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Developing the Educational Belief Scale: The Validity and Reliability Study

Kürşad YILMAZ[a]
Dumlupınar University

Yahya ALTINKURT
Dumlupınar University

Ömay ÇOKLUK
Ankara University

Abstract

The aim of this study is to develop a valid and reliable scale that can be used in determining educational beliefs of teachers and prospective teachers. After studies such as scale expert views and the evaluation of intelligibility, the measure is administered to a sample consisting of 154 teachers and 305 prospective teachers with a total number of 459 participants. Exploratory and confirmatory factor analyses are applied in order to determine the construct validity of the scale. According to the exploratory factor analysis results, the scale consists of five factors including: Perennialism, Essentialism, Progressivism, Reconstructionalism, and Existentionalism with a total of 40 five-Likert type items. Item factor loadings in the related scale range from 0.42 to 0.74, corrected item-total correlations between 0.22 and 0.90, and reliability coefficients between 0.70 and 0.91. Also, the five-factor construct of the scale is confirmed by exploratory factor analysis. The research findings have showed that the Educational Belief Scale is a valid and reliable scale that can be used in determining educational beliefs of teachers and prospective teachers.

Key Words

Educational Belief, Educational Philosophy, Teacher, Prospective Teacher.

Culture is defined as shared values and beliefs. Beliefs are cultural elements that play important roles in social and organizational life since they are considered to be a cultural element in all studies on culture and organizational culture (Hoy & Miskel, 2001). Beliefs are cognitions one gets in his relationship with the environment (Trompenaars, 1993), and consist of the individual's past and present knowledge of reality (Sabuncuoğlu & Tüz, 2001). According to Crutchfield (1970), beliefs are constant organizations, and a belief is the total of meanings something defines and an individual's entire knowledge of an object (cited in Atay, 2003). Beliefs are stronger than the effects of experiences and far more effective than real experiences in building human behavior (Bandura, 1977). Beliefs affect people's manners and people live according to their beliefs (Bandura, 1977; Enochs & Riggs, 1990; Hoy & Miskel, 2001). For this reason, beliefs establish the cognitive or intellectual side of manners (Arkonaç, 2001; Kağıtçıbaşı, 2006). Therefore, determining teachers' and prospective teachers' educational beliefs is quite necessary and important for understanding and defining the related group's behavior. According to Enochs and Riggs (1990), studying teachers' beliefs has vital importance in terms of understanding teacher behavior.

It is stated in the related literature that educational beliefs are formed based on educational philosophy (Livingston, McClain & DeSpain, 1995; Pajares, 1992; Rideout, 2006; Silvernail, 1992a, 1992b). The supplementary function of educational philosophy is to arrange and compose the educational beliefs obtained by evaluation and analysis of many possibilities (Brauner & Burns, 1982). In this sense, it can be said that the basic determinant of individuals' educational beliefs is their educational philosophies. Accordingly, it was preferred in this study to configure and determine educational beliefs based

a *Correspondence:* Assoc. Prof. Kürşad YILMAZ. Dumlupınar University, Faculty of Education, Department of Educational Sciences. Kütahya - Turkey. E-mail: kursadyilmaz@gmail.com. Phone: +90 274 265 20 31 / 4572 Fax: +90 274 265 20 57.

on educational philosophies. Philosophy helps individuals be interested in their personal beliefs and values, understand the reason for existence, and who they are, and to some extent, where to go (Demirel, 2002). Philosophy is the production of people's efforts of curiosity, learning, thinking, questioning, and understanding (Aydın, 2000). Although there have not been certain and fully acknowledged definitions of philosophy, it can be defined as a bonding process based on establishing reality and a dynamic total of the productions obtained at the end of this process (Demirel, 2002).

Educational philosophy, on the other hand, can be defined as a discipline or a total of systematic ideas and conceptions that orients education, shapes goals, and leads education applications (Fidan & Erden, 1998). Cevizci (2005) has broadened this definition and defined educational philosophy as a philosophy branch that dwells on the problems of education's possibilities, nature, objectives, and methods with methods peculiar to philosophy and aims to answer questions such as whether education is possible or not, whether education is independent of conveying a certain ideology and doctrine or not, whether there is a need for a teacher in education or not, if the main objective in education is to convey knowledge or gaining skills of enlightenment, if education should deal with facts, and whether there are differences between education targeting knowledge and education based on actions or not. Educational philosophy, in this sense, is a discipline or thinking method that provides a point of view for educationalists (Brauner & Burns, 1982).

Introducing main approaches of various educational philosophies' conceptions help the relationships of education's objectives, functions, program, and methods with these philosophical situations seem better (Yayla, 2009). It is possible to evaluate all sub-systems of education, relationships, and consistency between them with educational philosophy (Erden, 2007). In fact, consciously or not, all educationalists have a certain type of educational philosophy. Therefore, teachers' approaches in different educational philosophies functionally affect the styles with which the students are taught. For instance, teachers manage their classes according to their approaches on knowledge and the role of the teacher (Livingston et al., 1995). In other words, classroom applications are affected by teachers' beliefs in school and learning (Bauch, 1982; Fang, 1996; Hermans, Tondeur, Van Braak, & Valcke, 2008; Levin & Wadmany, 2005, 2006; Livingston et al., 1995; Woolley, Benjamin, & Woolley, 2004). In this study, Perennialism, Essentialism, Progressivism, Reconstructionalism, and Existentionalism were taken into consideration and the scale was based on these theories. The related educational philosophies are briefly explained below.

Perennialism is mainly based on classical idealism and realism. Absolute constant in education is emphasizing universal principles and tradition. According to Perennialism, including human nature, moral principles and values are the same everywhere and always and do not change. People should be taught according to these unchanging facts. According to perennialists, the objective of education is developing human mind and will, adapting into universal and unchanging facts and not into the world one lives in, correct and effective use of mind's laws, using deduction, being free and responsible, working with discipline, not copying life, preparing oneself for life and raising aristocrats (Erden, 2007; Ergün, 2009; Sönmez, 2002; Yayla, 2009).

Essentialism is based on realism and idealism. As a social and cultural being, man is not equipped by knowledge by birth; knowledge is acquired in time and for this reason, knowledge can only be reached by induction. Essentialists see the teacher's role in class just as perennialists do. Teacher is an expert of a particular subject and the only responsible person for decision making in the class because students are not grown-ups enough to know what they want and what is more important (Erden, 2007). According to essentialists, the main objective of education is raising knowledgeable and talented individuals by conveying society's knowledge and cultural heritage into young generations and so enabling them to become socialized (Ergün, 2009; Sönmez, 2002; Yayla, 2009).

Progressivism, unlike perennialism and fundamentalism, rejects unchanging and universal absolute facts and sees change as the center of education. In this sense, it can be stated that it is the application of pragmatism into education. This movement opposes extreme formalism of traditional education, its strict and oppressive sense of discipline, and teacher-centeredness, passive education approach that educates passive individuals. All kinds of applications in education process should be based on humans' hedonist motivation. According to this movement, knowledge is acquired by the scientific method and trial and error. Activity based education is student-centered. Education is life itself and not a preparation for life. In this context, the content of classes should be composed according to attractive knowledge; skills, design, and problems

students can immediately use (Ergün, 2009; Sönmez, 2002; Yayla, 2009). School, on the other hand, is a small model of society. School is not a place that makes students get ready for life; it is where life is lived. For this reason, everything in life should also be in the school (Erden, 2007).

Reconstructionalism can be seen as the follower of progressivism and this movement is also based on pragmatism. According to this movement, humanity has come to the edge of a turnout; it will either perish or step into a new civilization. Primary objective of education is to rebuild the society in order to overcome the cultural crisis of our age. In order to do this, basic values the Western society has established should be reevaluated. In this sense, education should be seen as an instrument in forming a world society based on common values since education is what is needed to overcome the current crisis. Education is not only the life but also the future. By means of education, society should be repeatedly shaped and arranged (Sönmez, 2002; Yayla, 2009). Reconstructionalists find the progressivists' ideas wrong that are learner-centered education approach and emphasize the needs of middle class, and they claim that a society-centered education which cares for all society's needs is quite important (Erden, 2007).

Existentionalist education is the reflection of existentionalism in education. According to Kaufmann (1995), existentionalism is neither an idea school nor a philosophical movement stuck between narrow frames of any doctrines. Existence is philosophy itself. Existence cannot be reduced into any rules or codes because life flows like a river that has chosen its way (cited in Aydın, 2000). Common point where existentionalist philosophers meet is human freedom. Above all, existentionalists point out that they try to show people that they are free and they can choose what to value and how to live instead of what to do in a particular situation (Cevizci, 2010). In this context, an existentionalist life and the objective of education make people free, become aware of their freedom, and make them gain awareness in the value of their preferences (Kale, 2009). These views of existentionalism have also penetrated into education. Therefore, education should be arranged according to experiences that will enable an individual to enrich his standpoint in life and make him choose. Social and natural events and circumstances should be presented to students with a wide range and diversity because these are instruments that convey one into self-fulfillment (Sönmez, 2002). It is very important what the student feels, does, and thinks. Learners in the class are the subjects and not the objects (Sungur, 2002). In the aforementioned movements, students are generally taught for adaptation into society, group experience, and environment. This situation prevents one from being an individual and self-fulfillment (Tozlu, 1997). It is easy to determine the objective of education in other movements, whereas it is not that easy to do that in existentionalism because existentionalism strongly criticizes the current education approach.

Many educational research studies emphasize that educational beliefs shape teachers' choices and actions. However, there has been few research on educational beliefs (Quinlan, 1997). This case also applies to Turkey. There have been some research studies on determining the views of teachers (Çoban, 2007; Doğanay & Sarı, 2003), prospective teachers (Ekiz, 2005; 2007; Duman, 2008; Duman & Ulubey, 2008), and school administrators (Karadağ, Baloğlu, & Kaya, 2009) about educational philosophy. However, when it is taken into consideration that studying philosophical views and objectives provide knowledge on the real side of education and training (Livingston et al., 1995), it can be stated that there is more need for this sort of research. In the light of these arguments, it is the aim of this study to develop a valid and reliable scale that can be used in determining the educational beliefs of teachers and prospective teachers.

During the development process of the scale, the literature was examined and the current study and scales were reached. There were no scales directly entitled as educational beliefs in Turkey, whereas there were several scales (Silvernail, 1992a) related to educational beliefs in the foreign literature. In studies by Silvernail (1992a, 1992b), it was attempted to determine teachers' educational beliefs based on educational philosophies. There have been some studies aimed at determining the views on educational philosophy in Turkey. It was found that basically two scales were used in these studies. These were the Philosophy Preference Evaluation Scale (Wiles & Bondi, 1984) and the Educational Philosophy Scale developed by Ekiz (2005, 2007). It was also seen that these scales were generally used in other research. The Philosophy Preference Evaluation Scale (Wiles & Bondi, 1984) was developed to determine the participants' views about Perennialism, Idealism, Realism, Experimentalism, and Existentionalism. The Educational Philosophy Scale (Ekiz, 2005, 2007) was developed to determine the participants' views about Perennialism, Essentialism, Progressivism, and Reconstructionalism.

Method

Sample

The sample consisted of 154 voluntary primary and secondary school teachers in the center of Kütahya Province in the spring semester of the 2009–2010 academic year and 305 prospective teachers from undergraduate and non-thesis master programs of different departments of Dumlupınar University, Faculty of Education. 80 (51.90%) of the 154 teachers in the sample were primary school teachers and 53 (34.40%) were secondary school teachers. 21 (13.60%) teachers did not give any information about their school level. 77 of (50.00%) the teachers were females and 77 (50.00%) were males. 34 (22.10%) were classroom teachers and 94 (61.00%) were branch teachers. 26 (16.90%) of the teachers did not give any information about whether they were classroom teachers or branch teachers. As for the prospective teachers, 215 (71.20%) were females and 87 (28.80%) were males. 19 (6.30%) of the total 217 undergraduate teachers were Grade-1 students, 93 (30.80%) were Grade-2 students, 46 (15.20%) were Grade-3 students and 59 (19.50%) were Grade-4 students. 36 (16.50%) of them were from the Department of Preschool Teaching, 24 (11.00%) were from the Department of Classroom Teaching, 78 (36.00%) were from the Department of Social Sciences Teaching, and 79 (36.50%) were from the Department of Turkish Language Teaching. As for the prospective teachers of non-thesis programs, 26 (30.60%) of 85 teachers were from the Master Program of Physics Teaching, 45 (53.00%) were from the Master Program of Philosophy Group Teaching and 14 (16.40%) were from the Master Program of Art (Painting) Teaching.

Development of the Educational Belief Scale

In the light of scales obtained by the literature review and other information, an item pool was formed by the researchers (Çoban, 2007; Doğanay & Sarı, 2003; Duman, 2008; Duman & Ulubey, 2008; Ekiz, 2005, 2007; Karadağ et al., 2009; Silvernail, 1992a). The first form of the scale was prepared in the pool by the chosen items. This first form was presented into the views of a group of nine field and linguistic experts for language and expression understandability. As a result of the experts' suggestions, necessary corrections were made and the scale was once more presented into the views of a group of 11 teachers and 11 prospective teachers for evaluation of understandability, easy answerable feature, etc. The scale, then, was finalized as a result of the suggestions of the related group.

The five Likert type (from "I totally disagree: 1" to "I totally agree: 5") 55-item pilot form was applied to 320 prospective teachers and 160 teachers. However, 154 of the scales applied to the teachers and 305 of the scales applied to the prospective teachers were used for analyses. For construct validity of the scale, exploratory factor analyses based on principal component analyses were applied, and then, confirmatory factor analysis was used to determine whether the above mentioned construct was valid.

In exploratory factor analysis, .40 was accepted as the factor loading lowest limit in determining whether the items were included in the scale. In the literature, there is a common view that the minimum value of factor loading of an item is 0.30, but there are also researchers who suggest this value is 0.40 (Şencan, 2005). According to Tabachnick and Fidell (2001), this value is 0.32 and above. Comrey and Lee (1992) stated that a factor loading was considered as "excellent" if it was 0.71 (which explained 50% of variance), it was considered as "pretty good" if it was 0.63 (which explained 40% of variance), as "good" if it was 0.55 (which explained 30% of variance), as "average" if it was 0.45 (which explained 20% of variance) and as "poor" if it was 0.32 (which explained 10% of variance) (cited in Tabachnick & Fidel; 2001). Therefore, 0.40 was accepted as the factor loading lowest limit in the analysis.

Confirmatory factor analysis is an analysis which tests whether a specified and restricted construct is confirmed as a model and it is used to evaluate construct validity (Floyd & Widaman, 1995; Kline, 2005; Maruyama, 1998). As a result of confirmatory factor analysis, various goodness of fit index is obtained. It is reasonable to evaluate various indexes simultaneously rather than a single fit index for model confirmation (Cole, 1987; Jöreskog & Sörbom, 1993; Marsh & Hocevar, 1988). As a result of confirmatory factor analysis of Educational Belief Scale, χ^2/df ratio, GFI/AGFI, RMSEA, RMR / SRMR, CFI, NFI / NNFI and PGFI goodness of fit indexes were evaluated. Cronbach-Alpha internal consistency coefficients were calculated for reliability of the scale.

Findings

Validity analysis and then reliability analysis of the Educational Belief Scale were applied. First, Kaiser-Meyer-Olkin (KMO) value and Barlett's Test of Sphericity were examined in order to eligibility of data for factor analysis. KMO is used as a crite-

rion of factor extraction. A high KMO value means each variable of the scale is perfectly predictable by the other variables. If KMO value is lower than 0.50, exploratory factor analysis cannot be applied. KMO value is evaluated by the specified ranges: a) "bad" for the range of 0.50–0.60, b) "poor" for the range of 0.60–0.70, c) "moderate" for the range of 0.70–0.80, d) "good" for the range of 0.80–0.90 and e) "excellent" for the range of 0.90 and above (Leech, Barrett, & Morgan, 2005; Şencan, 2005; Tavşancıl, 2005). In the study, KMO value was .93, which was "excellent". Barlett's Test of Sphericity was significant [χ^2=7521.998; p<0.01]. As a result of these tests, it was decided that exploratory factor analysis could be applied.

Findings of Validity of the Educational Belief Scale

Findings of Exploratory Factor Analysis: As a result of the Educational Belief Scale's exploratory factor analysis, KMO was found 0.93 and Barlett's Test of Sphericity was found [χ2=7521. 998, df = 780, P<.01]. It was seen that the scale had a five factor construct with 40 items. Explanations of each factor are given below:

The first factor of Educational Beliefs Scale, "*Progressivism*", consisted of 13 items and the factor loadings rotated by Varimax ranged from 0.50 to 0.69. As corrected item-total correlations of the items in this factor were examined, it was seen that they ranged from 0.89 to 0.91. Variance that this factor uniquely explained was 16.45%. Eigenvalue of this factor was 11.66.

The second factor of Educational Belief Scale, "*Existentionalist Education*", consisted of seven items and the factor loadings of these items that were rotated by Varimax ranged from 0.58 to 0.74. Corrected item-total correlations of the items in this factor ranged from 0.62 to 0.74. Variance that this factor uniquely explained was 11.42%. Eigenvalue of this factor was 3.26.

The third factor of Educational Belief Scale, "*Reconstructionalism*", consisted of seven items and the factor loadings of these items that were rotated by Varimax ranged from 0.52 to 0.68. Corrected item-total correlations of the items in this factor ranged from 0.50 to 0.62. Variance that this factor uniquely explained was 8.42%. Eigenvalue of this factor was 1.92.

The fourth factor of Educational Belief Scale, "*Perennialism*", consisted of eight items and the factor loadings of these items that were rotated by Varimax ranged from 0.42 to 0.61. Corrected item-total correlations of the items in this factor ranged from 0.22 to 0.48. Variance that this factor uniquely explained was 7.03%. Eigenvalue of this factor was 1.54.

The fifth factor of Educational Belief Scale, "*Essentialism*", consisted of five items and the factor loadings of these items that were rotated by Varimax ranged from 0.61 to 0.73. Corrected item-total correlations of the items in this factor ranged from 0.37 to 0.53. Variance that this factor uniquely explained was 6.25%. Eigenvalue of this factor was 1.44.

It was seen that a variance of approximately 50% was explained when the variance that five different factors explained was summed. Scherer, Wiebe, Luther and Adams (1988) suggested that variance ratios ranging from 40% to 60% were sufficient in social sciences (cited in Tavşancıl, 2005). 15 of 55 items in the pilot form were extracted from the scale because of low factor loadings or high factor loadings of more than one factor.

Findings of Confirmatory Factor Analysis: Confirmatory factor analysis was applied to the five-factor construct obtained by the Educational Belief Scale's exploratory factor analysis. As a result of confirmatory factor analysis, χ^2/df ratio was 2.23 (χ^2/df=1621.67/728). In the literature, it is stated that a ratio equal to or lower than 2.5 in small samples (Kline, 2005), and a ratio equal to greater than 3 in large samples correspond to "excellent" goodness of fit (Kline, 2005; Sümer, 2000). A ratio of ≤ 3 showed "excellent" goodness of fit because of the large sample of the study.

In the literature, it is stated that GFI and AGFI indexes equal to 1 means excellent goodness of fit (Schumacker & Lomax, 1996; Hooper, Coughlan, & Mullen, 2008; Kelloway, 1989; Sümer, 2000). In the study, GFI was 0.85 and AGFI was 0.83 and they were sufficient. RMSEA equal to or lower than 0.05 means excellent goodness of fit (Brown, 2006; Jöreskog & Sörbom, 1993; Raykov & Marcoulides, 2008; Schumacker & Lomax, 1996; Sümer, 2000). In the study, RMSEA was 0.046 and it was considered as excellent goodness of fit. RMR and SRMR equal to or lower than 0.08 mean good fit (Brown, 2006; Hu & Bentler, 1999). In the study, RMR and SRMR were found as 0.065 and they were the indicators of sufficient goodness of fit. CFI equal to or greater than 0.95 means excellent goodness of fit (Hu & Bentler, 1999; Sümer, 2000; Thompson, 2004). In the study, CFI was 0.97 and it was consid-

ered as excellent. NFI and NNFI equal to or greater than 0.95 mean excellent goodness of fit (Hu & Bentler, 1999; Sümer, 2000). In the study, NFI was 0.95 and NNFI was 0.97. PGFI equal to 1 means excellent goodness of fit. In the study, PGFI was 0.75 and it was considered as sufficient.

Also, in confirmatory factor analysis, two modifications were applied between the following items in the Progressivism factor: between "4. Education should teach the ever changing life" and "5. Education content should always be reviewed" and also between "6. Students should actively participate in learning process" and "7. Task of the teacher should be preparing the learning environment and conducting it". It was observed that the modifications significantly contributed to the model fit [χ^2 =94.51, p<.00].

Findings of Reliability of the Educational Belief Scale

When Cronbach-alpha internal consistency coefficients calculated for Educational Belief Scale's reliability were examined, the following coefficients were obtained: "Progressivism: 0.91", "Existentionalism: 0.89", "Reconstructionalism: 0.81", "Perennialism: 0.70" and "Essentialism: 0.70". The calculated internal consistency coefficients showed that reliability of the scale was high.

Discussion

In this study, the aim was to develop a valid and reliable scale that can be used in determining the educational beliefs of teachers and prospective teachers. The Educational Belief Scale, initially with 55 items, was applied to a group of teachers and prospective teachers, and validity and reliability analyses of the scale were carried out following the pilot application. As a result of the exploratory factor analysis, it was determined that the items in the scale were loaded in five factors based on Perennialism, Essentialism, Progressivism, Reconstructionalism, and Existentionalism.

Confirmatory factor analysis was applied to the five-factor construct obtained by the Educational Belief Scale's exploratory factor analysis. As a result of confirmatory factor analysis of Educational Belief Scale, χ^2/df ratio, GFI/AGFI, RMSEA, RMR / SRMR, CFI, NFI / NNFI and PGFI goodness of fit indexes were evaluated and found sufficient. Also, Cronbach-Alpha internal consistency coefficients were high.

Consequently, the final form of Educational Belief Scale consisted of 40 items. All of the items included in the scale were scored as "I totally disagree: 1" and "I totally agree: 5". In other words, none of the items were reverse code. Total score from the scale is not obtainable, yet it is aimed to get a view on how the participants adopt the educational philosophies. As there are different numbers of items in each factor, it is essential to divide each person's factor score into the related factor's item number and convert the result into a range of 1-5 for comparison. Thus, the individual's dominant philosophy or philosophies are found and the individual can be appointed to the related philosophy. A high score from a factor shows that the participants believe and adopt the educational philosophy in the factor, whereas a low score shows that they have little belief in related philosophy.

As the findings of the validity and reliability of the Educational Belief Scale are evaluated, it might be suggested that the related scale is a valid and reliable scale that can be used to measure the educational beliefs of teachers and prospective teachers. In the light of the findings, it can be stated that the instrument developed in the study will compensate for an important deficiency in the related literature and that it can be used as a scale that has sufficient psychometric features in future studies. Besides, further validity and reliability studies are recommended for groups such as administrators, supervisors, and academicians in education.

References/Kaynakça

Arkonaç, S. A. (2001). *Sosyal psikoloji.* Ankara: Alfa.

Atay, S. (2003). Türk yönetici adaylarının, siyasal ve dini tercihleri ile yaşam değerleri arasındaki ilişki. *Değerler Eğitimi Dergisi, 1* (3), 87-120.

Aydın, A. (2000). *Düşünce tarihi ve insan doğası.* İstanbul: Alfa.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84* (2), 191-215.

Bauch, P. A. (1982). *Relationships between a typology of teacher educational beliefs and three domains of the elementary classroom curriculum*. A Study of Schooling Technical Report No. 34. (ERIC Document Reproduction Service No. ED269346)

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. NY: Guilford Publications.

Brauner, C. J. ve Burns, H. W. (1982). Eğitim felsefesi (çev. S. Büyükdüvenci). *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 15* (2), 291-298.

Cevizci, A. (2005). *Paradigma felsefe sözlüğü.* İstanbul: Paradigma.

Cevizci, A. (2010). *Felsefe tarihi.* İstanbul: Say.

Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology*, *55*, 1019-1031.

Çoban, A. (2007). Sınıf öğretmenlerinin eğitim sürecine ilişkin felsefi tercihlerini değerlendirme. *Üniversite ve Toplum, 7* (4). http://www.universite-toplum.org/pdf/pdf_UT_331.pdf adresinden 10 Ocak 2010 tarihinde edinilmiştir.

Demirel, Ö. (2002). *Eğitimde program geliştirme.* Ankara: Pegem A.

Doğanay, A. ve Sarı, M. (2003). İlköğretim öğretmenlerinin sahip oldukları eğitim felsefelerine ilişkin algıların değerlendirilmesi-öğretmenlerin eğitim felsefeleri. *Türk Eğitim Bilimleri Dergisi*, *1* (3), 321-337.

Duman, B. (2008). Öğrencilerin benimsedikleri eğitim felsefeleriyle kullanıldıkları öğrenme strateji ve öğrenme stillerinin karşılaştırılması. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 17* (1), 203-224.

Duman, B. ve Ulubey, Ö. (2008). Öğretmen adaylarının benimsedikleri eğitim felsefelerinin öğretim teknolojilerini ve interneti kullanma düzeylerine etkisi ile ilgili görüşleri. *Muğla Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 20*, 95-114.

Ekiz, D. (2005). Sınıf öğretmeni adaylarının eğitim felsefesi akımlarına ilişkin eğilimlerinin karşılaştırılması. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi, 19*, 1-11.

Ekiz, D. (2007). Öğretmen adaylarının eğitim felsefesi akımları hakkında görüşlerinin farklı programlar açısından incelenmesi. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi, 24*, 1-12.

Enochs, L. G., & Riggs, I. M. (1990). Further development of an elementary science teaching efficacy belief instrument: A preservice elementary scale. *School Science and Mathematics, 90* (8), 694-706.

Erden, M. (2007). *Eğitim bilimlerine giriş.* Ankara: Arkadaş.

Ergün, M. (2009). *Eğitim felsefesi.* Ankara: Pegem Akademi.

Fang, Z. (1996). A review of research on teacher beliefs and practices, *Educational Research*, *38*, 47-65.

Fidan, N. ve Erden, M. (1998). *Eğitime giriş.* İstanbul: Alkım.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, *7* (3), 286-299.

Hermans, R., Tondeur, J., Van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers. *Computers & Education, 51*, 1499-1509.

Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modeling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods*, *6* (1), 53-60.

Hoy, W. K., & Miskel, C. G. (2001). *Educational administration: Theory, research, and practice.* NY: McGraw Hill.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Jöreskog, K. G., & Sörbom, D. (1993). *LISREL 8: structural equation modeling with the simplis command language*. Lincolnwood: Scientific Software International, Inc.

Kağıtçıbaşı, Ç. (2006). *Yeni insan ve insanlar.* İstanbul: Evrim.

Kale, N. (2009). *Felsefiyat.* Ankara: Pegem Akademi.

Karadağ, E., Baloğlu, N. ve Kaya, S. (2009). Okul yöneticilerinin eğitim felsefesi akımlarını benimseme düzeylerine ilişkin ampirik bir çalışma. *Kaygı-Uludağ Üniversitesi Felsefe Dergisi*, *12*, 181-200.

Kelloway, K. E. (1989). *Using LISREL for structural equation modeling: A researcher's guide*. London: Sage.

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. NY: Guilford Publications, Inc.

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for intermediate statistics: Use and interpretation*. NJ: Lawrence Erlbaum Associates, Inc.

Levin, T., & Wadmany, R. (2005). Changes in educational beliefs and classroom practices of teachers and students in rich technology-based classrooms. *Technology, Pedagogy and Education, 14* (3), 281-308.

Levin, T., & Wadmany, R. (2006). Teachers' beliefs and practices in technology-based classrooms: A developmental view. *Journal of Research on Technology in Education*, *39* (2), 157-181.

Livingston, M. J., McClain, B. R., & DeSpain, B. C. (1995). Assessing the consistency between teachers' philosophies and educational goals. *Education*, *116* (1), 124-129.

Marsh, H. W., & Hocevar, D. (1988). A new more powerful approach to multitrait-multimethod analyses: Application of second-order confirmatory factor analysis. *Journal of Applied Psychology*, *73*, 107-117.

Maruyama, G. M. (1998). *Basics of structural equation modeling* (5th ed.). CA: Sage.

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

Quinlan, K. M. (1997, July). Case studies of academics' educational beliefs about their discipline: Toward a discourse on scholarly dimensions of teaching. *Annual Conference of the Higher Education Research and Development Society of Australasia.* Adelaide, South Australia. Retrieved January 10, 2010 from www.herdsa.org.au/.

Raykov, T., & Marcoulides, G. A. (2008). *An introduction to applied multivariate analysis.* NY: Taylor & Francis Group.

Rideout, G. W. (2006). Educational beliefs and the learning environment. *Academic Exchange Quarterly, 10* (2), 67-71.

Sabuncuoğlu, Z. ve Tüz, M. (2001). *Örgütsel psikoloji.* Bursa: Ezgi.

Schumacker, R. E., & Lomax, R. G. (1996). *A beginner's guide to structural equation modeling*. NJ: Lawrence Erlbaum Associates, Inc.

Silvernail, D. L. (1992a). The development and factor structure of the educational beliefs questionnaire. *Educational and Psychological Measurement, 52* (3), 663-667.

Silvernail, D. L. (1992b). The educational philosophies of secondary school teachers. *The High School Journal, 76,* 162-166.

Sönmez, V. (2002). *Eğitim felsefesi.* Ankara: Anı.

Sungur, N. (2002). Varoluşçu okul yönetimi envanteri geliştirme çalışması. *Kuram ve Uygulamada Eğitim Bilimleri, 2*, 271-297.

Sümer, N. (2000). Yapısal eşitlik modelleri. *Türk Psikoloji Yazıları*, *3* (6), 49-74.

Şencan, H. (2005). *Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik.* Ankara: Seçkin.

Tabachnick B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). MA: Allyn & Bacon.

Tavşancıl, E. (2005). *Tutumların ölçülmesi ve SPSS ile veri analizi.* Ankara: Nobel.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington: American Psychological Association.

Tozlu, N. (1997). *Eğitim felsefesi.* Ankara: MEB Yayını.

Trompenaars, F. (1993). *Riding the waves of culture: Understanding cultural diversity in business.* London: The Economist Books.

Wiles, J., & Bondi, J. (1984). *Curriculum development: A guide to practice.* NY: Charles E. Merrill Publishing.

Woolley, S. L., Benjamin, W. J. J., & Woolley, A. W. (2004). Construct validity of a self-report measure of teacher beliefs related to constructivist and traditional approaches to teaching and learning. *Educational and Psychological Measurement, 64,* 319-331.

Yayla, A. (2009). Eğitimin felsefi temelleri. H. B. Memduhoğlu ve K. Yılmaz (Ed.), *Eğitim bilimine giriş* içinde (s. 19-43). Ankara: Pegem Akademi.