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Construction of the teaching ability belief scale- extended: a pilot study

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Abstract

Many researchers indicated the significance of pre-service teachers' beliefs (Bernat, 2008; Carter & Norwood, 1997; Feiman-Nemser, 2001) and showed that they are guided by their beliefs (Buchmann, 1984; Nespor, 1987; Pajares, 1992: Thompson, 1992). It is suggested that the beliefs of teachers and pre-service teachers be the center of many teacher education programs and research (Pajares, 1992), as they are the best indicators of decisions individuals make throughout their lives (Bandura, 1986; Pintrich, 1989). The significance of study of this topic lies in the fact that there are very few relevant valid and reliable scales that can be used to measure the source of prospective teachers' teaching beliefs. This study, therefore, aims to develop a psychometrically sound scale that surveys the beliefs of pre-service teachers towards the nature of the teaching ability. The results of the study reveal that the source of teaching ability beliefs has 6 components: (a) inherent; (b) instructed; (c) either; (d) inherent but still needs development; (e) observed and (f) experienced.

Keywords: pre-service teacher beliefs, scale construction, teacher education

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Introduction

The construct of 'Beliefs'

There is a growing number of studies that show teachers are substantially influenced by their beliefs, which, in turn, affect their behavior in classrooms (Ashton, 1990; Ashton & Webb, 1986; Barcelos, 2003; Brookhart & Freeman, 1992; Buchmann, 1984; Clark, 1988; Dinham& Stritter, 1986; Feiman-Nemser&Floden, 1986; Fenstermacher, 1979, 1986; Munby, 1982, 1984; Tabachnick, Popkewitz, & Zeichner, 1979; Weinstein, 1988, 1989; Wilson, 1990). Additionally, being aware of one's beliefs is significant to language learning pedagogy (Bernat, 2008).

With regard to what a belief means, Abelson (1979) defined belief by referring to people who manipulate knowledge for a particular purpose or under a necessary circumstance and stated that the agent is aware of the fact that others might behave differently.

Ackermann (1972) studied beliefs under four different categories: behavioral beliefs, conscious beliefs, unconscious beliefs and rational beliefs. "Behavioral beliefs are not distinguished simply by fixed behavioral patterns that anyone holding a certain belief will exhibit". Unconscious beliefs are long-established beliefs that have an effect on behavior over a long period of time but cannot be recognized and interpreted by the holder, whereas conscious beliefs can be explicitly stated by the holder. Rational beliefs are the ones that are the philosophical idealizations of real belief structures.

Borg (2001) defined belief as a mental state which an individual holds and accepts as true; though individuals know that other people might have different perspectives about it. Therefore, s/he already accepts disagreements but beliefs are rather static and less dynamic as they cannot be easily altered.

Dewey (1933) defined belief "as a form of thought which includes all the matters of which we have no certain knowledge, but are sure of to act upon". So, beliefs can be 'blind', 'unreasoned', or can be the outcome of education or schooling or an experience.

Pajares (1992) expressed belief as an individual's understanding of the truth or inaccuracy of a proposition and outlined the findings of previous studies on beliefs. These findings are given below:

I. Beliefs are constituted early and apt to be resistant to change brought by schooling and time.

II. Such belief substructures as educational beliefs must be dealt with their connections.

III. Some beliefs are more incontrovertible than others.

IV. The earlier the belief is added to the belief system, the more difficult it is to alter.

V. It is very rare for a belief to be changed during adulthood.

VI. Beliefs strongly affect peoples' behavior.

VII. Beliefs cannot be directly observable but inferred from what people say and do.

VIII. Beliefs about teaching are established by the time a student attends college (pp.324-326).

Richardson stated that anthropologists, philosophers and social psychologists had consensus on a commonly agreed definition of beliefs. Beliefs are defined as psychologically held understandings, propositions about the world that were perceived to be true (1996, pp. 103).

Rokeach (1968) defined belief as 'any simple proposition, conscious or unconscious, inferred from what a person says or does' (pp.113). Rokeach (1968) and Dewey (1933) stated that there was a link between people's decisions and their beliefs; therefore, beliefs actively determined decisions made in their lives.

With regard to the nature of belief, Van Fleet (1979) stated that beliefs were constructed through enculturation and social construction. Enculturation includes implicit learning process and assimilation through observation, involvement and imitation. Social construction includes deliberate attempts to receive education in line with cultural expectations.

Lasley (1980) proposed that as people incorporated others' ideas, beliefs were formed and clung and unchanged until they were challenged. Nisbett and Ross (1980) proposed that every individual was a theorist inside making inferences out of their experiences. And these inferences that were formed into beliefs were highly invulnerable to alterations. Therefore, the earlier the belief is added to belief structure, the more difficult it is to change. Also, these beliefs substantially affect perceptions and influence new information processing. As time passes, individuals hold on to these robust beliefs whether they are correct, complete or proven otherwise.

The Belief System

A belief system is described by Rokeach (1968) as "an organization of beliefs which vary in depth, and are formed as a result of living in nature and in society" (pp. 10). One's belief system, which includes ideologies, values, ideas, attitudes consists of five types of beliefs:

I. Type A: primitive beliefs, 100% consensus: these beliefs form the basic truths and are almost impossible to alter.

II. Type B: primitive beliefs, zero consensus: it is similar to Type A but they are ego-centered and internally constituted.

III. Type C: authority beliefs: it is the expanding repertoire of primitive beliefs, that is, when the agent finds out the particular belief he held is not shared by everyone, s/he goes through discrimination to determine which authorities to trust and not to trust.

IV. Type D: derived beliefs: they are the beliefs obtained from authority sources.

V. Type E: inconsequential believes: these beliefs include arbitrary matters of taste.

Ackerman examined the belief system (1972) and proposed the essential features of this system, which are stated below:

I. The elements (propositions, concepts, etc.) of a belief system are not consensual. To clarify the point, the example of 'Generation Gap' can be given. Young people may have a rather articulated system of concepts which blame the problem on adult restrictiveness and insensitivity, while adult people might think of it as rebellion and immaturity of adolescents.

VI. Believes systems are in part concerned with the existence or non-existence of certain conceptual entities. The examples of the God and witches as illustrations of such entities can be illustrated. Asserting the existence of some entity implies any awareness of others who believe it does not exist.

VII. Belief systems often include representations of 'alternative worlds', that is, the world as it is and the world as it should be.

VIII. Belief systems rely heavily on evaluative and affective components.

IX. Belief systems are likely to include a substantial amount of episodic material.

X. The content to be included in a belief system is usually highly 'open'. It is not certain where to draw a line, a boundary around the belief system, excluding irrelevant concepts lying outside.

XI. Beliefs can be held with varying degrees of certitude. Agents can be very passionate about a point of view, as passionate as to say "I know that computers in the future will replace humans".

Theoretical Framework: Espoused Theories of Action

Theories of action suggests that people show deliberate actions in the environment. Based on these actions, they learn and plan their further actions. As a result, they create models of their environment, along with a variety of theories on how to act according to those models, so as to create actions that would yield desired outcomes. Argyris et al. (1985) state that these design programs are *theories of action* and distinguish between two types of action theories: *espoused theories of action* and *theories-in-use.*

Argyris et al. (1985) clarify the distinction by stating when people are asked about their behavior in a certain situation, most of them express their espoused theory of action for that situation. This is the theory that conveys their aims and intentions. However, theories-in-use actually govern their actions. These two theories might or might not be in agreement, and the individual might or might not be conscious of that. Thompson (1992, pp. 134) signaled the need to examine theories-in-use as well as espoused theories. This theory has driven the researcher to develop a psychometrically sound scale that would measure the beliefs of pre-service teachers in the *espoused theory of action* framework.

Previous Studies

Though the field is familiar with much work using the construct 'identity', there has been very little attention paid to the scale construction. In the literature, only one scale which was designated to measure teaching abilities of preservice teachers was available. The scale, the TABS, developed by Fives and Buehl (2014) shows psychometric properties in that its reliability ranges from .82 to .59. However, it had certain limitations such as the presence of few items in each factor and relatively low reliability coefficients for each item. Current study is designed to overcome these limitations by using relatively more items with higher reliability coefficients.

Another important limitation of the previous study was the limited number of factors used to form the scale. 4 factors are extracted: Innate, learned, either and requires polish. Therefore, TABS scale seems to ignore *'experience' and 'observation'* as other factors. However, Goodman (1988) discovered that teachers were considerably affected by *guiding images* from past events that lead to *intuitive screens* through which new information was filtered. Calderhead and Robson (1991) also concluded, "pre-service teachers had vivid images of teaching from their experiences as students, images that influenced interpretations of particular courses and classroom practices and played a robust role in determining how they translated and utilized the knowledge they possessed and how they decided on the practices they would later undertake as teachers".

Methodology

Significance of the Study

Teachers' beliefs are of vital importance and therefore should be studied to reflect their scope and perspective. Pre-service teachers' beliefs are central to their teaching (Feiman-Nemser, 2001; Hatipoğlu, 2009, 2012). Thus, Nespor (1987) indicated the importance of understanding teachers' beliefs in order to interpret their teaching practices judgments, and perceptions in the classroom (Pajares, 1992).

Teachers' belief systems are helpful in shaping their knowledge and behaviors. Their way of teaching relies mostly on their belief systems. Thompson (1992) claims that beliefs, perspectives and preferences affect teachers' effectiveness in the classroom. Pre-service teachers have well-established beliefs they have from pre-college education when they start teacher education programs (Pajares, 1992). These beliefs are used to filter and organize the new knowledge (Kagan, 1992; Pajares, 1992). Research emphasizes that pre-service teachers' existent characteristics, knowledge, beliefs, attitudes, experiences, and conceptions at the beginning of the teacher education program influence their development as a student and a teacher (Carter & Norwood, 1997).

Though the field has experienced much work using the construct 'identity', there has been very little attention paid to the scale construction to measure the beliefs of preservice teachers. This study, therefore, addresses this gap by investigating the following research question:

(a) Is the teaching ability belief scale- Extended a valid and reliable scale to measure preservice teachers' beliefs towards their teaching ability?

Research Design

The TABS-Extended was developed and piloted through the processes explained in detail below. First of all, a questionnaire, developed by the researcher, was given to 11 academics in order to identify categories related to the source of teaching ability. Of those 11 academics, 7 of them worked in English Language Teaching and 4 worked in the Psychology Department at a private university in İzmir. The questionnaire included 2 open-ended questions and is specified in Appendix I. Upon analyzing the responses given to the questionnaire, an initial pool of 45 items was written and they are presented in Appendix II. 3 experts on Measurement and Evaluation and another 3 experts on Teacher Education evaluated the items. Based on the feedback gathered from those experts, the final form of the scale was constructed and administered to the participants.

Under the quantitative research methodology, Exploratory Factor Analysis was conducted in order to determine the validity and extract the factors of the TABS-Extended. Exploratory Factor analysis, a technique of data reduction (Pallant, 2005), was utilized to determine variables by factors (Fraenkel & Wallen, 2005). With the help of factor analysis, the researcher also determined the reliability of each factor and selected the items to be excluded to form the actual scale.

Participants of the Study

All preservice teachers in Turkey constituted the target population of this study. Since the population was large and connecting with all teachers in Turkey required time and financial resources, the sample included 80 pre-service teachers studying in English Language Teacher Department at a private university in İzmir, Turkey. The scale was given to these students at the beginning of their lecture with permission and it expressed that their names and responses would be kept confidential.

The mean age of participants was 21, 46 (SD=3, 24; range 18-36). Among 80 participants, 82.5 % were female, and 17, 5 % were male. 42, 5 % of them were freshman, 48, 8% were sophomores and 7 % were senior year students.

The Instrument: TABS-Extended

Tabs-Extended included two main parts: (a) background information and (b) teaching ability belief scale. In the first part of the scale, participants were required to specify their gender, age, department and year level.

In the second section of the study, participants responded to 45 items on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Those views reflected whether the source of teaching ability is (a) inherent; (b) instructed; (c) either; (d) inherent but still needs development ;(e) observed and (f) experienced. Based on exploratory factor analysis of data, 20 items were retained and six teaching ability belief factors were

obtained. They are: *Inherent, Instructed, Either, Needs Development, Observed* and *Experienced*. Sample items related to each component were given in Table I.

Table 1

Sample Items for Each Construct

Factor	SampleItems	Number of Items
I. Inherent	• Teachers have innate abilities to teach that cannot be instructed via training. • Teaching cannot be learned but born with the ability to teach. • Teaching is a bestowed ability that doesn't require education.	12items
II. Instructed	• Teaching is a skill which can be taught at educational institutions. • Getting education on teaching is enough for someone to learn teaching. • Anyone can be a teacher after education.	10 items
III. Either	• Whereas some people have God-given teaching skills, there are some other people who can get teaching skills through education. • Education is a must for some individuals; whereas, some people don't require any training. • Whereas some people have God-given teaching skills, there are some other people who can get teaching skills through education.	7 items

IV. Needs Development	• Having innate teaching skills requires their further development through training. • Though a person has a bestowed teaching ability, s/he will need training, anyway. • Further education will still be needed for the ones who have God-given natural teaching skills.	5 items
V. Observed	• Paying attention to how teachers teach helps someone to develop his own teaching skills. • While my teachers teach, I carefully observe them because it helps me to develop my own teaching skills. • Teaching skills are developed through observation of teachers.	4 items
VI. Experienced	• Only by teaching can teaching skills be developed. • Having teaching experience is the key to teaching skills. • Teaching skills are developed through gaining experience.	7 items
Total		**45 Items**

The *Innate* factor includes the perspective that the ability to teach is given inherently which cannot be obtained later. Items in the *Instructed* factor cover the fact that teaching ability can be learned via schooling and through education. The factor *Either* holds views that teaching ability is inherently present for some people while some other people have to learn it through training, but can be learned by others. *Inherent but still needs development factor* reflects the idea that teaching skills are innately given but individuals still need education to further them. Teaching ability as an *Observed* skill is what makes the current scale different from TABS and more robust since pre-service teachers beliefs are profoundly created through the observation of their teachers and since it cannot be disregarded. The last factor, *Experienced*, reflects the idea that teaching ability can be developed through experience. In Fives and Buehl's (2014) scale- TABS- this factor is also neglected. They report in their study

that experience is embedded in *Learned* Factor; however, it is evident from the literature that experience itself is a pivotal component that cannot be neglected.

Analysis

(a) Appropriateness of the Sample Size

Through this pilot study, the new scale's construct validity and reliability are tested using Exploratory Factor Analysis. An important measure in factor analysis is the Bartlett's Test of Sphericity. Literature suggests that this index should be significant ($p<.05$) for the factor analysis to be considered appropriate. Bartlett's Test of Sphericity (.00 < .05) was found to be significant.

(b) Principal Component Analysis

For the study, data reduction and descriptive statistics were conducted by using SPSS 22 program. First of all, negatively worded items are reversed as 1 to 6 and 6 to 1. Items 3, 6, 25, 40, 43 were noted as negatively worded items and these items were reversed. After that procedure, Factor Analysis was implemented to identify factors of TABS-extended.

The result of the factor analysis showed that there were six components with eigenvalue over 1 (Total Variance Explained table was given in Appendix III) and these 6 factors together explained %44 of the variance. Screeplot (See Figure 1) made a sharp break after the 5th component. Therefore, component matrix also supported screeplot's results that items were loaded into six components.

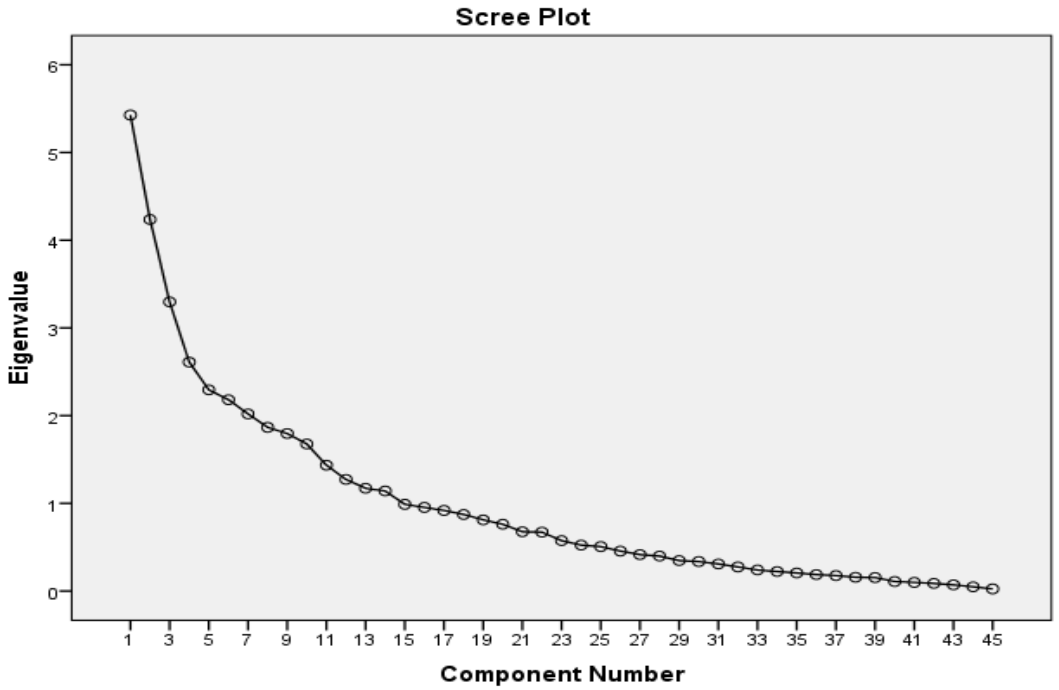

Figure 1

Scree Plot

After the factors were rotated using the Varimax method, items and their loaded components were presented in Table II. Items *20 and 3* were excluded from the scale, as they were loaded in more than one factor.

Table 2

Component Matrix after Rotation (Varimax)

	Component Number					
Item Numbers	***1st***	***2nd***	***3rd***	***4th***	***5th***	***6th***
	21	29	28	13	19	22
	45	30	23	9	7	2
	26	43	16	12	8	4
	32	40	31	35	1	10
	37	11	33	41	18	6
	36	42	34	*5*	38	
	24	15	27			
	44	14	17			
			39			

*Items in italics were excluded to calculate the reliability coefficients as they dramatically decreased the value.

(c) Reduction of the number of items

For the current study, the content validity of the scale was examined by Corrected Item/Total Correlation index and the items that violate the 0.25 value were removed from the scale. These items are *M1, M2, M3, M4, M5, M6, M10, M11, M16, M20, M21, M22, M23, M24, M25, M28, M31, M33, M34, M36, M39, M40, M43, M44* and *M45.*

Cronbach alpha coefficient was computed via SPSS 22 for each component to determine the internal consistency. The reliability of each component with their standard deviations is presented in Table III.

Table 3

Reliability and Descriptive Statistics for the Teaching Ability Belief Scale-Extended

Construct	r	Mean	Standard Deviation
Factor I	.583	31.22	4.82
Factor II	.77	37.92	5.40
Factor III	.727	25,72	6.46
Factor IV	.736	28.52	4.46
Factor V	.665	24.75	4.93
Factor VI	-.351	18.88	2.49

A stepwise reduction of items was performed via item/total correlation coefficients. As a result of the analysis, the number of items which were retained in the scale was 22. Firstly, the items, whose correlations with the sum total of the scale were less than .25, were excluded from the scale. As a result, 23 items were removed from the scale. Among them, there are such items as 'As teaching skills require that you innately have them, receiving education to develop them will be useless;' 'Teaching skills are developed through gaining experience;' and 'While some people need education in teaching, it is not necessary for some other people.' These items were excluded since they explained little variance of the construct and had low content validity. Secondly, only those items whose correlation with the sum total of the scale was higher than r= .6 were kept in the scale. As all of the items were above the specified value, items 45 and 5 were excluded and same 20 items remained in the scale.

The reliability coefficients for the data for each component are found to range from .77 to -.36. Reliability coefficients, standard deviations and means were presented in Table III.

Discussion and Conclusions

The current study was carried out in order to develop a reliable and valid scale to measure pre-service teachers' beliefs regarding the source of teaching abilities. It was also designed to fill the gap in the literature as only one existing scale was detected and its suitability for participants outside the USA has not yet been confirmed.

With this study, a new scale with 20 items 'Teaching Ability Belief Scale-Extended' was constructed and its psychometric properties were examined in terms of its validity and reliability by using 80 participants. One limitation of the study is the relatively low number of participants to whom the scale was administered. With more participants, reliability coefficients of each factor could be increased, making the scale more robust. Therefore, future studies can replicate this study with more preservice teachers from different regions of Turkey. It is also recommended that the scale be administered to preservice teachers who study in other departments such as Educational Sciences, Computer Education and Information Technologies, as well as Mathematics and Science Education departments.

For further studies, using a sample of in-service ELT teachers might also be investigated in order to illustrate that this scale can reliably be used to determine the source of experienced teachers' beliefs.

References

Abelson, R. (1979). Differences between belief systems and knowledge systems. *Cognitive Science, 3,* 355-366.

Ackermann, R. J. (1972). *Belief and knowledge.* Garden City, NY: Anchor Books Doubleday.

Argyris, C., Putnam, R., & McLain Smith, D. (1985). *Action science: concepts, methods, and skills for research and intervention*. San Francisco: Jossey-Bass.

Ashton, P.T. (1990). Editorial. *Journal of Teacher Education, 44(1),* 2.

Ashton, P.T., & Webb, R.B. (1986).*Making a difference: Teachers' sense of efficacy and student achievement.* New York: Longman.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Barcelos, A. M.F.(2003): "Researching Beliefs About SLA: A Critical Review".In: Kalaja, Paula/Barcelos, Ana Maria Ferreira (eds.): *Beliefs about SLA. New Research Approaches*. Dordrecht, Kluwer Academic: 7–33.

Bernat, E. (2008). Beyond beliefs: Psycho-cognitive, Sociocultural and Emergent Ecological Approaches to Learner Perceptions in Foreign Language Acquisition.*The Asian EFL Journal 10(3)*.7–27.

Borg, M. (2001).Teachers‟ beliefs. *ELT Journal, 55 (2),* 186-188.

Brookhart, S. M. and Freeman, D. J. (1992). Characteristics of entering teacher candidates. *Review of Educational Research, 62(1),* 37-60.

Buchmann, M. (1984). The Use of Research Knowledge in Teacher Education and Training, *American Journal of Education, 93,* pp. 421-439.

Calderhead, J., & Robson, M. (1991). Images of teaching: Student teachers' early conceptions of classroom practice. *Teaching & Teacher Education, 7,* 1-8.

Carter, G., & Norwood, K. S. (1997). The relationship between teacher and student beliefs about mathematics. *School Science and Mathematics, 97*, 62-67.

Clark, C.M. (1988). Asking the Right Questions about Teacher Preparation: contributions of research on teacher thinking. *Educational Researcher, 17(2),* 5-12.

Cronbach, L. J. (1951).Coefficient alpha and the internal structure of tests. *Psychometrika 22(3),* 297-334.

Dewey, J. (1933). *How we think.* Boston: D. C. Heath.

Dinham, S.M. & Stritter, F.T. (1986) Research on Professional Education, in M.C. Wittrock (Ed.) *Handbook of Research on Teaching*, 3rd edn. New York: Macmillan.

Feiman-Nemser, S. (2001).From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record, 103(6),* 1013-1055.

Feiman-Nemser, S., & Floden, R. (1986). The cultures of teaching.In M. Wittrock (Ed.), *Handbook of research on teaching* (pp. 505-526). New York: Macmillan.

Fenstermacher, G. (1979). A philosophical consideration of recent research on teacher effectiveness.In L. Shulman (Ed.), *Review of research in education* (pp. 157-185). Itasca, IL: Peacock.

Fenstermacher, G.. (1986). Philosophy of Research on Teaching: three aspects, in M. C. Wittrock (Ed*.) Handbook of Research on Teaching*, 3rd edn. New York: Macmillan.

Fives, H. and M. M. Buehl (2014). Exploring differences in practicing teachers' valuing of pedagogical knowledge based on teaching ability beliefs. *Journal of Teacher Education, 65(5),* 435-448.

Fraenkel, J. R., & Wallen, N. E. (2006). *How to design and evaluate research in education*. Boston: McGraw Hill.

Goodman, J. (1988). Constructing a practical philosophy of teaching: a study of preservice teachers' professional perspectives. *Teaching and Teacher Education,4*, 121-137.

Hatipoğlu, Ç. (2009). Do we speak the same culture?: Evidence from students in the Foreign Language Education Departments. Proceedings of the *International Congress Of Comparative Literature And The Teaching Of Literature And Language: We Speak The Same Culture*, 29 April-1 May 2009, Gazi University, Ankara, Turkey, pp. 343-357**.**

Hatipoğlu, Ç. (2012). British culture in the eyes of future English Language Teachers in Turkey. In Y. Bayyurt and Y. Bektaş-Çetinkaya (Eds.), *Research Perspectives on Teaching and Learning English in Turkey: Policies and Practices* (pp. 119-144). Berlin: Peter Lang.

Kagan, D. M. (1992). Implications of research on teacher beliefs. *Educational Psychologist, 27*,65–90.

Kaiser, H. (1970). A second generation Little Jiffy. *Psychometrika, 35*, 401–415.

Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika,* 39, 31–36.

Lasley, T. J. (1980). Preservice teacher beliefs about teaching. *Journal of Teacher Education, 31(4),* 38-41.

Munby, H. (1982). The place of teachers' beliefs in research on teacher thinking and decision making, and an alternative methodology. *Instructional Science, 11,* 201–225.

Munby, H. (1984). A qualitative approach to the study of a teacher's beliefs. *Journal of Research in Science Teaching, 21(1),* 27–38.

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies, 19,* 317–328.

Nisbett, R., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice-Hall.

Nunnally, J. O. (1978). *Pyschometric theory*. New York:McGraw-Hill.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research. 62(3),* 307-332.

Pallant, J. (2005). SPSS Survival Manual: A step by step guide to data analysis using SPSS (Version 11). Open University Press.

Pintrich, P. R. (1989). The dynamic interplay of student motivation and cognition in the college classroom. In M. L. Maehr& C. Ames (Eds.), *Advances in motivation and achievement: Motivation-enhancing environments* (Vol. 6, pp. 117–160). Greenwich, CT: JAI

Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula, TJ.Buttery, & E. Guyton (Eds.), *Handbook of research in teacher education* (2nd ed., pp.102–119). New York: Macmillan.

Rokeach, M. (1968). *Beliefs, attitudes, and values: A theory of organization and change.* San Francisco: Jossey-Bass

Tabachnick, B., Popkewitz, T., and Zeichner, K. (1979-80). Teacher education and the professional perspectives of student teachers. *Interchange, 10(4),* 12-29.

Thompson, A. G. (1992). Teachers. beliefs and conceptions: A synthesis of research. In D.A. Grouws (Ed.). *Handbook of research on mathematics teaching and learning* (pp. 127-146). New York: Macmillan.

Van Fleet, A. (1979). Learning to teach: The cultural transmission analogy. *Journal of Thought, 14,* 281-290.

Weinstein, C. (1988). Preservice teachers' expectations about the first year of teaching. *Teaching and Teacher Education, 4,* 31-41.

Weinstein, C. (1989). Teacher education students' perceptions of teaching. *Journal of Teacher Education, 40(2),* 53-60.

Wilson, S. M. (1990). The secret garden of teacher education. Phi Delta Kappan, 72, 204-209.

APPENDIX I.

TEACHING ABILITY BELIEF SCALE- TURKISH CONTEXT

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The questions below are prepared to get **your beliefs about teaching**. Based on your answers, items of teaching ability belief scale will be formed. So, please try to answer as honestly and thoroughly as possible. Your answers will be anonymous.

You need approximately 10-13 minutes to answer.

Thank you.

1. Imagine that a person wants to be a teacher. What does s/he need?
2. What is the source of teaching skills? Can you please reflect on it?

APPENDIX II.

TEACHING ABILITY BELIEF SCALE-TR

Dear students,

This study is carried out to identify your beliefs towards the source of teaching skills. It is very important that you give **honest** responses to the items for reliability and validity of the scale. It is also important that you mark **all** of the items.

Each of the statements below expresses a belief toward teaching abilities. Please rate each statement on the extent to which you agree. For each, you may (1) Strongly disagree, (2) Moderately disagree, (3) Slightly Disagree, (4) Slightly Agree, (5) Mostly agree, (6) Strongly Agree.

Thank you for your cooperation.

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İzmir University

A. BACKGROUND INFORMATION

1. Gender Female ( ) Male ( )

2. Age _____

3. Department _____ 1st Grade ( ) 2nd Grade ( ) 3rd Grade ( ) 4th Grade ( )

	Strongly disagree	Moderately disagree	Slightly Disagree	Slightly Agree	Mostlyagree	Strongly Agree
1. Teaching is a gift from God.	1	2	3	4	5	6
2. No matter how individuals are trained, they have to be born with the ability to teach.	1	2	3	4	5	6
3. A person doesn't need to be born with the ability to teach.	1	2	3	4	5	6
4.Teaching skills are such skills that you inherently have them.	1	2	3	4	5	6
5.Teaching is a skill which can be taught at educational institutions.	1	2	3	4	5	6
6.Not everyone has to have natural instincts to teach.	1	2	3	4	5	6
7.Whereas some people have God-given teaching skills, there are some other people who can get teaching skills through education.	1	2	3	4	5	6
8.As education is the key to teaching skills, innate, God-given teaching skills will still require training.	1	2	3	4	5	6
9. Paying attention to how teachers teach helps someone to develop his own teaching skills.	1	2	3	4	5	6

	Strongly disagree	Moderately disagree	Slightly Disagree	Slightly Agree	Mostlyagree	Strongly Agree
10. Only by teaching can teaching skills be developed.	1	2	3	4	5	6
11. Having teaching experience is the key to teaching skills.	1	2	3	4	5	6
12. Observing what teachers do helps individuals to gain expertise in teaching skills.	1	2	3	4	5	6
13. While my teachers teach, I carefully observe them because it helps me to develop my own teaching skills.	1	2	3	4	5	6
15. Some individuals still need education, though they have God-given abilities to teach.	1	2	3	4	5	6
16. Having innate teaching skills requires their further development through training.	1	2	3	4	5	6
17. Education is a must for some individuals; whereas, some people don't require any training.	1	2	3	4	5	6
18. There are two ways of having teaching skills; one way is having those skills with birth, the other one is formal education.	1	2	3	4	5	6
19. Even though teaching is a natural skill which is born with, training is still required.	1	2	3	4	5	6
20. Some individuals are born with the ability to teach, while some others have to learn it.	1	2	3	4	5	6
21. I might not be good at teaching but after I get education, I know that I will learn how to teach.	1	2	3	4	5	6
22. Getting education on teaching is enough for someone to learn teaching.	1	2	3	4	5	6
23. With training, anyone can learn to teach.	1	2	3	4	5	6
24. No matter how much training I get, I believe that I can't learn teaching because it is an innate ability.	1	2	3	4	5	6
25. Even though a person is trained, it doesn't necessarily mean that s/he can teach.	1	2	3	4	5	6
26. As teaching skills require that you innately have them, receiving education to develop them will be useless.	1	2	3	4	5	6
27. If a person gets education, s/he will get teaching skills.	1	2	3	4	5	6
28. No matter what training you get, teaching skills depend on basic instincts.	1	2	3	4	5	6
29. Teachers have innate abilities to teach that cannot be instructed via training.	1	2	3	4	5	6
30. An individual has to have experience in teaching so that s/he can have teaching skills.	1	2	3	4	5	6
31. Practice helps an individual to acquire teaching skills.	1	2	3	4	5	6
32. Teaching is a bestowed ability that doesn't require education.	1	2	3	4	5	6

	Strongly disagree	Moderately disagree	Slightly Disagree	Slightly Agree	Mostlyagree	Strongly Agree
33. As long as an individual gets education, s/he can learn teaching.	1	2	3	4	5	6
34. While some people need education in teaching, it is not necessary for some other people.	1	2	3	4	5	6
35. Teaching cannot be learned but born with the ability to teach.	1	2	3	4	5	6
36. Teaching skills are developed through observation of teachers.	1	2	3	4	5	6
37. Anyone can be a teacher after education.	1	2	3	4	5	6
38. Education is the key to learn to teach.	1	2	3	4	5	6
39. Teachers are born with the ability to teach individuals.	1	2	3	4	5	6
40. Teaching cannot be explicitly taught.	1	2	3	4	5	6
41. Though a person has a bestowed teaching ability, s/he will need training, anyway.	1	2	3	4	5	6
42. For someone to learn teaching depends on that person.	1	2	3	4	5	6
43. A person without teaching experience cannot have teaching skills.	1	2	3	4	5	6
44. Teaching skills are developed through gaining experience.	1	2	3	4	5	6
45. An individual develops teaching skills only by teaching.	1	2	3	4	5	6
46. Further education will still be needed for the ones who have God-given natural teaching skills.	1	2	3	4	5	6

APPENDIX III.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,427	12,060	12,060	5,427	12,060	12,060	3,990	8,866	8,866
2	4,236	9,413	21,473	4,236	9,413	21,473	3,781	8,402	17,268
3	3,296	7,325	28,798	3,296	7,325	28,798	3,515	7,811	25,080
4	2,610	5,801	34,598	2,610	5,801	34,598	3,217	7,148	32,228
5	2,294	5,098	39,696	2,294	5,098	39,696	3,067	6,816	39,044
6	2,182	4,848	44,545	2,182	4,848	44,545	2,475	5,501	**44,545**
7	2,020	4,488	49,033						
8	1,866	4,147	53,180						
9	1,796	3,990	57,171						
10	1,676	3,725	60,895						
11	1,435	3,188	64,084						
12	1,272	2,827	66,911						
13	1,171	2,603	69,514						
14	1,141	2,535	72,049						
15	,988	2,197	74,246						
16	,953	2,119	76,365						
17	,919	2,042	78,407						
18	,873	1,940	80,347						
19	,812	1,804	82,150						
20	,761	1,692	83,842						
21	,676	1,502	85,344						
22	,672	1,494	86,838						
23	,575	1,277	88,115						
24	,523	1,163	89,278						
25	,506	1,125	90,403						
26	,455	1,012	91,415						
27	,415	,923	92,338						
28	,399	,886	93,225						
29	,347	,771	93,996						
30	,336	,747	94,743						
31	,309	,686	95,429						
32	,275	,610	96,039						

33	,240	,534	96,573						
34	,223	,495	97,068						
35	,206	,458	97,527						
36	,187	,417	97,943						
37	,176	,392	98,335						
38	,158	,350	98,685						
39	,154	,342	99,027						
40	,109	,242	99,269						
41	,098	,218	99,487						
42	,087	,193	99,680						
43	,071	,158	99,838						
44	,048	,107	99,946						
45	,024	,054	100,000						

Extraction Method: Principal Component Analysis.