Australian Journal of Teacher Education

Volume 35 | Issue 3 Article 3

1-1-2010

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## Recommended Citation

Eren, A. (2010). Consonance and dissonance between Turkish prospective teachers' values and practices: Conceptions about teaching, learning, and assessment. *Australian Journal of Teacher Education, 35*(3). https://doi.org/10.14221/ajte.2010v35n3.3

# Consonance and dissonance between Turkish prospective teachers' values and practices: Conceptions about teaching, learning, and assessment

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*Abstract: This study aimed to examine the consonance and dissonance between prospective teachers' values and practices in terms of their conceptions about teaching/learning and conceptions about assessment, as well as to explore the patterns of those consonance and dissonance between prospective teachers' values and practices. The sample consisted of 304 prospective teachers majoring in teaching science, art, special education, music, Turkish literacy, mathematics, English language, and classroom teaching domains in a large university located in the north-west of the Black Sea region in Turkey. Overall results of the study showed that the prospective teachers valued constructivist teaching/learning, making learning explicit, and promoting learning autonomy more than they practised, whereas they practised traditional teaching and performance orientation more than they valued. Results also revealed that the prospective teachers believed that constructivist teaching/learning, traditional teaching/learning, making learning explicit, promoting learning autonomy, and performance orientation were both valuable and applicable. These results also provided evidence that there were both consonance and dissonance between prospective teachers' conceptions about teaching/learning and conceptions about assessment.*

Teachers' conceptions about teaching/learning and assessment are essential in predicting their classroom-related behaviors, decisions, and teaching approaches (Brown, 2002, 2004; Chan, 2003; Chan & Elliott, 2004; James & Pedder, 2006; Nespor, 1987; Pajares, 1992; Prawat, 1992; Samuelowicz & Bain, 2001; Winterbottom, Brindley, Taber, Fisher, Finney & Riga, 2008). These conceptions differ in terms of what teachers believed as ideal (i.e., values) and their actual teaching-related behaviours (i.e., practice) in the classroom (James & Pedder, 2006; Winterbottom et al., 2008), indicating a dissonance between teachers' practices and values in educational settings (Segal, 1998).

Prospective teachers' conceptions about learning and conceptions about assessment have been examined together in terms of their practices and values (Wang, Kao, & Lin, 2010). However there is a general lack of similar studies in the literature possibly due to the assumption that the conceptions about assessment implicit in the definitions of assessment *for* teaching/learning (Hargreaves, 2005). This does not mean that the conceptions about teaching/learning and conceptions about assessment are the same constructs. Rather, it means that these conceptions are related to one another (Oliva, 1997). Thus, it is reasonable to examine the conceptions about teaching/learning and conceptions about assessment as distinctly different constructs.

The present study reveals some important results regarding the dissonance and consonance between prospective teachers' values and practices in relation to their conceptions about teaching/learning and conceptions about assessment as these conceptions are important

in predicting prospective teachers' later classroom-related behaviors, teaching approaches (Ng, Nicholas, & Williams, 2010; Pajares, 1992), and resistance to the educational reforms in general and the curricular reforms in particular (Akşit, 2007; Brown, 2004; Samuelowicz & Bain, 2001). Furthermore, given the fact that "one of the main criticisms directed at teacher education programs is their purported inadequacy in enabling prospective teachers to bridge the theory-practice gap" (Allen, 2009: 647), the present study has the potential to provide a meaningful framework for curricula attempts that aim to bridge the mentioned gap between theory and practice in teacher education.

## Literature Review and Conceptual Framework

### Conceptions about teaching and learning

Conceptions about teaching and learning have been identified based on two categories such as learning facilitation, knowledge transmition (Kember & Gow, 1994), teacher-focused, student-focused (Trigwell & Prosser, 1996), imparting information, facilitating understanding (Kember, 1997), learning-centered, teaching-centered (Samuelowicz & Bain, 2001), learning-centered, content centered (Kember & Kwan, 2000), and learning-focused, content-focused (Postareff & Lindblom-Ylanne, 2008). These conceptions can be examined based on two philosophically grounded teaching and learning conceptions: the traditional teaching/learning conceptions and constructivist teaching/learning conceptions (Chan, 2003; Chan & Elliot, 2004; Chan, Tan & Khoo, 2007; Cheng, Chan, Tang & Cheng, 2009; Eren, 2009).

Traditional teaching is teacher-centered; knowledge transmission from teacher to students with the teacher is seen by their students as a source of knowledge and students are seen by their teachers as passive recipients of the transmitted knowledge (Chan & Elliot, 2004). Constructivist approach to teaching is student-centered; facilitating understanding, collaboration in learning process, and knowledge construction based on students' previous learning experiences with the teacher is seen by their students as a counsellor and students are seen as liable agents by their teachers (Chan, 2003; Chan & Elliott, 2004).

Teachers' and prospective teachers' conceptions about teaching/learning are influenced by the other belief forms such as epistemological beliefs (Chan, 2003; Chan & Elliott, 2004; Cheng et al., 2009), motivational beliefs, and self-efficacy beliefs (Eren, 2009). Based on a sample of Hong Kong teacher education students, Chan (2003) showed that the prospective teachers with constructivist conceptions are likely to hold beliefs that knowledge is tentative and changing, and that one's ability is not inborn, whereas prospective teachers with traditional conceptions are likely to hold beliefs that knowledge is certain and unchanging. Chan and Elliott (2004) replicated the results of Chan's (2003) study by demonstrating that the prospective teachers' innate/fixed ability beliefs, authority/expert knowledge beliefs, and certainty knowledge beliefs are positively linked to their traditional conceptions whereas learning/effort process beliefs are negatively related to constructivist conceptions (see also Chan et al., 2007 and Cheng et al., 2009 for similar results).

Based on the traditional/constructivist conceptions about teaching/learning framework, Eren (2009) examined the relationships among Turkish prospective teachers' achievement goals, efficacy beliefs, and conceptions about teaching/learning, and found that the Turkish prospective teachers' conceptions about teaching and learning can be explained under the headings of traditional conceptions and constructivist conceptions. This result was in line with other studies in which Turkish prospective teachers' conceptions about teaching and learning were examined through metaphor analyses (see Saban, 2007, 2010).

Prospective teachers' conceptions about teaching/learning have been linked to important variables such as epistemological beliefs, self-efficacy beliefs, and motivational beliefs, whereas their conceptions about teaching/learning have not been linked to their

practices and values. However, there is evidence that both prospective teachers' and teachers' conceptions about assessment can be identified in terms of their assessment-related values and practices (e.g., Winterbottom et al., 2008), signifying that the same may also be true for their conceptions about teaching/learning due to the interrelated nature of these conceptions (McNeill, 1996; Oliva, 1997).

**Conceptions about assessment**

Researchers conceptualized assessment based on the distinction between summative assessment, emerged from a traditional or behaviorist view of learning and teaching, and formative assessment, which emerged from a constructivist view of teaching and learning (Brooks & Brooks, 1993; Nitko, 1996; Gordon, 2008). Formative assessment has been conceptualised as 'assessment *for* learning'. The explicit purpose of assessment *for* learning is to use assessment as part of teaching to promote learning. Summative assessment has been conceptualised as 'assessment *of* learning'. The purpose of assessment *of* learning is to use assessment for grading and reporting (Askham, 1997; Brown, 2004, 2008; Clarke, 2001; Dann, 2002; Hargreaves, 2005, 2007; James & Pedder, 2006; Perrenoud, 1998).

Teachers' conceptions of assessment can be explained based on three meaningful dimensions: making learning explicit, promoting learning autonomy, and performance orientation. The two dimensions of teachers' conceptions of assessment (i.e. making learning explicit and promoting learning autonomy) are associated with the assessment *for* learning whereas performance orientation dimension is associated with the assessment *of* learning (James & Pedder, 2006). Using cluster analyses, James and Pedder (2006) demonstrated that both similarities and differences exist between teachers' values and practices in terms of their conceptions of assessment. Specifically, the teachers in their sample placed a high value for the making learning explicit and promoting learning autonomy in student assessment whereas they placed a low value for the performance orientation, indicating that teachers were aware of the importance of assessment *for* learning. However, teachers reported that they implemented the promoting learning autonomy in student assessment less than they valued, whereas they reported that they implemented the performance orientation in student assessment higher then they valued.

Winterbottom et al. (2008) also found that prospective teachers valued promoting learning autonomy more than they implemented in their teaching, whereas they implemented performance orientation more than they valued. Also, prospective teachers' assessment-related values and practices were greater than qualified teachers' values and practices possibly as a result of prospective teachers' lack of familiarity with individual students (Winterbottom et al., 2008). Yaylı (2008) found that Turkish prospective teachers valued highly the theories that they learned in the university (e.g., constructivism), but they were not sure that they could implement the theories in their practicum due to prospective teacher-mentor teacher tension, self-efficacy beliefs, and supervisor-mentor teacher dichotomy.

Based on a qualitative research design, Wang et al. (2010) examined the Taiwanese prospective teachers' conceptions about assessment of science learning and the extent that these conceptions were coherent with their views of learning science. They found that the prospective teachers' conceptions of assessment can be identified through six categories: content knowledge, process of inquiry, attitude toward learning, measurement, performance, and informal assessment. Whereas their conceptions of learning can be identified through two categories: traditional tendency and constructivist tendency. Of particular importance, Wang et al. (2010) demonstrated that a fair proportion of the Taiwanese prospective teachers reflected a traditional view of learning but held a more constructivist view about the methods of assessment, indicating a dissonance between their conceptions of assessment and learning.

The studies reviewed provide significant evidence for both dissonance and consonance between prospective teachers' and teachers' practices and values in terms of their conceptions of assessment and teaching/learning. However, they were entirely based on the samples of qualified teachers and final year prospective teachers (James & Pedder, 2006; Winterbottom et al., 2008; Yaylı, 2008) with the implicit assumption that only the prospective teachers who actually taught held beliefs about assessment. Teachers' conceptions were influenced by their earlier educational experiences as students (Pajares, 1992). The development of teachers' professional identity begins in their preservice education based on the interpreting and reinterpreting their own subjective experiences which are central to their beliefs, values, and later practices (Sutherland, Howard, & Markauskaite, 2010; Walkington, 2005). This means that, even in the early years of their study, prospective teachers may have values and practice beliefs about teaching/learning and assessment. Therefore, not only the fourth-year prospective teachers, but also the third-year prospective teachers were included in the sample of the present study.

## Aim and Research Questions

The aim of this study is twofold: to examine the consonance and dissonance between prospective teachers' values and practices in terms of their conceptions about teaching/learning and conceptions about assessment, and to explore the patterns of those consonance and dissonance between prospective teachers' values and practices. Two research questions were formulated accordingly:

1.) What are the consonance and dissonance between prospective teachers' values and practices in terms of their conceptions about teaching/learning and conceptions about assessment?
2.) Do consonance and dissonance between prospective teachers' values and practices draw significant patterns?

## Method

### Participants

The sample consisted of 304 prospective primary and secondary school teachers (201 females and 103 males), majoring in teaching science (n = 36), art (n = 42), special education (n = 46), music (n = 36), Turkish literacy (n = 41), mathematics (n = 42), English language (n = 30), and classroom teaching (n = 31) domains in a large university located in the north-west of the Black Sea region in Turkey. Of this sample, 191 were in their third year of study whereas 113 were in their fourth year of study. Participants ranged in age from 20 to 33 years. Mean age was 21.7 years (SD = 1.51).

#### Teacher education in Turkey

Since the foundation of the Turkish Council of Higher Education (TCHE) in 1981, teachers have been trained in Faculties of Education at universities which offer 4 year degree programs (Çakıroğlu & Çakıroğlu, 2003). Regardless of their fields of study, prospective teachers take common pedagogical courses such as educational psychology, classroom management, and teaching principles and methods. The introduction of prospective teachers into real classroom environments occurs during their fourth year of study. In December 2004, as a European Union (EU) candidate country, Turkey has made an educational reform,

comprising curricular and structural reforms, in order to both increase the quality of formal education process in primary and secondary schools and accord the education system with the EU member countries (Akşit, 2007). One of the objectives of the curriculum reform is to move from a teacher-centered traditional model to a student-centered constructivist model, as well as to move from traditional assessment of recall and introduce authentic assessment (Akşit, 2007). In line with the current educational reform in primary and secondary levels, the TCHE has made some alterations in teacher education programs at universities in order to accord teacher education programs with the mentioned educational reform (Kilimci, 2009). For example, "courses such as philosophy, sociology, statistics, special education, and early childhood education are included in the curriculum" (Kilimci, 2009: 1979).

**Research instruments**

***Teachers' Classroom Assessment Scale (TCAS)***

The Staff Questionnaire (SQ), originally developed by James and Pedder (2006), was used to assess prospective teachers' values and practices in relation to their conceptions about assessment. As a whole, the SQ was designed to assess teachers' conceptions about classroom assessment, professional learning, and school management. The conceptions about classroom section was used due to the scope of the present study. The conceptions about classroom section of the SQ (henceforth Teachers' Classroom Assessment Scale, TCAS) comprised three factors: making learning explicit (10 items), promoting learning autonomy (5 items), and performance orientation (6 items) (see Table 1).

| Factor and definition | Sample item |
|---|---|
| Making learning explicit<br><br>"Eliciting, clarifying and responding to evidence of learning; working with students to develop a positive learning orientation" | Students' learning objectives are discussed with students in ways they understand |
| Promoting learning autonomy<br><br>"A widening of scope for students to take on greater independence over their learning objectives and the assessment of their own and each other's work" | Students are given opportunities to assess one another's work |
| Performance orientation<br><br>"A concern to help students comply with Performance goals prescribed by the curriculum through closed questioning and measured by marks and grades" | Assessment of students' work consists primarily of marks and grades |

**Table 1: The sample items and definitions of factors of the Teachers' Classroom Assessment Scale (James and Pedder, 2006).**

Originally, all items in the TCAS were anchored to "about you" concept under the heading of "This school now" for the practice section, while, for the value section, they were anchored to "about your values" concept with regard to the question of "How important are your assessment practices for creating opportunities for students to learn?" (James & Pedder, 2006). In the present study, however, all items in the TCAS were anchored to the topics of "I believe that they are important" and "I believe that I can put them into practice" for the value and practice sections respectively. The response format for both value and practice sections of the TCAS was modified in order to accord it with the response format of the Teaching and Learning Conceptions Questionnaire (TLCQ to a 5point Likert response format, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). With the sample of this study consisted of third and fourth year prospective teachers, these modifications were necessary to consider participants' lack of experience in teaching and assessment processes.

Recently, based on a sample of prospective teachers, Winterbottom et al. (2008) confirmed the three-factor structure of the TCAS. Thus, the TCAS was used to assess prospective teachers' assessment-related practices and values in the present study. Based on the back-translation method, the items in the TCAS were translated into Turkish by the researcher with the assistance of two lecturers in the foreign languages department of the university where the present study was carried out.

***Teaching and Learning Conceptions Questionnaire (TLCQ)***

The TLCQ, originally developed by Chan and Elliott (2004), has two dimensions: constructivist conceptions and traditional conceptions (see Table 2).

| **Factor and definition** | **Sample item** |
|---|---|
| Constructivist conceptions<br><br>"Learning is the creation and acquisition of knowledge by the learner through reasoning, and teaching is a provision and facilitation of the learning process" | Good teachers always encourage students to think for answers themselves |
| Traditional conceptions<br><br>"Teaching is the transfer of knowledge from expert or teacher to novice or student and learning is the absorption of this knowledge" | It is best if teachers exercise as much authority as possible in the classroom |

**Table 2: The sample items and definitions of factors of the Teaching and Learning Conceptions Questionnaire (Chan and Elliott, 2004).**

The TLCQ comprised a total of 30 items. Of these, 18 assess traditional conceptions and 12 items evaluate respondents' constructivist conceptions. The TLCQ has a 5-point Likert type scale format, ranging from 1 *(strongly disagree)* to 5 *(strongly agree)*. Based on a sample of Turkish prospective teachers, the structure validity of the TLCQ was confirmed (Eren, 2009). As in the TCAS, all items in the TLCQ were anchored to the topics of "I believe that

they are important" and "I believe that I can put them into practice" for the value and practice sections respectively.

**Data analyses**

Using the principal axis factoring method with promax rotation, Exploratory Factor Analyses (EFA) (cut off .40) were conducted in order to establish a match between value and practice sections of the TCAS and TLCQ. Both scree plot and the Kaiser's (1960) criterion (i.e., retain only those factors whose Eigen values are greater than 1) was used to determine the factor structure of value and practice sections of the TCAS and TLCQ. Using the maximum likelihood method of estimation from AMOS 7 (Arbuckle, 2006), Confirmatory Factor Analysis (CFA) was conducted in order to confirm the findings of the EFA. The $\chi^2/df$ ratio ($\chi^2/df \leq 3$), Comparative Fit Index (CFI $\geq .90$), Incremental Fit Index (IFI $\geq .90$), and Root MSE of Approximation (RMSEA $\leq .08$) were used to assess data fit (Byrne, 2001; Kline, 1998; Ullman, 2007). Zero-order (Pearson) correlation analysis was conducted to check the overlap between the dimensions of the scales. Finally, Multivariate Analyses of Covariance (MANCOVAs) were conducted in order to check the effects of gender, year of study, fields of study, and age (as a covariate) on conceptions about teaching/learning and assessment. Following the MANCOVAs, a series of Analyses of Covariance (ANCOVAs) were conducted in order to see the univariate effects on dependents. Statisticians strongly suggest that the Type I error should be controlled in univariate analyses when they based on a multivariate analysis (see, e.g., Brace, Kemp, & Snelgar, 2003; Pagano, 2007; Stevens, 1996; Tabachnick & Fidell, 2007). Thus, in order to control Type I error in the ANCOVAs, the significance levels were determined as $p<.025$ and $p<.017$ for conceptions about teaching/learning and conceptions about assessment respectively (e.g. Brace et al., 2003).

The Reliable Change Index (RCI) was used in order to examine the consonance and dissonance between prospective teachers' practices and values with a more robust method. To focus on a mean-level change may mask the individual-level change or may prevent obtaining a reliable view of the person-level variations or changes with respect to the variables at hand (Jacobson & Truax, 1991; Fryer & Elliot, 2007; Maassen, 2004).

The RCI was measured by dividing the difference scores of the variables (i.e. making learning explicit, promoting learning autonomy, performance orientation, traditional conceptions, and constructivist conceptions) by the standard error of the difference score (Fryer & Elliot, 2007). Furthermore, "based on the values smaller than -1.96 or larger than 1.96, which are unlikely to occur by chance and are thus considered indicative of reliable change" (Fryer & Elliot, 2007, p. 702), RCI allowed participants to be categorized as increase (i.e., highly valued-lowly practiced), no-change (i.e., both valued and practiced), and decrease (i.e., lowly valued-highly practiced). The first and the third categories represent a dissonance between prospective teachers' values and practices whereas the second category represents a consonance between their values and practices. Based on the results of the RCI analyses, five RCI variables were created as RCI-making learning explicit (RCI-mle), RCI-promoting learning autonomy (RCI-plo), RCI-performance orientation (RCI-po), RCI-constructivist conceptions (RCI-cc), and RCI-traditional conceptions (RCI-tc), each of which comprises the mentioned categories (i.e., increase, no-change, and decrease).

Fourfold point (Phi) correlation analysis and Principal Components Analysis (PCA) were conducted in order to explore the possible patterns of those consonance and dissonance between prospective teachers' practices and values. Thus, based on the RCI-mle, RCI-plo, RCI-po, RCI-cc, and RCI-tc, a total of 15 binary variables were created. For example, RCI-cc was represented with three distinctly different binary variables (i.e., constructivist

conceptions-increase, constructivist conceptions-decrease, and constructivist conceptions-no change). The same procedure was applied to the RCI-mle, RCI-plo, RCI-po, and RCI-tc.

Based on these binary variables, Phi correlation analysis was conducted in order to see the similarities among the variables. Finally, using the Phi correlation matrix, PCA was conducted (cut off .40) to consider robust similarities among the RCI groups (i.e., increase, no-change, and decrease) and to explore the discernible patterns of consonance and dissonance between prospective teachers' values and practices based on the relationships among RCI categories.

### Procedure

Data were collected during the spring semester of the 2008-2009 academic year. Both TLCQ and TCAS questionnaires were presented to the participants with instructions concerning the aim of the study. These instructions were also read aloud at the beginning of the process, and any questions from the participants were answered.

## Results

### Preliminary analyses

The EFA results revealed that the exact match between value and practice sections of the scales could be established when two items in the traditional conceptions dimension (e.g., learning occurs primarily from drilling and practice) and five items in the making learning explicit dimension (e.g., students' errors are valued for the insights they reveal about how students are thinking) are excluded from the analyses. Therefore, these items were excluded from the questionnaires. As a result, scree plot indicated that two-factor solution was more appropriate for both value and practice sections of the TLCQ than other number of factor solutions. Thus, two-factor solution was applied for both value and practice sections of the TLCQ. The factor loadings, Eigen values, the amount of explained variance, and the internal reliabilities are presented in Table 3. The EFA results revealed that the value section matched to the practice section of the TLCQ in terms of the items (see Table 3). The Eigen values were greater than 1 and internal reliabilities were quite high. The CFA results provided additional evidence that the two-factor model with 28 indicators had good fit to data for both value section ($\chi^2(292) = 519.26$, $\chi^2/df = 1.78$; CFI = .93; IFI = .93; RMSEA = .051) and practice section ($\chi^2(292) = 639.97$, $\chi^2/df = 2.19$; CFI = .93; IFI = .93; RMSEA = .063).

On the other hand, scree plot indicated that the three-factor solution was more appropriate for both value and practice sections of the TCAS than the other number of factor solutions. Thus, three-factor solution was applied to data. The factor loadings, Eigen values, the amount of explained variance, and the internal reliabilities are presented in Table 4. As seen in Table 4, the value section matched to the practice section of the TCAS in terms of the items. The Eigen values were greater than 1 and internal reliabilities were quite high. The CFA results demonstrated that the three-factor model with 16 indicators fit to data well for both the value section ($\chi^2(101) = 180.21$, $p<.001$, $\chi^2/df = 1.78$; CFI = .95; IFI = .95; RMSEA = .051) and the practice section ($\chi^2(101) = 188.24$, $p<.001$, $\chi^2/df = 1.86$; CFI = .96; IFI = .96; RMSEA = .053). These results, which were in line with the previous studies (i.e., Eren, 2009; Winterbottom et al., 2008), demonstrated that the factor structures of the TCAS and TLCQ were also confirmed in the present sample.

| | | Factor loadings | | | |
|---|---|---|---|---|---|
| | | Value | | Practice | |
| Factor | Item | 1 | 2 | 1 | 2 |
| Traditional conceptions | | | | | |
| | 1 | .40 | | .60 | |
| | 2 | .49 | | .59 | |
| | 3 | .55 | | .65 | |
| | 4 | .58 | | .66 | |
| | 5 | .69 | | .72 | |
| | 6 | .57 | | .61 | |
| | 7 | .75 | | .71 | |
| | 8 | .77 | | .74 | |
| | 9 | .65 | | .63 | |
| | 10 | .70 | | .70 | |
| | 11 | .65 | | .66 | |
| | 12 | .57 | | .60 | |
| | 13 | .59 | | .59 | |
| | 14 | .70 | | .70 | |
| | 16 | .58 | | .68 | |
| | 17 | .58 | | .61 | |
| Constructivist conceptions | | | | | |
| | 1 | | .57 | | .74 |
| | 2 | | .62 | | .69 |
| | 3 | | .66 | | .80 |
| | 4 | | .45 | | .69 |
| | 5 | | .53 | | .62 |
| | 6 | | .69 | | .76 |
| | 7 | | .62 | | .74 |
| | 8 | | .62 | | .65 |
| | 9 | | .48 | | .59 |
| | 10 | | .54 | | .76 |
| | 11 | | .70 | | .82 |
| | 12 | | .55 | | .74 |
| Eigen values | | 7 | 4 | 10 | 4 |
| Explained variance (%) | | 24 | 13 | 34 | 13 |
| Explained total variance (%) | | 37 | | 47 | |
| Cronbach's Coefficient Alpha | | .86 | .91 | .92 | .92 |

**Table 3: The summary of the exploratory factor analysis for value and practice sections of the Teaching and Learning Conceptions Questionnaire.**

| | | Factor loadings | | | | | |
|---|---|---|---|---|---|---|---|
| | | Value | | | Practice | | |
| Factor | Item | 1 | 2 | 3 | 1 | 2 | 3 |
| Making learning explicit | | | | | | | |
| | 4 | .66 | | | .58 | | |
| | 5 | .60 | | | .75 | | |
| | 6 | .66 | | | .79 | | |
| | 8 | .61 | | | .68 | | |
| | 9 | .87 | | | .75 | | |
| Promoting learning autonomy | | | | | | | |
| | 1 | | .55 | | | .43 | |
| | 2 | | .59 | | | .60 | |
| | 3 | | .83 | | | .78 | |
| | 4 | | .83 | | | .85 | |
| | 5 | | .51 | | | .63 | |
| Performance orientation | | | | | | | |
| | 1 | | | .59 | | | .57 |
| | 2 | | | .61 | | | .49 |
| | 3 | | | .65 | | | .73 |
| | 4 | | | .59 | | | .63 |
| | 5 | | | .59 | | | .69 |
| | 6 | | | .66 | | | .70 |
| Eigen values | | 3 | 5 | 1 | 6 | 3 | 1 |
| Explained variance (%) | | 15 | 27 | 5 | 34 | 14 | 4 |
| Explained total variance (%) | | | 47 | | | 52 | |
| Cronbach's Coefficient Alpha | | .84 | .81 | .78 | .86 | .86 | .80 |

**Table 4: The summary of the exploratory factor analysis for value and practice sections of the Teachers' Classroom Assessment Scale**

Results of the correlation analysis showed that the relationships among factors of the TCAS and TLCQ ranged from -.01 to .43 for the value section while they ranged from .07 to .62 for the practice section, signifying that they are related, but distinctly different factors (see Table 5). This indicates that the multivariate analyses are appropriate to examine the effects of demographic variables on the subscales of TLCQ and TCAS (e.g., Tabachnick & Fidell, 2007). In addition, as seen in Table 5, the relationship between prospective teachers' practices and values ranged in magnitude from small (r = .16) to moderate (r = .40), suggesting that both consonance and dissonance between prospective teachers' values and practices can be expected at the person-level.

| Variable | ConC | TraC | MLE | PLA | PEO |
|---|---|---|---|---|---|
| ConC | **.16**** | -.40*** | .62*** | .60*** | .07 |
| TraC | -.19** | **.40***** | -.13* | -.13* | .39*** |
| MLE | .35*** | .05 | **.38***** | .72*** | .18** |
| PLA | .33*** | -.02 | .60*** | **.26**** | .14* |
| PEO | -.01 | .43*** | -.06 | .07 | **.19**** |

*p<.05; **p<.01; ***p<.001

***Note.*** Correlations regarding practices were shown above the diagonal whereas correlations regarding values were displayed below the diagonal. The relationship between value-related and practice-related conceptions was shown in bold.

**Table 5: Zero-order correlations**

The MANCOVA results demonstrated that the effects of gender, year of study, and age on value-related traditional and constructivist conceptions were insignificant whereas the effect of fields of study was considerable (see Table 6). However, ANCOVA results pointed out that the univariate effect of the fields of study on dependents was not significant, so were not reported here. MANCOVA results also showed that the effects of gender, year of study, fields of study, and age on practice-related traditional and constructivist conceptions were not significant. The ANCOVA results also confirmed the results of MANCOVA. As seen in Table 6, the partial $\eta^2$ cofficients were quite small (< .15) (see Cohen, 1992), indicating that the effects of demographic variables on both value and practice-related factors of the TLCQ were trivial.

| Dimension | Variable | Wilks' Λ | F | Partial $\eta^2$ |
|---|---|---|---|---|
| Value | | | | |
| | Gender | .98 | 1.07 | .02 |
| | Year of study | .99 | .58 | .00 |
| | Age | .99 | .14 | .00 |
| | Fields of study | .88 | 2.65* | .06 |
| Practice | | | | |
| | Gender | .99 | .37 | .00 |
| | Year of study | .99 | .71 | .01 |
| | Age | .99 | 2.14 | .02 |
| | Fields of study | .97 | .53 | .01 |

*p<.01

**Table 6: The multivariate effects of the demographics on the subscales of the Teaching and Learning Conceptions Questionnaire**

For the value-related conceptions of assessment, MANCOVA results demonstrated that the effects of gender, year of study, and age were insignificant whereas the effect of fields of study on dependent variables was considerable (see Table 7). However, ANCOVA results revealed that the univariate effect of the fields of study on dependent variables was not significant, so were not reported here. Finally, for the practice-related conceptions of assessment, MANCOVA results revealed that the effects of gender, year of study, and age on

dependent variables were not significant, whereas the effect of fields of study was significant. However, this multivariate effect was not confirmed in terms of the univariate effect on dependent variables. The partial $\eta^2$ cofficients were quite small, suggesting that the effects of demographic variables on both value and practice dimensions of the TCAS were not important (see Table 7). Therefore, demographic variables were not considered and discussed any further.

| Dimension | Variable | Wilks' Λ | F | Partial $\eta^2$ |
|---|---|---|---|---|
| Value | | | | |
| | Gender | .99 | .87 | .01 |
| | Year of study | .98 | 2.25 | .02 |
| | Age | .99 | .25 | .00 |
| | Fields of study | .85 | 2.22** | .05 |
| Practice | | | | |
| | Gender | .99 | .35 | .00 |
| | Year of study | .99 | .26 | .00 |
| | Age | .99 | .35 | .00 |
| | Fields of study | .89 | 1.59* | .04 |

*p<.05; **p<.01

**Table 7: The multivariate effects of the demographics on the subscales of the Teachers' Classroom Assessment Scale**

**Consonance and dissonance between prospective teachers' practices and values**

Results of the paired samples t-tests are presented in Table 8.

| | Value | Practice | | |
|---|---|---|---|---|
| Variable | M (SD) | M (SD) | t(303) | Cohen's *d* |
| ConC[a] | 54 (5.8) | 43 (9.8) | 15.75*** | .90 |
| TraC[b] | 39 (12.5) | 45 (13.4) | -7.94*** | -.46 |
| MLE[c] | 20 (3.6) | 18 (4.2) | 7.41*** | .43 |
| PLA[d] | 20 (3.4) | 17 (4.4) | 8.45*** | .49 |
| PEO[e] | 18 (5.0) | 19 (4.7) | -2.77** | -.16 |

***p<.001; **p<.01

***Note.*** [a]Constructivist conceptions; [b]traditional conceptions; [c]making learning explicit; [d]promoting learning autonomy; [e]performance orientation.

**Table 8: The summary of the mean-level differences**

As seen in Table 8, there were significant mean-level differences between prospective teachers' values and practices with regard to their conceptions about teaching/learning and assessment. In other words, prospective teachers significantly valued constructivist conceptions, making learning explicit, and promoting learning autonomy more than they practiced. However, the opposite was true for the differences between prospective teachers' values and practices in terms of their traditional conceptions and performance orientation. These dissonances were not only evident in the mean-level changes, but also evident in the person-level changes (see Table 9).

| Variable | Highly valued-Lowly practiced f (%) | Both valued and practiced f (%) | Lowly valued-highly practiced f (%) | $\chi^2(2)$ |
|---|---|---|---|---|
| ConC[a] | 232 (76) | 54 (18) | 18 (6) | 259.13*** |
| TraC[b] | 58 (19) | 79 (26) | 167 (55) | 66.00*** |
| MLE[c] | 150 (49) | 103 (34) | 51 (17) | 48.40*** |
| PLA[d] | 156 (51) | 95 (31) | 53 (18) | 52.94*** |
| PEO[e] | 93 (30) | 78 (26) | 133 (44) | 15.95*** |

***p<.001

***Note.*** [a]Constructivist conceptions; [b]traditional conceptions; [c]making learning explicit; [d]promoting learning autonomy; [e]performance orientation.

**Table 9: Reliable changes in prospective teachers' conceptions about teaching/learning and assessment**

As shown in Table 9, 232 prospective teachers (76%) believed that constructivist conceptions were highly valuable but not very applicable in classroom settings, whereas 18 prospective teachers (6%) believed that constructivist conceptions were not very valuable but highly applicable. The 54 prospective teachers (18%) believed that constructivist conceptions were both valuable and applicable in classroom settings. This indicates stability between prospective teachers' values and practices in terms of their constructivist conceptions. In contrast to constructivist conceptions, 58 prospective teachers (19%) believed that traditional conceptions were highly valuable but not very applicable, whereas 167 prospective teachers (55%) believed that traditional conceptions were not very valuable but highly applicable. Furthermore, 79 prospective teachers (26%) believed that traditional conceptions were both valuable and applicable. The view of prospective teachers' values and practices in relation to their conceptions about teaching/learning revealed that there were considerable gaps between their teaching/learning-related values and practices. The Chi-Square ($\chi^2$) results showed that the consonance and dissonance between prospective teachers' teaching/learning-related values and practices was significant (see Table 9).

The 150 prospective teachers believed that making learning explicit were highly valuable but not very applicable (49%), whereas 156 prospective teachers believed that promoting learning autonomy were highly valuable but not very applicable (51%). Conversely, 51 prospective teachers believed that making learning explicit were not very valuable but highly applicable (17%), whereas 53 prospective teachers believed that promoting learning autonomy were not very valuable but highly applicable (18%). Furthermore, 103 prospective teachers believed that making learning explicit were both valuable and applicable (34%), whereas 95 prospective teachers believed that promoting learning autonomy were both valuable and applicable (31%).

On the other hand, 93 prospective teachers believed that performance orientations were highly valuable but less applicable (30%), whereas 133 prospective teachers believed that these orientations were not very valuable but highly applicable (44%). Finally, 78 prospective teachers believed that performance orientations were both valuable and applicable (26%). The Chi-Square results demonstrated that these consonance and dissonance between prospective teachers' assessment-related values and practices were considerable (see Table 9).

**Patterns of consonance and dissonance between prospective teachers' practices and values**

The similarity matrix was displayed in Table 10.

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Con-inc[b] | - | | | | | | | | | | | | | | |
| Con-no[c] | **-.83** | - | | | | | | | | | | | | | |
| Con-dec[d] | **-.45** | **-.12** | - | | | | | | | | | | | | |
| Tra-inc[e] | **-.14** | **.13** | .06 | - | | | | | | | | | | | |
| Tra-no[f] | **-.22** | **.22** | .04 | **-.29** | - | | | | | | | | | | |
| Tra-dec[g] | **.30** | **-.29** | -.08 | **-.54** | **-.65** | - | | | | | | | | | |
| Mle-inc[h] | **.30** | **-.22** | **-.19** | .11 | **-.29** | **.17** | - | | | | | | | | |
| Mle-no[i] | **-.27** | **.23** | **.12** | **-.15** | **.37** | **-.20** | **-.71** | - | | | | | | | |
| Mle-dec[j] | -.06 | -.00 | .11 | .05 | -.09 | .04 | **-.44** | **-.32** | - | | | | | | |
| Pla-inc[k] | **.29** | **-.25** | **-.12** | -.01 | **-.14** | **.14** | **.46** | **-.35** | **-.18** | - | | | | | |
| Pla-no[l] | **-.18** | **.19** | .01 | -.11 | **.20** | -.09 | **-.35** | **.46** | -.11 | **-.69** | - | | | | |
| Pla-dec[m] | **-.17** | .10 | **.14** | **.15** | -.06 | -.07 | **-.18** | -.11 | **.37** | **-.47** | **-.31** | - | | | |
| Poi-inc[n] | -.07 | -.01 | **.14** | **.28** | -.07 | **-.16** | .09 | **-.16** | .08 | .03 | **-.12** | **.11** | - | | |
| Poi-no[o] | **-.17** | **.22** | -.05 | -.06 | **.18** | **-.12** | **-.25** | **.28** | -.02 | **-.32** | **.38** | -.05 | **-.39** | - | |
| Poi-dec[p] | **.21** | **-.18** | -.08 | **-.21** | -.10 | **.25** | **.14** | -.10 | -.06 | **.25** | **-.22** | -.06 | **-.59** | **-.52** | - |

***Note.*** [a]Significant correlations are shown in bold. Coefficients between .12 and .14 are significant at $p < .05$ level of significance whereas coefficients between .15 and .19 are significant $p<.01$ level of significance. Finally, coefficients equal to .20 and above are significant at $p<.001$ level of significance. [b]Constructivist-increase; [c]constructivist-no change; [d]constructivist-decrease; [e]traditional-increase; [f]traditional-no change; [g]traditional-decrease; [h]making learning explicit-increase; [i]making learning explicit-no change; [j]making learning explicit-decrease; [k]promoting learning autonomy-increase; [l]promoting learning autonomy-no change; [m]promoting learning autonomy-decrease; [n]performance-orientation-increase; [o]performance-orientation-no change; [p]performance-orientation-decrease.

**Table 10: The similarity matrix[a]**

As seen in Table 10, correlations among the variables drew a significant picture in which the patterns of both consonance and dissonance between prospective teachers' practices and values were discernible. For example, with coefficients ranging from .21 to .30, the constructivist-increase, traditional-decrease, making learning explicit-increase, promoting learning autonomy, and performance orientation-decrease were moderately correlated with each other. At this point, it can be said that the more the prospective teachers believed that the assessment *for* learning and constructivist teaching/learning were important, the more they believed that these were not applicable in educational settings, whereas the opposite was true for the traditional conceptions. With coefficients ranging from .19 to .23, the relationships among constructivist-no change, traditional-no change, making learning explicit-no change, promoting learning autonomy-no change, and performance orientation-no change were also significant, pointing out that the discernible patterns also emerged from the consonance between prospective teachers' practice and values (see Table 10).

Results of the PCA demonstrated that the similarities between the prospective teachers' practices and values drew significant patterns. Specifically, scree plot revealed four components with Eigen values greater than 1. The first (Eigen value = 6), second (Eigen value = 3), third (Eigen value = 2), and the fourth (Eigen value = 1) components explained 41%, 19%, 12%, and 7% of the total variance (79%) respectively. With positive and considerable loadings ranging from .64 to .85, the first component contained constructivist-increase, traditional-decrease, making learning explicit-increase, promoting learning autonomy-increase, and performance orientation-decrease variables (see Table 11). With negative and

significant loadings ranging from -.41 to -.81, first component also comprised constructivist-no change, constructivist-decrease, traditional-no change, making learning explicit-no change, promoting learning autonomy-no change, and performance orientation-no change variables (see Table 11).

| | Component[a] | | | |
|---|---|---|---|---|
| Variable | 1 | 2 | 3 | 4 |
| Con-inc[b] | **.83** | .24 | -.05 | .30 |
| Con-no[c] | **-.78** | -.10 | .16 | -.16 |
| Con-dec[d] | **-.41** | -.39 | -.21 | -.39 |
| Tra-inc[e] | -.11 | **-.75** | **.41** | .07 |
| Tra-no[f] | **-.71** | .27 | .24 | -.33 |
| Tra-dec[g] | **.68** | .29 | **-.48** | .23 |
| Mle-inc[h] | **.85** | -.10 | .38 | .05 |
| Mle-no[i] | **-.81** | **.44** | .02 | -.11 |
| Mle-dec[j] | -.15 | **-.54** | **-.69** | .10 |
| Pla-inc[k] | **.85** | .01 | .33 | -.23 |
| Pla-no[l] | **-.77** | **.44** | .00 | .28 |
| Pla-dec[m] | -.27 | **-.65** | **-.53** | -.04 |
| Poi-inc[n] | -.00 | **-.77** | .33 | .19 |
| Poi-no[o] | **-.73** | .34 | .01 | **.40** |
| Poi-dec[p] | **.64** | .37 | -.30 | **-.52** |

***Note.*** [a]Component loadings over .40 were shown in Bold. [b]Constructivist-increase; [c]constructivist-no change; [d]constructivist-decrease; [e]traditional-increase; [f]traditional-no change; [g]traditional-decrease; [h]making learning explicit-increase; [i]making learning explicit-no change; [j]making learning explicit-decrease; [k]promoting learning autonomy-increase; [l]promoting learning autonomy-no change; [m]promoting learning autonomy-decrease; [n]performance-orientation-increase; [o]performance-orientation-no change; [p]performance-orientation-decrease.

**Table 11: The summary of the principal component analysis**

Accordingly, it can be claimed that the higher the prospective teachers believed that constructivist teaching/learning and assessment *for* learning were valuable but not applicable (a) the higher they believed that traditional teaching/learning and assessment *of* learning were not valuable but applicable; (b) the lesser they believed that constructivist teaching/learning were not valuable but applicable; (c) the lesser they believed that constructivist teaching/learning and assessment *for* learning were both valuable and applicable; and (d) the lesser they believed that traditional teaching/learning and assessment *of* learning were both valuable and applicable. Based on this view, it can be claimed that the first component reflected the prospective teachers' values about the constructivist conceptions and assessment *for* learning. Thus, the first component was labeled as 'Values about Constructivist teaching/learning and Assessment *for* Learning' (VACAL).

With significant and negative loadings ranging from -.54 to -.77, the second component comprised traditional-increase, making learning explicit-decrease, promoting learning autonomy-decrease, performance orientation-increase whereas, with positive and considerable loadings as .44 and .44, it comprised making learning explicit-no change and promoting learning autonomy-no change. Accordingly, the lesser the prospective teachers believed that traditional teaching/learning and assessment *of* learning were valuable but not applicable the lesser they believed that assessment *for* learning were not valuable but applicable, as well as the higher they believed that assessment *for* learning were both valuable

and applicable. It can be alleged that the second component reflected both prospective teachers' values and practices about assessment *for* learning. Therefore, the second component was called as 'Values and Practices about Assessment for Learning' (VAPAL).

With a significant and positive loading as .41, the third component comprised traditional-increase whereas, with significant and negative loadings ranging from -.48 to -.69, it comprised traditional-decrease, making learning-explicit-decrease, and promoting learning autonomy-decrease. Accordingly, the more the prospective teachers believed that traditional teaching/learning were valuable but not applicable, the less they believed that traditional teaching/learning and assessment *for* learning were not valuable but applicable. It can be suspected that the third component reflected both prospective teachers' values about the traditional teaching/learning and assessment *for* learning. Thus, the third component was entitled 'Values about Traditional teaching/learning and Assessment *for* Learning' (VATAL).

Finally, the fourth component comprised performance orientation-no change with a positive and significant loading as .40 whereas it comprised performance orientation-decrease with a negative and significant loading as -.52. Accordingly, the higher the prospective teachers believed that assessment *of* learning was both valuable and applicable, the lesser they believed that assessment *of* learning was not important but applicable. This component reflected both prospective teachers' values and practices about assessment *of* learning. Thus, the fourth component was entitled 'Values and Practices about Assessment *of* Learning' (VAPOL).

To summarize, the VACAL comprised a pattern containing values about constructivist teaching/learning and assessment *for* learning, whereas the VATAL comprised a pattern containing values about traditional teaching/learning and assessment *for* learning. Finally, the VAPAL comprised a pattern containing both values and practices about assessment *for* learning, whereas the VAPOL comprised a pattern containing both values and practices about assessment *of* learning.

## Discussion

Results of the preliminary analyses demonstrated that the prospective teachers had discernible values and practices in terms of their conceptions about teaching/learning and assessment. More importantly, the ANCOVA results demonstrated that these values and practices were not varied as to the prospective teachers' year of study, indicating that they were valid for both fourth and third-year teacher education students. Given that the third-year teacher education students had no practicum experiences, this result was important to point out that the beliefs about teaching/learning and assessment-related practices were shaped during the early periods of teacher education. Despite the fact that this possibility was not examined in the present study, the current result can be interpreted based on the fact that the prospective teachers' conceptions were influenced by their earlier educational experiences as students (see, e.g., Pajares, 1992; Rodgers & Scott, 2008; Sutherland et al., 2010). If this is the case, prospective teachers' conceptions about teaching/learning and assessment should be considered in terms of both values and practices in teacher education. The effect of teacher education programs, which originates from the dynamic nature of the interactions among teaching/learning processes, objectives, assessment, and content (Kelly, 2004; McNeill, 1996; Ornstein & Hunkins, 1988), on the formation of prospective teachers' conceptions about teaching/learning and assessment can also be suspected. This issue deserves further investigation. Given that learning to teach and assess extends beyond the boundaries of formal teacher education (Feiman-Nemser, 2008), the possible effect of hidden curriculum (Jackson,

1968) on prospective teachers' values and practices should also be examined in future research in order to broaden our understanding regarding the current topic.

Results of both mean-level and person-level analyses showed that a considerable number of prospective teachers valued constructivist teaching/learning and assessment *for* learning more than they practised, whereas they practiced traditional teaching/learning and assessment *of* learning more than they valued, indicating a dissonance between prospective teachers' values and practices in terms of their conceptions about teaching/learning and assessment. This result was in line with the previous research (Wang et al., 2010). Wang et al. (2010) also found a dissonance between Taiwanese prospective teachers' conceptions of assessment and learning. They explained the mentioned dissonance between prospective teachers' conceptions of assessment and learning based on the effects of the traditional school culture in Taiwan. The same is also true for the school culture in Turkey, which has long been shaped by the effects of well-established norms and principles of traditional (i.e., behaviorist) teaching/learning and assessment (Akşit, 2007). Thus, given that the sample prospective teachers had also been exposed to the effects of traditional teaching/learning when they were students, the dissonance between prospective teachers' values and practices can be understood.

That prospective teachers valued constructivist teaching/learning and assessment *for* learning more than they practised, whereas they practiced traditional teaching/learning and assessment *of* learning more than they valued, is important for Turkey's intention for educational reform, comprising curricular and structural reforms from a teacher-centered traditional model to a student-centered constructivist model, and from traditional assessment of recall to authentic assessment (Akşit, 2007; Kilimci, 2009). Accordingly, it is important to establish a desirable consonance between prospective teachers' values and practices in terms of their conceptions about teaching/learning and assessment (Tierney, 2006). It seems that consonance between prospective teachers' values and practices has not been established in terms of their conceptions about teaching/learning and assessment. Given that beliefs are important in explaining teachers' educational/instructional behaviours (Chan, 2003; Chan & Elliott, 2004), and that classroom-related behaviours are also affected by prospective teachers' early conceptions, the current picture in teacher education that this study provides is important.

RCI results also showed that a small number of the prospective teachers believed that constructivist teaching/learning and assessment *for* learning were valuable and applicable, indicating a consonance between prospective teachers' values and practices. The same view appeared also for traditional teaching/learning and assessment *of* learning. Similarly, a small number of prospective teachers believed that traditional teaching/learning and assessment *of learning* were both valuable and applicable in educational settings. These results, at least in the present sample, were independent from the effects of demographic variables on prospective teachers' practices and values, suggesting that neither consonance nor dissonance between prospective teachers' values and practices can be attributed to the effects of demographic variables.

Teacher educators may benefit from those prospective teachers whose values are compatible with their practices in a positive term of the meaning in order to establish the same or similar consonance between those prospective teachers whose values are not compatible with their practices. For example, creating a positive, social, and mastery or learning-oriented atmosphere in the classroom and/or during the practicum process based on the prospective teachers' "capacities to offer support and ask for support from others" (i.e., relational agency) (Edwards, 2005, p. 168), prospective teachers may be enabled to challenge the reasons that cause a dissonance between their values and practices. By doing so, not only the reasons causing a dissonance between prospective teachers' values and practices, but also the reasons

causing a consonance between their values and practices can be traced explicitly. It is obvious that such an approach may provide a clear lens to see the factors that affect formation of prospective teachers' conceptions about teaching/learning and assessment during teacher education. The possible roles of educationally important variables such as self-efficacy beliefs (Bandura, 1997; Guskey & Passaro, 1994; Tschannen-Moran & Woolfolk Hoy, 2007) and motivational beliefs (e.g., Elliot, 1999) may also be examined in future research in order to broaden our current understanding about the origins of those consonance and dissonance between prospective teachers' practices and values.

The PCA results demonstrated that the prospective teachers' values and practices drew meaningful patterns, entitled VACAL, VATAL, VAPAL, and VAPOL. It was not surprising to find that the values about assessment *for* learning and constructivist conceptions were explained in the same component (i.e., VACAL) due to the fact that constructivist view of teaching/learning strongly emphasizes the crucial role of formative assessment in learning process (Brooks & Brooks, 1993; Phillips, 1995; Gordon, 2008). However, the VATAL consisted of the values about traditional teaching/learning and assessment *for* learning. Parenthetically, this means that prospective teachers also believed that both traditional teaching/learning and assessment *for* learning were important but not applicable. This can be explained based on the prospective teachers' beliefs that assessment *for* learning was also appropriate in educational/instructional settings where the traditional teaching/learning was implemented. Although it has long been acknowledged that individuals may hold contradicting beliefs simultaneously (e.g., Green, 1971), it is important to explore the reasons that underlie the current picture, in which prospective teachers held contradicting teaching/learning and assessment-related beliefs, in future research. Indeed, such an attempt may provide significant results to bridge the gap between prospective teachers' educational/instructional beliefs.

Finally, the VAPAL drew a pattern comprising the consonance between values and practices regarding assessment *for* learning whereas the VAPOL drew a pattern comprising the consonance between values and practices regarding assessment *of* learning. Seemingly, not only assessment *for* learning, but also assessment *of* learning was prominent in prospective teachers' conceptions about assessment. This means that prospective teachers may hold multiple and contradicting conceptions of assessment. This can be due to the prospective teachers' beliefs that educational environments are complex environments in which there is no unique approach that entirely captures student assessment with all aspects. If this is the case, it can be predicted that the prospective teachers may change their focus on student assessment from constructivist to traditional, or vice versa, as a function of their perceptions about the situational characteristics of the educational environments. Given the current emphasis on assessment *for* learning in the educational systems of various countries such as Turkey (Akşit, 2007), Singapore (Chan et al., 2007), Mexico (Tatto, Schmelkes, Guevara, & Tapia, 2006), the Netherlands (De Kock, Sleegers, & Voeten, 2005), and England (Hargreaves, 2005), it can be claimed that it is important to examine the factors affecting prospective teachers to hold multiple and contradicting conceptions of assessment. It is worthwhile to say that this issue deserves further investigation.

**Limitations**

This study has two main limitations. Firstly, the design of the study was correlational in nature. Thus, the present study does not enable conclusions of causal inferences with regard to the values and practices of prospective teachers' conceptions about teaching/learning and assessment. Secondly, the study was based on Turkish prospective teachers, and thus, the current results are culture biased. However, as explained in the preliminary analyses section,

the scales, which were not developed based on a sample of Turkish prospective teachers, were confirmed in the sample of the present study. Furthermore, results of the present study were in line with previous Western (e.g., Winterbottom et al., 2008) and Asian studies (e.g., Chan & Elliott, 2004). Thus, the results of the present study also have potential to provide a basis for both Asian and Western future studies.

## Conclusions

The overall results of the present study lead to three major conclusions. First, prospective teachers not only hold values about teaching/learning and assessment, but also hold practice beliefs in the same manner. Second, there were both dissonance and consonance between between prospective teachers' values and practices in terms of their conceptions about teaching/learning and assessment. Finally, and more importantly, the consonance and dissonance between prospective teachers' values and practices drew significant and discernible patterns such as VACAL, VATAL, VAPAL, and VAPOL. Given the crucial role of teachers' beliefs in both classroom-related behaviours and resistance against educational and curricular reforms, it can be suggested that both dissonance and consonance between prospective teachers' values and practices should be taken into account in teacher education in order to see the initial picture of prospective teachers' later teaching-related behaviours in educational settings such as classrooms.

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