

# Developing a Scale for Attitudes towards the Curriculum Development and Instruction Course\*

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## Abstract

The purpose of this study was to develop a scale in order to measure prospective teachers' attitudes towards the Curriculum Development and Instruction course. The study group was composed of 286 prospective teachers. The process of developing the Attitude Scale involved a literature scan, taking student opinions through essays, creating an item pool, taking expert opinions, a pretesting study as well as studies on determining the structural validity and reliability. The scale as a result of analysis consisted of 30 items and three factors. These factors were called contradiction (12 items), interest (9 items) and appreciation (9 items). It was seen that the factor weights of the scale items varied between 0.51 and 0.75. Three factors were interpreted 60.15% of total variance on scale scores. The statistical analysis concluded that the Attitude Scale for Curriculum Development and Instruction course was a valid and reliable tool.

## Key Words

Curriculum Development, Attitude, Scale Development, Prospective Teacher.

Teachers are one of the main components of education systems. Teachers' professional task and responsibility fulfillment depends on teaching skills. Teachers' professional quality consists of general knowledge, branch knowledge, teaching knowledge, skills and qualifications. Teachers gain professional skills through teaching profession knowledge courses and practices included in teacher training programs (Varış, 1976). Carrying out teaching profession knowledge courses effectively is necessary

to provide prospective teachers with the teaching qualifications in an effective way. A teacher who is trained academically and vocationally well can be competent in his/her profession (Hesapçioğlu, 1988). Therefore, it is critical to increase the quality of pre-service teacher training programs and provide prospective teachers with professional knowledge, skills, attitudes and values in an efficient way. Increasing the quality of education could be ensured by quality teachers.

In Turkey, restructuring was introduced in pre-service teacher training programs in 1998 to train quality teachers and it was put into practice in the 1998-1999 academic year (Baskan, 2001; Kavak, Aydın, & Altun, 2007; YÖK/Dünya Bankası, 1998). During the process, it was decided by The Council of Higher Education [CoHE] to train secondary school teachers with undergraduate programs combined with non-thesis graduate program or non-thesis graduate programs ("Lisansüstü Eğitim," 1996). One of the teaching profession knowledge courses included in the programs was the Curriculum Development and Instruction Course (Kavak et al., 2007). With the latest regulation by CoHE as of the 2010-2011 aca-

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demical year, it was decided to end Secondary School Education Non-Thesis Graduate Programs and to provide formation within undergraduate programs. The regulation defined pedagogical formation certificate courses for teachers and the principles of pedagogical formation training (Yükseköğretim Kurulu [YÖK], 2010a). The 2 credit course including 2 hour theoretical lecture was also covered by Certificate Program for English Language Education. The content of the course consisted of curriculum development and stages in instructional process, main principles, instructional planning and applications, new approaches in teaching and instruction, teachers' tasks and responsibilities for increasing the quality of instructional services and so on (YÖK, 2010b). Within the framework of the course, it was attempted to provide prospective teachers with knowledge, skills, and attitudes related to curriculum development.

Curriculum development process necessitates a team work that teachers are also participated and occurring in various levels (Hesapçioğlu, 1988). Curriculum development is a process on national, regional, local scales or school wide. However, program documents at these levels are used for teaching-learning strategies for teachers, not for content imposition. Teachers could contribute to defining curriculum policies, contents and strategies in the light of educational background outcomes and needs (Ashman & Conway, 1993). Teachers' task and responsibility fulfillment in nation and school wide curriculum development process may contribute to sound applications (Demirel, 2009). Teachers play an important role in curriculum decision making, curriculum application and evaluation. They need to get involved in every stage of curriculum development process (Ornstein & Hunkins, 1988; Sönmez, 1994). Teachers, as a part of their role in curriculum development, must be able to develop ideas for what activities with what objectives should be performed by students in the light of reference books and expert views (when necessary) (Ertürk, 1975). Teachers can develop best practices like in the profession of medicine, justice and engineering (Tanner & Tanner, 2007). Nevertheless, performing curriculum draft planning, application, evaluation and development activities at desired quality depends on teachers' knowledge and skills and expected behavior display (Saylan, 2001). As Varış (1976) pointed out, curriculum development could be achieved as a result of the improvement of all the related factors. Curriculum application achievement is based on all the improved conditions; particularly teacher improvement. For this reason,

teachers need to be trained in a way that they can implement principals both in general and specific situations change the conditions and support the development of programs in teacher training programs (Taner & Tanner).

Therefore, providing prospective teachers with knowledge, skills and positive attitudes especially in the Curriculum Development and Instruction Course is critical for a proper task and responsibility fulfillment. Prospective teachers' attitudes towards the Curriculum Development and Instruction Course might affect their learning, as well as professional knowledge and skills. Attitudes, as an indispensable part of affective qualities, greatly influence students' academic learning (Bloom, 1998). Attitudes are tendencies towards reaction as a result of experience, which guide individuals' behaviors or have dynamic effects on behaviors and these tendencies show continuity for a certain period of time (Tavşancıl, 2002). Individuals' attitudes are acquired internal capacities and they affect choices of individual activities towards a group of things, other individuals, incidents and various cases. Schools try to give students positive attitudes (Senemoğlu, 2009). Positive attitudes make learning easy, while negative attitudes hinder learning. Consequently, it is necessary to measure and evaluate students' attitudes towards courses (Turgut, 1977). Prospective teachers' attitudes towards the Curriculum Development and Instruction Course could guide their behaviors. Having positive attitudes towards the Curriculum Development and Instruction Course may both increase prospective teachers' learning in the course and ensure successful task and responsibility fulfillment in curriculum development process in teaching. Moreover, it must not be forgotten that teachers with positive attitudes and behaviors could teach students positive attitudes and behaviors. Students are affected by teachers' attitudes. Teachers' attitudes and behaviors play an important role in creating new generations (Varış, 1976). As a result, prospective teachers need to have positive attitudes during pre-service training programs. Determining prospective teachers' attitudes towards the Curriculum Development and Instruction Course is critical in that we need to train teachers who could effectively apply curricula, contribute to curriculum development and teach students positive attitudes.

When the literature in Turkey is reviewed, it is clearly seen that although there are studies on prospective teachers' attitudes towards teaching



positive, 19 negative items) was created. The scale items were randomly sequenced in the testing form. After the necessary changes were made in the form, it was applied to the prospective teachers included in the study who took the Curriculum Development and Instruction Course at the end of the semester in order to carry out validity and reliability analysis. The data from 286 prospective teachers who fully answered the scale items were evaluated.

In the study, the answers to the attitude items were five-point-scale type (5= I totally agree- 1=I totally disagree). In this study, as Turgut and Baykul stated (1992), the positive attitude items were scored from I totally disagree (1) to I totally agree (5) to obtain each prospective teacher's total attitude score. On the contrary, the negative attitude items were scored from I totally disagree (5) to I totally agree (1).

### Data Analysis

In the study, descriptive statistics were calculated for each item score and scale scores. Correlation based item analysis technique and non-correlation t test method to test the difference between high and low group means were used for item analysis. Cronbach alpha coefficient was used for scale reliability estimation. Exploratory factor analysis was used for testing construct validity of the scale. Pearson technique was used for factor correlations. In data analysis,  $p < .05$  was taken as the level of significance.

### Results

In this section, the findings about validity and reliability studies based on the data from the application of 38-item-attitude scale to 286 students and interpretations are mentioned. During the scale development process, descriptive analysis, item analysis, factor analysis, factor reliability analysis and correlation definition were the stages. The findings about the reliability and validity studies of the scale in those stages are interpreted and listed in tables.

### Descriptive Analysis

In Likert type scale development, distribution of scale scores needs to be examined before individual item analysis (Tavşancıl, 2002; Tezbaşaran, 1997). In this respect, distribution of total scores obtained was first examined. The expected lowest score was 38.00, the highest score was 190.00, and the range was 152.00 as there were 38 items in the scale. In the study, the lowest score was found as 50.03, the

highest score was found as 185.13, and the range was 135.10. It was seen that the scale largely covered the expected range. The mean scale score was 119.44, the median was 118.07, the mode was 140.11 and the standard deviation was 27.08. Coefficient of Skewness was -.055 and coefficient of Kurtosis was -.341. It might be suggested that scores do not significantly deviate from normal distribution when Coefficient of skewness ranges between + - 1 (Büyüköztürk, 2005). Besides, according to Kolmogorov-Smirnov test results, it was determined that the scores did not significantly deviate from normal distribution ( $p=0.20 > 0.05$ ). These findings showed distribution of the scale scores was close to normal distribution. After examining the score distribution, arithmetic means and standard deviations for each item were calculated and item analysis was carried out.

### Item Analysis

According to the relevant literature, after examining the score distribution, item analysis is used to choose strong and discriminating items for Likert type scale. For the analysis of items; correlations based, internal consistency criterion (low-high group t test) based and simple linear regression with one or more of the techniques can be applied as indicated (Ary, Jacobs, Razavieh, & Sorensen, 2010; Baloğlu, Karadağ, & Karaman, 2008; Erkuş, 2003; Önen & Koçak, 2011; Tavşancıl, 2002; Tavşancıl & Keser, 2002; Tezbaşaran, 1997). In this study also, item analysis techniques based on correlations and internal consistency criterion (low-high group t test) was used. Calculating correlations between each scale item and scale score is the first objective control suggested by Likert (Tezbaşaran, 1997). Item total score correlations were calculated to determine items to be included in the scale. A high, positive item total correlation shows items illustrate similar behaviors and internal consistency of tests is high (Büyüköztürk, 2005). Items with item-test correlation coefficients of 0.40 or more are highly discriminating items (Ebel, 1965 as cited in Erkuş, 2003, p. 135). Items with low correlations must be deleted from scales as reliability and validity of a scale developed by gathering low correlated items or non-correlated items is low (Tezbaşaran, 1997). In the light of this information, item 1, item 14, item 28 and item 33 were deleted from the scale developed for this study according to item analysis findings, because item t-test correlations of those items were lower than 0.40.

One of the methods used in item analysis is testing differences between item mean scores of high and low groups formed according to total scores



than eigenvalue of the second factor were taken into account. The first factor consisted of 12 items and the second and the third items consisted of 9 items each (Appendix 1). The factors were called according to the item content. The first factor in the scale was called "Contradiction", the second factor was called "Interest" and the third factor was called "Appreciation".

Correlations between factor scores to examine criterion validity of the scale and the adjusted total scores were calculated. Calculating factor-total correlations over the adjusted total score is suggested (Büyüköztürk, 2005). Hence, the adjusted total scores and the adjusted total score for each factor were calculated by extracting the factor scores from total score. As a result of analysis, when correlation coefficients of the sub-factors of the scale were examined, factor scores showed that there were positive, significant correlations between the factors and the adjusted total score ( $p < .01$ ). It might be suggested that correlation between the factors was moderate and correlation between the factors and the adjusted total scores was highly positive.

### Reliability of the Scale

Reliability is to the determination between the independent measurements of the same thing. To ensure the reliability, random errors in the measurement must be debug (Karasar, 1991). Cronbach alpha coefficient is calculated for an attitude scale where a five-point-Likert scale is used (Büyüköztürk, 2005). In this study, Cronbach alpha reliability coefficient for the finalized scale consisting of 30 items was calculated as  $\alpha = 0.96$ . Reliability coefficients of the scale according to the sub-factors were respectively 0.94, 0.92 and 0.90 (starting from the first factor). Alpha coefficient which is higher than 0.80 shows that a scale is highly reliable (Özdamar, 1999). In this study, scale reliability was high since reliability coefficient of the scale was close to 1.

### Scale Score Evaluation

The lowest score form the finalized scale was 30.00 and the highest score was 150.00. Low scores showed negative attitudes towards the Curriculum Development and Instruction Course and high scores showed positive attitudes towards the Curriculum Development and Instruction Course. An increase in the first sub-scale score showed a decrease in the contradiction level and an increase in interest level in the second sub-scale and an

increase in appreciation level in the third sub-scale. The row width was expected to be 120.00 (150-30) to ensure that the scale scores covered all attitude components. The row width of the scale scores was 100.22. The scale covered most of the expected width.

### Conclusions and Recommendations

The purpose of this study was to develop a Likert type scale in order to measure prospective teachers' attitudes towards the Curriculum Development and Instruction course. To this end, the number of the defined attitude items was lowered to 38 as a result of expert suggestions and pre-testing and they were given to 286 prospective teachers. In the light of reliability and validity analysis over the data obtained by pre-testing application, 9 items were deleted from the scale. The scale as a result of analysis consisted of 30 items and three factors. These factors were called contradiction (12 items), interest (9 items) and appreciation (9 items). Total variance explained by the three factors in the attitude scale was 60.15%. Cronbach alpha reliability coefficient of the scale was 0.96.

The findings showed that "Attitude Scale for the Curriculum development and Instruction Course" could be considered as a valid and reliable measurement tool to measure prospective teachers' attitudes towards the Curriculum Development and Instruction course. However, it is useful to test whether the obtained findings will apply to other groups. In addition, it is believed that confirming the scale findings by confirmatory factor analysis in studies with more comprehensive and different sample groups and examining correlations to similar scales will strengthen the validity and reliability findings and contribute to further scale development. Within this framework, further research on the scale reliability and validity is recommended.

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