140	.90
	Other faculties	45	4.27	.73			
Attitude	Faculty of education	207	4.28	.55	55.424	.186	.85
	Other faculties	45	4.26	.74			
Subjective Norm	Faculty of education	207	3.83	.76	250	-1.027	.31
	Other faculties	45	3.96	.82			
Controllability	Faculty of education	207	4.25	.66	250	-.049	.96
	Other faculties	45	4.25	.76			
Self-Efficacy	Faculty of education	207	3.89	.76	250	-.736	.46
	Other faculties	45	3.98	.83			
Intention	Faculty of education	207	4.33	.60	250	-.090	.93
	Other faculties	45	4.34	.78			
Behavior	Faculty of education	207	2.41	.87	250	.344	.73
	Other faculties	45	2.36	.80			

No significant differences were found between the teachers' views and practices regarding formative assessment across any dimension of the scale according to the undergraduate degree variable ($t(\text{affective}) = -.140, p > 0.05$; $t(\text{attitude}) = .186, p > 0.05$; $t(\text{subjective norm}) = -1.027, p > 0.05$; $t(\text{controllability}) = -.049, p > 0.05$; $t(\text{self-efficacy}) = -.736, p > 0.05$; $t(\text{intent}) = -.090, p > 0.05$; $t(\text{behavior}) = .344, p > 0.05$).

The comparison of teachers' views and practices regarding formative assessment according to their educational status is shown in Table 9.

Table 9. Findings Related to the Educational Status Variable

Dimensions	Educational Status	n	\bar{x}	Sd	df	t	p
Affective Attitude	Bachelor's degree	211	4.29	.59	250	1.791	.07
	Graduate degree	41	4.10	.73			
Attitude	Bachelor's degree	211	4.31	.55	49.820	1.825	.07
	Graduate degree	41	4.10	.74			
Subjective Norm	Bachelor's degree	211	3.92	.74	250	1.123	.28
	Graduate degree	41	3.81	.85			
Controllability	Bachelor's degree	211	4.26	.66	250	1.201	.23
	Graduate degree	41	4.21	.76			
Self-Efficacy	Bachelor's degree	211	3.92	.76	250	1.769	.08

	Graduate degree	41	3.84	.83			
Intention	Bachelor's degree	211	4.37	.60	64.799	.926	.36
	Graduate degree	41	4.18	.78			
Behavior	Bachelor's degree	211	2.38	.87	250	-.361	.72
	Graduate degree	41	2.49	.80			

No significant differences were found between the teachers' views and practices regarding formative assessment across any dimension of the scale according to the educational status variable ($t(\text{affective}) = 1.791, p > 0.05$; $t(\text{attitude}) = 1.825, p > 0.05$; $t(\text{subjective norm}) = 1.123, p > 0.05$; $t(\text{controllability}) = 1.201, p > 0.05$; $t(\text{self-efficacy}) = 1.769, p > 0.05$; $t(\text{intent}) = .926, p > 0.05$; $t(\text{behavior}) = -.361, p > 0.05$).

The comparison of teachers' views and practices regarding formative assessment according to settlement type is shown in Table 10.

Table 10. Findings Related to the Settlement Type

Dimensions	Settlement Type	n	\bar{x}	Sd	df	t	p
Affective Attitude	Urban center	192	4.26	.60	250	-.148	.88
	Village	60	4.27	.66			
Attitude	Urban center	192	4.29	.59	250	.291	.77
	Village	60	4.26	.59			
Subjective Norm	Urban center	192	3.84	.78	250	-.544	.59
	Village	60	3.90	.77			
Controllability	Urban center	192	4.23	.67	250	-.475	.64
	Village	60	4.28	.69			
Self-Efficacy	Urban center	192	3.88	.78	250	-1.074	.28
	Village	60	4.00	.76			
Intention	Urban center	192	4.33	.62	250	-.224	.82
	Village	60	4.35	.67			
Behavior	Urban center	192	2.40	.84	250	.069	.95
	Village	60	2.40	.91			

No significant differences were found between the teachers' views and practices regarding formative assessment across any dimension of the scale according to the settlement type variable ($t(\text{affective}) = -.148, p > 0.05$; $t(\text{attitude}) = .771, p > 0.05$; $t(\text{subjective norm}) = -.544, p > 0.05$; $t(\text{controllability}) = -.475, p > 0.05$; $t(\text{self-efficacy}) = .284, p > 0.05$; $t(\text{intent}) = .823, p > 0.05$; $t(\text{behavior}) = -.945, p > 0.05$).

Conclusion, Discussion, and Suggestions

The findings of the research reveal that teachers exhibit a highly positive attitude towards the formative assessment process and possess high levels of intention, attitude, affective attitude, controllability, and self-efficacy perceptions regarding this process. This result suggests that teachers theoretically value formative assessment methods and believe they have the potential to implement this process effectively. Indeed, Black and Wiliam (2009) and Popham (2008) emphasize that teachers' positive approaches to the formative assessment process make learning processes more effective and enhance student success. The positive attitude levels obtained in this context may indicate that teachers have the capacity to transform their assessment approaches. Recent studies similarly report that teachers acknowledge the pedagogical value of formative assessment and its contribution to improving student learning outcomes (Bahadır & Ozan, 2025; Karaman, 2021; Kincal & Ozan, 2018;

Wu & Yu, 2025). The positive attitude levels obtained in this context may indicate that teachers have the capacity to transform their assessment approaches.

However, an important finding is that teachers' scores in the behavioral dimension remain at a moderate level. Despite their positive attitude and intention, the result indicates that teachers are not fully translating formative assessment into classroom practices. This finding aligns with Sadler's (1989) assertion that a disconnect may occur between theoretical knowledge and practice when the assessment process is not effectively integrated into teacher practices. Similarly, Bennett (2011) states that even though teachers may have positive views on formative assessment, they may encounter structural and pedagogical barriers in the implementation phase. Current research also reports similar barriers, highlighting time constraints, large class sizes, lack of feedback expertise, and insufficient institutional support (Akbaş & Ozan, 2024; Boström & Palm, 2023; Winstone & Carless, 2019; Zhang et al., 2023). Studies in the literature also indicate that despite teachers' positive attitudes towards formative assessment, they face barriers such as time constraints, class size, and limited access to assessment tools (Karaman, 2019; Sach, 2015; Yan & Cheng, 2015).

Similarly, a study by Kaya et al. (2020) also found that only a small portion of teachers demonstrated above-average application levels of formative assessment, while a large majority fell below the average. This suggests that teachers' conceptual awareness is not sufficiently reflected in their practice. Supporting this, Pastore (2023) emphasize that teachers' assessment literacy remains uneven and that beliefs do not always translate into consistent classroom practice.

Baynard (2011) highlights that school administrations are insufficient in monitoring teachers' formative assessment practices and that there is a lack of central guidance in this area. In this context, failure to support teachers may negatively affect the sustainability of these practices. As seen in the works of Elden (2019) and Şahin (2014), a significant number of teachers are unfamiliar with the concept of "formative assessment," but when explained, many teachers are already using formative assessment techniques (e.g., questioning, observation, feedback) without being aware of it. This indicates that conceptual deficiencies do not conflict with teachers' pedagogical practices, but increasing conceptual knowledge could lead to more conscious and systematic applications. Recent Turkish studies also show similar results, suggesting that formatively oriented practices exist but are rarely systematic or planned (Gürbulak Töremiş, 2025; Ozan & Bahadır, 2024).

When looking at the results based on demographic factors, there were no major differences in teachers' attitudes and practices about formative assessment related to gender, experience, teaching level, education, and where they live. This finding suggests that teachers' attitudes toward formative assessment are similar across broad teacher groups, and individual differences have a limited impact on these attitudes. This is consistent with the view that formative assessment is more related to teacher competence and pedagogical perspective (Andrade & Heritage, 2018; Brookhart, 2008; Shepard, 2000; Wiliam, 2011). Recent evidence also supports that demographic variables play a limited role, while pedagogical training and feedback literacy are key determinants of use (OECD, 2019; Yan et al., 2021, 2023).

On the other hand, the finding that teachers under 35 years of age have higher intentions to implement formative assessment is noteworthy. This conclusion suggests that younger teachers are more open to innovations in education and more willing to adopt contemporary teaching approaches. This shift may be explained by younger teachers

encountering more formative assessment-based approaches during their university education and having more emphasis on this subject in their pre-service training. This finding aligns with the research of Guskey (2002) and James (2006), which suggests that formative assessment skills acquired during teachers' professional development positively influence their implementation intentions. In line with this finding, recent reviews indicate that the uptake of feedback-oriented formative assessment is shaped primarily by teachers' assessment literacy, school culture, and professional learning opportunities rather than by demographic factors such as years of experience (OECD, 2019; Schildkamp et al, 2020; Yan et al., 2021).

Overall, the results of the research show that while formative assessment is perceived as an important process by teachers, its transformation into classroom practice is insufficient. The finding indicates that it is not enough for teachers to be supported theoretically; they also need to be supported with practical assistance, classroom examples, mentoring, and continuous professional development programs. Additionally, identifying the difficulties teachers face in implementing formative assessment and developing policies in this regard is crucial for improving the quality of teaching processes. These results parallel international research, emphasizing the need for guided practice, leadership support, and sustainable professional learning (Bahadır & Ozan, 2024; Gürbulak Töremiş, 2025; OECD, 2019; Schildkamp et al, 2020; Yan et al., 2021).

In conclusion, although teachers have positive views on formative assessment, these attitudes are not fully reflected in classroom practices. This suggests that formative assessment needs to be supported more strongly in the theory-practice context. Based on the findings of the research, the following suggestions are made for educators and researchers:

1. In-service training, courses, or seminars could be conducted in schools to increase the use of formative assessment practices in the teaching process.
2. Qualitative studies could examine how much formative assessment is integrated into existing practices throughout the teaching and learning process.
3. Since the research was limited to the Erzurum province, conducting studies in other provinces would provide more comprehensive results.

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Etik Beyannamesi

Bu çalışmada “Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi” kapsamında belirtilen kurallara uyulduğunu ve “Bilimsel Araştırma ve Yayın Etiğine Aykırı Eylemler” başlığı altında belirtilen eylemlerden hiçbirini gerçekleştirmediğimizi beyan ederiz. Aynı zamanda yazarlar arasında çıkar çatışmasının olmadığını, tüm yazarların çalışmaya katkı sağladığını ve her türlü etik ihlalinde sorumluluğun makale yazarlarına ait olduğunu bildiririz.

Etik Kurul İzin Bilgileri

Etik kurul adı: Atatürk Üniversitesi Eğitim Bilimleri Birim Etik Kurulu

Etik kurul karar tarihi: 21.05.2021

Etik kurul belgesi sayı numarası: 2100139520

Yazar Çıkar Çatışma Beyanı

Yazarlar arasında herhangi bir çıkar çatışması bulunmamaktadır.

Yazar Katkı Oranları

Yazarlar çalışmaya eşit düzeyde katkı sağlamışlardır.

Yazar Notu

Bu çalışma, birinci yazarın ikinci yazarın danışmanlığında hazırladığı yüksek lisans tezinden üretilmiştir.

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Appendix 1. Normality Assumptions

Variable	Sub-dimension	Group	Skewness	Kurtosis	Decision
Gender	Affective Attitude	Female	-.730	.438	Normal
		Male	-.475	-.658	Normal
	Attitude	Female	-.704	.406	Normal
		Male	-.355	-.858	Normal
	Subjective Norm	Female	-.254	-.679	Normal
		Male	-.430	-.321	Normal
	Controllability	Female	-.620	-.128	Normal
		Male	-.356	-.756	Normal
	Self-Efficacy	Female	-.356	-.756	Normal
		Male	-.484	.155	Normal
	Intention	Female	-.810	.200	Normal
		Male	-.703	.188	Normal
	Behavior	Female	.560	.225	Normal
		Male	.542	-.002	Normal
Age	Affective Attitude	35 years old and under	-.650	.170	Normal
		Over 35 years old	-.629	.038	Normal
	Attitude	35 years old and under	-.405	-.546	Normal
		Over 35 years old	-.558	-.271	Normal
	Subjective Norm	35 years old and under	-.268	-.537	Normal
		Over 35 years old	-.365	-.626	Normal
	Controllability	35 years old and under	-.530	-.378	Normal
		Over 35 years old	-.548	-.521	Normal
	Self-Efficacy	35 years old and under	-.567	-.029	Normal
		Over 35 years old	-.209	-.879	Normal
	Intention	35 years old and under	-.537	-.507	Normal
		Over 35 years old	-.597	-.366	Normal
	Behavior	35 years old and under	.253	-.285	Normal
		Over 35 years old	.965	.635	Normal
Professional Seniority	Affective Attitude	Less than 15 years	-.669	.312	Normal
		15 years and under	-.588	-.581	Normal
	Attitude	Less than 15 years	-.599	.097	Normal
		15 years and under	-.409	-.887	Normal
	Subjective Norm	Less than 15 years	-.290	-.578	Normal
		15 years and under	-.459	-.371	Normal
	Controllability	Less than 15 years	-.621	-.223	Normal
		15 years and under	-.559	-.448	Normal
	Self-Efficacy	Less than 15 years	-.450	-.367	Normal
		15 years and under	-.257	-.816	Normal
	Intention	Less than 15 years	-.730	.232	Normal
		15 years and under	-.601	-.523	Normal
	Behavior	Less than 15 years	.374	-.235	Normal
		15 years and under	.995	.952	Normal
Teaching Level	Affective Attitude	Preschool	-.466	-.858	Normal
		Primary school	-.996	.928	Normal
		Middle school	-.299	-.696	Normal
		High school	-.498	-.023	Normal
	Attitude	Preschool	-.232	-1.513	Normal

		Primary school	1.03	-.804	Normal
		Middle school	-.347	-.448	Normal
		High school	-.683	.178	Normal
		Preschool	-.479	-1.021	Normal
	Subjective Norm	Primary school	-.284	-.507	Normal
		Middle school	-.281	-.432	Normal
		High school	-.419	-.477	Normal
		Preschool	-.768	-.667	Normal
	Controllability	Primary school	-.457	-.811	Normal
		Middle school	-.534	-.286	Normal
		High school	-.706	-.044	Normal
		Preschool	-.506	-.738	Normal
	Self-Efficacy	Primary school	-.565	-.062	Normal
		Middle school	-.324	-.503	Normal
		High school	-.307	-.741	Normal
		Preschool	-.532	-.675	Normal
	Intention	Primary school	-.664	-.782	Normal
		Middle school	-.426	-.682	Normal
		High school	-.980	.841	Normal
		Preschool	.566	-.446	Normal
	Behavior	Primary school	.445	-.056	Normal
		Middle school	.489	-.209	Normal
		High school	.739	.827	Normal
		Faculty of education	-.537	-.072	Normal
		Other faculties	-.951	.409	Normal
	Attitude	Faculty of education	-.395	-.550	Normal
		Other faculties	-.845	.096	Normal
	Subjective Norm	Faculty of education	-.332	-.482	Normal
		Other faculties	-.352	-.782	Normal
	Controllability	Faculty of education	-.559	-.304	Normal
		Other faculties	-.756	-.263	Normal
	Self-Efficacy	Faculty of education	-.405	-.405	Normal
		Other faculties	-.484	-.635	Normal
	Intention	Faculty of education	-.515	-.634	Normal
		Other faculties	-.294	.364	Normal
	Behavior	Faculty of education	.606	.197	Normal
		Other faculties	.185	-.615	Normal
		Bachelor's degree	-.608	-.103	Normal
		Graduate degree	-.639	.400	Normal
	Attitude	Graduate degree	-.519	.421	Normal
		Bachelor's degree	-.378	-.145	Normal
	Subjective Norm	Graduate degree	-.335	-.544	Normal
		Bachelor's degree	-.029	-.656	Normal
	Controllability	Graduate degree	-.533	-.535	Normal
		Bachelor's degree	-.677	-.099	Normal
	Self-Efficacy	Graduate degree	-.421	-.460	Normal
		Bachelor's degree	.420	-.210	Normal
	Intention	Graduate degree	-.680	-.208	Normal
		Bachelor's degree	-.912	.853	Normal
	Behavior	Graduate degree	.561	.123	Normal
		Bachelor's degree	.487	.107	Normal

Settlement Type	Affective Attitude	Urban center	-.631	.287	Normal
		Village	-.714	-.233	Normal
	Attitude	Urban center	-.627	.080	Normal
		Village	-.343	-.827	Normal
	Subjective Norm	Urban center	-.257	-.702	Normal
		Village	-.550	.122	Normal
	Controllability	Urban center	-.545	-.348	Normal
		Village	-.808	.044	Normal
	Self-Efficacy	Urban center	-.474	.380	Normal
		Village	-.190	-.938	Normal
	Intention	Urban center	-.812	.546	Normal
		Village	-.632	-.823	Normal
	Behavior	Urban center	.666	.339	Normal
		Village	.255	-.436	Normal

Appendix 2. Levene Test's Results

Variable	Sub-dimension	Levene F	p	Decision
Gender	Affective Attitude	.743	.389	Homogeneous
	Attitude	.898	.344	Homogeneous
	Subjective Norm	.332	.565	Homogeneous
	Controllability	.816	.367	Homogeneous
	Self-Efficacy	4.584	.033	Homogeneous
	Intention	.459	.499	Homogeneous
	Behavior	.029	.866	Homogeneous
Age	Affective Attitude	.730	.394	Homogeneous
	Attitude	5.767	.017	Not homogeneous
	Subjective Norm	1.839	.176	Homogeneous
	Controllability	3.632	.058	Homogeneous
	Self-Efficacy	.798	.372	Homogeneous
	Intention	12.589	.000	Not homogeneous
	Behavior	.158	.692	Homogeneous
Professional Seniority	Affective Attitude	.003	.956	Homogeneous
	Attitude	1.069	.302	Homogeneous
	Subjective Norm	.077	.781	Homogeneous
	Controllability	.088	.768	Homogeneous
	Self-Efficacy	.062	.804	Homogeneous
	Intention	4.170	.042	Not homogeneous
	Behavior	.056	.812	Homogeneous
Teaching Level	Affective Attitude	1.126	.339	Homogeneous
	Attitude	2.508	.059	Homogeneous
	Subjective Norm	.613	.607	Homogeneous
	Controllability	.497	.685	Homogeneous
	Self-Efficacy	1.122	.341	Homogeneous
	Intention	1.003	.392	Homogeneous
	Behavior	1.958	.121	Homogeneous
Undergraduate Degree	Affective Attitude	5.049	.026	Not homogeneous
	Attitude	7.224	.008	Not homogeneous
	Subjective Norm	.562	.454	Homogeneous
	Controllability	2.800	.096	Homogeneous

	Self-Efficacy	.352	.554	Homogeneous
	Intention	3.705	.055	Homogeneous
	Behavior	.176	.675	Homogeneous
Educational Status	Affective Attitude	.932	.335	Homogeneous
	Attitude	5.778	.017	Not homogeneous
	Subjective Norm	1.549	.214	Homogeneous
	Controllability	1.658	.199	Homogeneous
	Self-Efficacy	2.295	.131	Homogeneous
	Intention	.168	.682	Homogeneous
	Behavior	.845	.359	Homogeneous
Settlement Type	Affective Attitude	1.298	.256	Homogeneous
	Attitude	.202	.654	Homogeneous
	Subjective Norm	.479	.490	Homogeneous
	Controllability	.023	.879	Homogeneous
	Self-Efficacy	.046	.830	Homogeneous
	Intention	1.692	.195	Homogeneous
	Behavior	1.286	.258	Homogeneous