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ADAPTATION OF THE TEACHER EFFECTIVENESS SCALE IN HIGHER EDUCATION INTO TURKISH LANGUAGE[i]

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Abstract:
The purpose of this research is to adapt The Teacher Effectiveness Scale in Higher Education into Turkish language. The survey method was employed. Collected data were analyzed using confirmatory and exploratory factor analyses. The adapted scale had 32 items and 4 factors explaining 50.3% variance. Cronbach alpha reliability coefficients of the factors varied from α=0.70 to α=0.89 and factor loadings of the items ranged from 0.47 to 0.80. Statistically significant correlations among factors ranging from r=0.54 to r=0.58 were found. It is concluded that the adapted scale is a valid and reliable instrument to measure teaching-related behavior, subject matter expertise, relational expertise, and personality aspects of teacher effectiveness in higher education.

Keywords: higher education, teacher effectiveness, scale, adaptation

1. Introduction

Every human activity needs to be evaluated for its effectivity. In a broad view, evaluation means any systematic examination of employee's performance (Mercer, Barker, & Bird, 2010, p. 139). It is generally thought as the last step of management process and includes the utilization of data for improvement and correction (Başar, 2000, p. 55). Its aim is to determine the success level of the performance objectively (Bursalıoğlu, 2011, s. 125). Evaluation has an important potential as a data source which

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informs the organizational system supporting the teaching and meaningful feedback for improving teaching practices (Maslow & Kelley, 2012).

As a major component of the education, teacher evaluation is at the core. Gathering teacher evaluation is undeniably helpful in identifying exemplary teacher and teaching in higher education (Feldman, 2007, p. 118). It is also helpful for on-going self-monitoring of one's teaching, evaluating one's professional development needs, and preparing a case for promotion or tenure, providing information for students to use in the selection of courses and instructors, and providing an outcome for research (Casey, Gentile, & Bigger, 1997; Marsh, 1984). There are generally two fundamental aspects of teacher evaluation which include improvement function which relates to formative nature and accountability function which relates to summative nature (Tucker & Stronge, 2005, p. 6-7). Classroom observations, principal evaluations, analysis of classroom artifacts, portfolios, self-reports of teacher practice, and value-added models are the methods of evaluating teacher effectiveness (Goe, Bell, & Little, 2008). In addition, one of the key components of teacher evaluation can be thought as student evaluation of teachers as a recipient of service provided and affected. Implementing student questionnaires which include different dimensions of teaching to evaluate teaching effectiveness and quality is a fairly common procedure and it aims the improvement of teaching quality (Dresel & Rindermann, 2011). They can provide reliable and valid information on the quality of higher education (Murray, 1983). Likewise, student questionnaires fulfilled anonymously is said to be a useful apparatus for performance evaluation of teachers (Marsall, 2012). They are also important because they cause the teaching staff to be politer towards students, to pay attention to class schedule especially for the beginning and end of the lectures, paying attention to assessment of students (Ergün, 2001).

Timing of the evaluation, anonymity of student raters, instructor presence in classroom, stated purpose of the evaluation might affect the process of student evaluation in higher education (Wachtel, 1998). Considering the topics for the teacher evaluation, following issues may be of importance (Feldman, 2007, p. 104-105); teacher's preparation; organization of the course, clarity, teacher pursued and/or met course objectives, perceived outcome or impact of instruction, teacher's stimulation of interest in the course and its subject matter, teacher motivates students to do their best; high standard of performance required, teacher's encouragement of questions and openness to opinions of others, teacher's availability and helpfulness, teacher's elocutionary skills, clarity of course objectives and requirements, teacher's knowledge of the subject, teacher's sensitivity to and concern with class level and progress, teacher's enthusiasm (for subject or for teaching), teacher's fairness; impartiality of evaluation of students;

quality of examinations, classroom management, intellectual challenge and encouragement of independent thought (by the teacher and the course), personality characteristics, teacher's concern and respect for students friendliness of the teacher, nature, quality, and frequency of feedback from the teacher to the students, pleasantness of classroom atmosphere, nature and value of the course (including its usefulness and relevance), difficulty of the course description, difficulty of the course evaluation, nature and usefulness of supplementary materials and teaching aids.

There are many studies aiming the process of evaluation teacher effectiveness. Patrick and Smart (1998) developed a measure for evaluating teacher effectiveness. Following undergraduate students' identification of qualities, they formed a meta inventory and it was revealed that respect for students, ability to challenge students, organization and presentation skills were three important factors for teacher evaluation. Karkoulian (2002) developed an appraisal practice for the Lebanese American University. As a result, a communication model for the performance appraisal scheme was formed. The researcher finally recommended the formal adoption of a performance appraisal process at Lebanese American University. Melnic, (2011) studied the evaluation of academics at George Bacovia University in Bacau. This study focused on the formative evaluation of courses, seminars, practical work; formative evaluation of research projects; evaluation from colleagues and experts; self-evaluation; and evaluation of management. As for the evaluation of the performance of the academics catching the students' attention, introducing the subject, explaining the subject, the aids necessary for teaching and learning, keeping the students' interest, teacher-student interaction, organization of students, retroaction, communication with students, the use of time; lecture summary constituted the evaluation.

This research aims to adapt a teacher evaluation instrument into Turkish language. Considering that there is no instrument developed for the higher education, this effort may contribute to the area.

2. Material and Methods

The survey method was employed in this research. This method emphasizes collecting data from a large sample to produce generalizable results (Fraenkel, Wallen & Hyun, 2012).

2.1. Sample

Data were collected from students attending at Süleyman Demirel University Foreign Language Preparation Class in Isparta, Turkey during the 2015-2016 academic year. All

452 students were reached without a sampling procedure. A total of 247 students volunteered for the research (Table 1).

Table 1: Participants of the research

Major	Population	Participants	Rate of Return (%)
Tourism Management	101	52	51.49
Business Management	151	82	54.30
Landscape Architecture	38	26	68.42
Architecture	49	42	85.71
City and Region Planning	39	17	43.59
Electricity and Electronic Engineering	74	28	37.84
Total	452	247	54.65

2.2. Instrument

The Teacher Effectiveness Scale in Higher Education developed by Calaguas (2013) was used as the data collection instrument. The scale consists of 67 items under 4 factors. Cronbach alpha reliability coefficients of the factors varies from α=0.71 to α=0.97.

2.3. Process

A team of foreign language specialists has been formed and the items were translated into Turkish. Then the items were back-translated into English and compared to the original ones. The items that were not compatible with the original statements had the same process again with more elaboration.

2.4. Analysis

Confirmatory and exploratory factor analysis were applied to data collected from the students. To determine whether the original factor structure of the scale had been preserved after the adaptation process confirmatory factor analysis was conducted. After determining that the original factor structure had not been preserved, exploratory factor analysis to reveal the new factor structure was employed.

3. Results

Confirmatory factor analysis results presented in Table 2 revealed that many of the fit indexes were out of the desired range (Çokluk, Şekercioğlu & Büyüköztürk, 2014; Hu & Bentler, 1999). It has been concluded that the original factor structure of the scale had been changed.

Table 2: Confirmatory factor analysis results

Fit Indexes	Excellent Fit Criteria*	Acceptable Fit Criteria*	Actual Values	Result
X^2/df(CMIN/DF)	$0 \leq X^2/df \leq 2$	$2 \leq X^2/df \leq 3$	1.88	Excellent Fit
GFI	.95 ≤ GFI ≤ 1.00	.80 ≤ GFI ≤ 95	0.63	No Fit
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	0.72	No Fit
NNFI	.95 ≤ TLI ≤ 1.00	.90 ≤ TLI ≤ .95	0.55	No Fit
IFI	.95 ≤ IFI ≤ 1.00	.90 ≤ IFI ≤ .95	0.72	No Fit
RMSEA	.00 ≤ RMSEA ≤ .05	.05≤ RMSEA ≤.08	0.06	Acceptable Fit
SRMR	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤ .10	0.06	Acceptable Fit

* According to Çokluk, Şekercioğlu & Büyüköztürk, 2014; Hu & Bentler, 1999.

Kaiser-Meyer-Olkin adequacy of sample size indicator was calculated as 0.93 and the Bartlett's test of sphericity was found as significant ($p<0.001$) for the exploratory factor analysis. The 35 items that have factor loadings and item-total correlations lower than 0.40 were eliminated. Principal component analysis with Varimax rotation method revealed that the adapted scale has 32 items and 4 factors explaining 50.3% variance (Table 3). Cronbach alpha reliability coefficients of the factors varies from α=0.70 to α=0.89. Factor loadings of the items ranges from 0.47 to 0.80.

Table 3: Comparison of the factor structures of the original and adapted scales

Factors	Original Scale				Adapted Scale			
	Items	Factor Loadings	Alpha	Variance (%)	Items	Factor Loadings	Alpha	Variance (%)
Teaching-Related Behavior	45	.51-.63	.97	19	14	.47-.65	.88	33.4
Subject Matter Expertise	10	.51-.67	.89	8.2	6	.53-.76	.88	6.1
Relational Expertise	7	.53-.63	.83	7.8	7	.63-.80	.89	7
Personality	5	.52-.57	.71	6.3	5	.48-.63	.70	3.8
Total	67	.51-.67	.97	41.3	32	.47-.80	.93	50.3

Correlations among factors of the adapted scale were also analyzed. Statistically significant ($p<0.001$) correlations ranging from r=0.54 to r=0.58 among factors can be seen in Table 4.

Table 4: Correlations among factors

	Teaching-Related Behavior	Subject Matter Expertise	Relational Expertise	Personality
Subject Matter Expertise	.54*			
Relational Expertise	.57*	.56*		
Personality	.56*	.56**	.58*	
Total	.80*	.81*	.84*	.82*

*p<0.001

4. Conclusion

The adapted scale is a valid and reliable instrument to measure multiple aspects of teacher effectiveness in higher education. It can be used to evaluate teachers in higher education for their teaching-related behavior, subject matter expertise, relational expertise, and personality. Given the fact that the adapted scale has 32 items, it can be considered as a concise instrument that is easy to apply. The adapted scale can be used both during and at the end of academic terms for formative and summative evaluation purposes. This way, it is assumed that teachers in higher education will have the opportunity to learn how the students perceive their effectiveness and to adjust their practices according to these perceptions. However, this assumption should be investigated via further research.

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