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Development of Teacher Autonomy Scale for Turkish Teachers

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Abstract

The purpose of this study was to develop a valid and reliable instrument in order to measure the level of autonomy of Turkish classroom teachers. For this purpose, an 18-item 5-point Likert type scale was developed and tested. Data were collected from 292 classroom teachers (teaching at grades 1 to 4) working in state elementary schools located in five main districts of Ankara, and analyzed through Exploratory Factor Analysis (EFA) in order to investigate the factor structure of the instrument. EFA resulted in three factors named as (1) *autonomy in instructional planning and implementation*, (2) *autonomy in professional development*, and (3) *autonomy in determining the framework of the curriculum*. Also, Cronbach's Alpha coefficients were calculated for all subscales and the whole scale. The Cronbach's Alpha coefficients for the 1st, 2nd, and 3rd factors of the instrument were calculated as .91, .80, and .86 respectively, and the Cronbach's Alpha coefficient for the whole scale was calculated as .89. While the reliability of the 1st factor was considered as 'excellent', the reliability coefficients of the 2nd and 3rd factors, and the whole scale were considered as 'very good'. This study was the first step of an instrument development. Second step will be taken for the verification of the validity and reliability of the scale.

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1. Introduction

During the last few decades teacher autonomy has taken more attention of the researchers, since it has been gaining more importance in teaching professionalism. Teacher autonomy is an important constituent of teacher professionalism (Demirkasımoglu, 2010) and a frequently used term in understanding and identification of the role and jurisdiction of the teachers in education system (Ozturk, 2011).

Teacher autonomy is the freedom given to the teachers to make their own decisions while doing their job, where

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they choose their own methodologies, select or design their own tasks and/or materials, evaluate outcomes, cooperate with others to solve problems, take responsibilities of their own decisions (Tehrani & Mansor, 2012; Anderson, 1987), involve in organizational decision making (Friedman, 1999; Ingersoll, 1994; Ingersoll, 1996), improve themselves regarding professional skills (Friedman, 1999; Little, 1995). On the other hand, teachers are not given unlimited freedom to do their job. They are semi-professionals who are under the bureaucratic controls on their work related behaviors (Lortie, 1969, as cited in Leiter, 1981). Their autonomy is limited to the activities within their classrooms. Teachers' autonomy decreases when they step out of their classrooms (Anderson, 1987). Archbald and Porter (1994) brought out that curriculum control policies had a large effect on mathematics and social studies teachers' decision making on the content taught, while they felt more autonomy over instruction in the classroom. Similarly, Öztürk (2012) found out that Turkish secondary school history teachers' felt quite limited level of autonomy in the preparation of the annual instructional plans although planning is closely related to classroom activities. However, no matter they have limited autonomy in the preparation of the annual instructional plans, teachers behaved more autonomous during the classroom practices. Also, teachers' perceived autonomy was found to be affected by the academic level that they teach (elementary, middle or high school) (Pearson & Hall, 1993).

As can be seen from the teacher autonomy definition above, one of the autonomy areas for teachers is improving themselves which means learning autonomy. Tehrani and Mansor (2012) showed the importance of learning autonomy for teachers with the study that they conducted with teachers of English as Second Language working in state secondary schools in Johor Bahru - Malaysia. They found out that when teachers are more autonomous in choosing their own information sources, they integrate their learning in the classroom activities better.

Considering the importance of teacher autonomy in teacher professionalism, the purpose of this study was to develop a valid and reliable instrument to measure the level of autonomy of Turkish classroom teachers named as Teacher Autonomy Scale-Turkish (TAST). Although there were scales measuring teacher autonomy (such as Teaching Autonomy Scale of Pearson and Hall (1993), Teacher Work Autonomy Scale of Friedman (1999)), it was needed to develop a scale considering the Turkish culture and education system. This study was conducted as a step to close this gap.

The instrument was developed for testing through conducting literature review, identifying the constructs and generating items, and taking expert opinion. Instrument was tested as the final step. Details over the instrument development are presented in the following sections.

2. Instrument Development Process

The concept of autonomy means "the right of a group of people to govern itself, or to organize its own activities" (Cambridge International Dictionary of English, 1995, p.82), "freedom that a place or an organization has to govern or control itself" or "the ability or opportunity to make your own decisions without being controlled by anyone else" (Longman Dictionary of Contemporary English, 2014). When the etymology of the word autonomy is investigated, it is seen that it comes from the Greek word *autonomia* (Castle, 2004) which was derived from two words *autos,* which means self, and *nomos,* which means rule (Hawroth, 1986, as cited in Rudolph, 2006).All these definitions refer more or less to the same meaning: being under the control of self (either as a person or a group) instead of others.

When we come to definition of teacher autonomy, it is seen that earlier studies mostly focus on the autonomy in the classroom, particularly over the instructional activities. For instance, DeVries and Kohlberg (1987) focused on the teacher autonomy in classroom experiences and explained the autonomous constructivist teachers as knowing what they are doing and why they are doing. They do not accept to practice the curriculum as it is presented to them. Instead, they prefer to think critically about the curriculum in terms of how beneficial the program is for the students, and if there is a better way to do it. In the upcoming years definition of teacher autonomy broadened. Pearson and Hall (1993) considered the teacher autonomy from a broader perspective and focused on pedagogy, curriculum, and classroom discipline and environment. They identified two aspects of teacher autonomy: *general autonomy* referring to the "issues concerning classroom standards of conduct and personal on-the-job discretion" (p. 177), and *curricular autonomy* referring to "issues concerning selection of activities and materials and instructional planning and sequencing" (p. 177). Later, Ingersoll (1994, 1996) introduced the teacher autonomy as having control

and holding decision making power over core educational activities in schools in two areas: (1) school policy making, (2) planning and teaching in the classroom. Ingersoll (1996) defined the first autonomy area as collective autonomy since the teacher is working with other responsible faculties in making decisions about the school, and second autonomy area as individual autonomy since the teacher is the main person who is responsible in the classroom. Afterwards, Friedman (1999) argued that the previous studies were based on the teacher autonomy as "a shield against external pressures such as distrust, strong influence, control, excessive organizational demands, and pedagogical limitations" (p. 59), and the previously developed scales were "not based on the premise that the concept of teacher autonomy includes being able to initiate ideas and activities and being involved in major school policies and practices" (p. 59). Also, he stated that the previous literature had mostly focused on the pedagogical aspect of teaching profession. However, according to him, since schools are the teachers' work environment, they should be considered as members, who are contributing to the decision making processes, of the organizations (schools) as well. Based on that, he identified the boundaries of teacher autonomy as both inside and outside of the classroom and school. Contingently, he focused on two aspects of teacher autonomy: (a) pedagogical and (b) organizational. He developed Teacher Work Autonomy Scale (TWAS) and identified the components of teacher autonomy as the autonomy over (a) student teaching and assessment, (b) school mode of operating, (c) staff development, and (d) curriculum development. Ingersoll's and Friedman's understanding and definition of teacher autonomy are similar in the way that they both consider the teacher as a professional who does not only have autonomy in the classroom but also in school and district. Recently, Öztürk (2011) reviewed the conception of teacher autonomy and derived the broadest definition of teacher autonomy so far: "scope of authority and freedom includes that the teachers can make some important decisions related to their job as 'professionals', have a right to say about the organization of their work place, and participating into the educational planning, improvement and management processes" (p. 83).

Based on the literature review and teachers' roles and latitude in Turkish education system, first of all, constructs were identified. Initially, three constructs were identified: (1) *autonomy in instructional planning and implementation*, (2) *autonomy in professional development*, and (3) *autonomy in organizational decision making*. 14, 10, and 6 items were generated for these constructs respectively.

During the development of the items the researchers benefitted from Pearson and Hall's (1993) Teaching Autonomy Scale (TAS), Friedman's 1999 Appropriate Teacher Work Autonomy Scale (ATWAS) and Teacher Work Autonomy Scale (TWAS), LaCoe's (2006) Have and Desire Autonomy Scales, Public School Teacher Questionnaire: Schools and Staffing Survey 1999-2000 school year developed by National Center for Education Statistics (1999), and Broeck et al.'s (2010) Work-related Basic Need Satisfaction Scale.

In order to get feedback on layout, clarity and appropriateness of the items and constructs, and provide content and face validity evidence, expert opinion was taken from three faculty members: a professor and an assistant professor of Curriculum and Instruction, and an assistant professor of Educational Administration and Planning. Expert opinion suggested that autonomy in organizational decision making was not an appropriate area of autonomy for teachers in Turkish educational system. Based on feedback, the related construct and its items were excluded from the instrument. After the final revisions based on feedback from experts, the final constructs in TAST were hypothesized as "autonomy in instructional planning and implementation" and "autonomy in professional development". Each of these constructs had 14 and 6 items respectively. The scale was developed as 5-point (ranging from '1-not at all' to '5-extremely') Likert type scale.

3. Testing the Instrument

3.1. Participants

The instrument was tested by collecting data from 292 classroom teachers (teaching at grades 1 to 4) working in state elementary schools located in five main districts of Ankara.

3.*2. Data collection and Analysis*

First of all, the researchers applied to Human Subjects Ethics Committee (HSEC) of Middle East Technical University, and Provincial Directorate for National Education for taking permission to collect data in schools using

the scale being developed. Data were collected by personally visiting the schools in May-June 2014.

In order to explore the factor structure of TAST, Exploratory Factor Analysis (EFA) was conducted. Also Cronbach's alpha coefficients were calculated for reliability of the whole scale and subscales. All analyses were conducted using SPSS 21.

3.3. Results

First of all, the data were screened for wrong data entry, missing data, influential outliers, and normality. It was observed that the missing values were less than 5%. In order not to lose cases and decrease the power due to missing values, data imputation was undertaken using Expectation Maximization (EM) (Tabachnick & Fidell, 2012).Outliers were checked by applying both univariate and multivariate outlier check methods. 3 cases were deleted due to being univariate outliers, and 11 cases were excluded due to being multivariate outliers. After those cases were excluded, the data set consisted of 278 cases which is satisfactory for EFA (Tabachnick & Fidell, 2012).Finally, univariate and multivariate normalities were checked. While univariate normality was assumed, multivariate normality was violated. Principal Axis Factoring (PAF) was used as the extraction method through the EFA as a remedy for the multivariate non-normality.

After that, other assumptions of EFA were checked, which were no multicollinearity, Bartlett's test of sphericity, and Kaiser Meyer Olkin (KMO) measure of sampling adequacy. Correlation matrix table showed no correlation higher than .90 (Tabachnick & Fidell, 2012).Also, Bartlett's test of sphericity was found as significant ($p < .001$), and KMO value was found as .89, which was satisfactory for a good EFA (Tabachnick & Fidell, 2012).

Common factor analysis was conducted by using Principal Axis Factoring (PAF) as the extraction technique and oblique rotation as the rotation technique. The number of factors was decided by the eigenvalues higher than 1 and scree plot. Both of them revealed three factors. The 1st, 2nd, and 3rd factors explained 39.54%, 12.68%, and 7.39% of the variance respectively. The total variance explained by these three factors was calculated as 59.61%.

Pattern matrix was checked in order to examine the factor loadings of the items. The pattern matrix indicated that the items 3, 4, 5, 8, 9, 10, 12, 14, 16, 17, 18, 19, and 20 loaded to the 1st factor ranging from .78 to .43. When the items loading the first factor were thoroughly investigated, an inconsistency was observed for two items: numbers 3 and 20. Although items 3 and 20 were initially planned to measure autonomy in professional development, they loaded to the 1st factor together with 11 items measuring autonomy in pedagogical activities. Due to this inconsistency, items 3 and 20 were excluded from the scale.

Items 7, 11, 13, and 15 loaded to the 2nd factor ranging from .83 to .49. These items were examining the autonomy level in teachers' professional development. Items 1, 2, and 6 loaded to the 3rd factor ranging from -.61 to -.90. These items were investigating the teacher autonomy in defining the aims and objectives, choosing the content to teach, and preparing annual/daily plans.

After deleting the 2 items, EFA was conducted with 18 items with the same data set and analysis resulted in three factors. Three values of eigenvalue were observed higher than 1, and the scree plot indicated three factors including three points after the break point. Thus, the number of factors was decided as three. The eigenvalues which were higher than 1 are presented in Table1.

Table 1. Eigenvalue, Percentages of Variance and Cumulative Percentages of the Factors

Factor	Total	% of Variance	Cumulative %
1	7.32	40.67	40.67
2	2.53	14.04	54.71
3	1.39	7.73	62.44

As seen in Table 1, the 1st, 2nd and 3rd factors explained 40.67%, 14.04% and 7.73 of the variance respectively. The total variance explained by these three factors was calculated as 62.44%.

Pattern matrix indicated that items 4, 5, 8, 9, 10, 12, 14, 16, 17, 18, and 19 load to the 1st factor. As mentioned earlier, these items were investigating the teacher autonomy in instructional planning and implementation activities (e.g. I feel autonomous in identifying the criteria to evaluate student achievement; I feel autonomous in choosing the instructional materials that I will use in the classroom). Therefore, the 1st factor was named as "*autonomy in*

instructional planning and implementation". Items 7, 11, 13, and 15 loaded to the 2nd factor. Since these items were examining the teacher autonomy in their own professional development (e.g. I feel autonomous to choose where the in-service teacher training programs will be held; I feel autonomous to choose who will teach in the in-service teacher training programs), the 2nd factor was named as "*autonomy in professional development*". Finally, items 1, 2, and 6 loaded to 3rd factor. Although these factors were investigating the autonomy in instructional planning and implementation, they differ from the items in the 1st factor. These three items were examining the main framework of the curriculum that teachers were practicing (e.g. I feel autonomous to select the topics for the annual/daily plans; I feel autonomous to specify the aims and objectives for my instruction.), and in Turkish education system this framework is determined by Ministry of National Education (MoNE). Thus, the 3rd factor was named as "*autonomy in determining the framework of the curriculum*". The factor loadings are presented in Table 2.

Table 2. Factor Loadings for Common Factor Analysis

Items	Factor 1	Factor 2	Factor 3
18	.79		
16	.78		
19	.76		
9	.76		
17	.69		
14	.66		
5	.62		
8	.62		
12	.61		
4	.60		
10	.48		
11		.86	
13		.81	
15		.55	
7		.47	
2			-.91
1			-.81
6			-.61

After identifying the factors, Cronbach's Alpha coefficients of internal consistency were calculated in order to check the reliability of the subscales and the whole scale. The Cronbach's Alpha coefficients for the 1st, 2nd, and 3rd factors of TAST were calculated as .91, .80, and .86 respectively, and the Cronbach's Alpha coefficient for the whole scale was calculated as .89. While the reliability of the 1st factor was considered as 'excellent', the reliability coefficients of the 2nd and 3rd factor, and the whole scale were considered as 'very good' (Kline, 2011).

4. Discussion and Conclusion

The purpose of this study was to propose a new scale to measure how Turkish classroom teachers feel autonomous in their profession. Based on the literature review, it was predicted that the autonomy areas for Turkish teachers would be instructional planning and implementation, and professional development. However, the data analysis results revealed three areas of autonomy for teachers: (1) *autonomy in instructional planning and implementation*, (2) *autonomy in professional development*, and (3) *autonomy in determining the framework of the curriculum*. The first area of autonomy was considered as consistent with Pearson and Hall (1993) and Friedman (1999). The second area of autonomy was also found as consistent with Friedman (1999). The third factor was found in consistency with Archbald and Porter (1994) and Öztürk (2012) who found out that the teachers have less autonomy over the planning of the curriculum than classroom practices. In Turkish education system, teachers are provided with educational programs to teach their students by MoNE. Therefore, their perceived autonomy differed in curriculum planning and classroom implementation.

This study is the first step of a scale development procedure. The next step will be to collect data, and to conduct Confirmatory Factor Analysis (CFA) in order to confirm the factor structure of the scale and verify its validity and reliability.

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