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Examining beliefs of preservice teachers about self-competency and lifelong learning competency via canonical correlation analysis

Gulenaz Selcuk*, Education Faculty, Manisa Celal Bayar University, Manisa, Turkey.
Serhat Aydin, Education Faculty, Karamanoglu Mehmet Bey University, Karaman, Turkey.
Altan Cakmak, Education Faculty, Manisa Celal Bayar University, Manisa, Turkey.

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Abstract

This study investigates the canonical correlation between preservice teachers' lifelong learning beliefs and self-competency beliefs. Canonical correlation analysis is a sophisticated tool which has the capacity to explain the relationships between two sets of variables. For this aim, lifelong learning and self-competency beliefs of 1,242 preservice teachers in Turkey from four different departments, i.e., i) Turkish education, ii) social sciences education, iii) primary education and iv) science education were determined. The data were analyzed using the SPSS 22 program. The findings of the study demonstrated that there is a significant canonical correlation between self-competency beliefs and lifelong learning competency beliefs with an effect size of 44%. In conclusion, self-competency beliefs predict lifelong learning competency beliefs. All dimensions of self-competency beliefs are powerful predictors of lifelong learning competency beliefs.

Keywords: Preservice teachers, self-comptence beliefs, lifelong learning competency beliefs, canonical correlation.

* ADDRESS FOR CORRESPONDENCE: **Gulenaz Selcuk**, Education Faculty, Manisa Celal Bayar University, Manisa, Turkey.
E-mail address: gselcuk@hotmail.com / **Tel.:** (0236) 237 28 86.

1. Introduction

'Lifelong Learning', which comes to the forefront among the studies conducted in the field of education around the world, is a concept that takes place everywhere where the individual is and removes any restrictions such as place, time, age and education level (Gulec, Celik & Demirhan, 2012). In learning lifelong, individuals should believe in their own competencies and be confident in coping with knowledge problems. Self-efficacy beliefs, expressed as the key concept of social learning theory (Pajares, 1992), are defined as beliefs about how well individuals can perform the actions needed to cope with possible situations (Bandura, 1994).

In order for preservice teachers to be trained to have general and subject specific competencies for lifelong learning and to ensure the quality for the teacher training, training programs of the Faculty of Education must be developed in line with today's requirements. The main objective here is 'to encourage people to learn continuously and to convince them that they can do it' (Knapper & Cropley, 2000, p. 56). Teachers with high self-efficacy beliefs are open to new ideas, willing to try new teaching methods, and more persistent and resistant when students face learning difficulties and meet any problem and do student-centred teaching (Henson, 2001; Tschannen-Moran & Hoy, 2001). Teachers with low self-efficacy beliefs have more pessimistic opinions related to motivation of students, are tied to strict class rules, use punishments, carry out their lessons by reading textbooks and do teacher-centred teaching (Henson, 2001; Tschannen-Moran, Woolfolk Hoy & Hoy, 1998).

For this reason, teacher self-efficacy is an important construct in teacher education, and it is necessary to know how teacher self-efficacy develops, which components it consists of, which factors contribute to strong and positive teacher competences (Pajares, 1997). No matter how knowledgeable and skilful a teacher is in his/her field, it is unimaginable that a teacher would be productive in his/her profession unless she/he has the slightest belief that she/he could do his/her job well.

In the literature, there are studies in which lifelong learning and self-efficacy beliefs are examined alone (A. Akbas & Celikali, 2006; Akkus, 2003; Askar & Umay, 2001; Azar, 2010; Benzer, 2011; Chacon, 2005; Gencel, 2013; Gulec et al., 2012; Gunuc, Odabasi & Kuzu, 2012; Karakus, 2013; Kilic, 2014; Kozikoglu, 2014; Ozcan & Uzunboylu, 2012; Palmer, 2006; Seferoglu & Akbiyik, 2005; Taskin and Haciomeroglu, 2010; Uysal & Kosemen, 2013; Uzunboylu & Hursen, 2011; Yildirim & Ilhan, 2010). Besides, in the literature, lifelong learning and self-efficacy beliefs have also been studied in relation to different variables (Demirtas, Comert & Ozer, 2011; Firat Durdukoca, 2010; Guvenc, 2011; Hark Soylemez & Oral, 2013; Kutluca & Ekici, 2010; Oral & Taha, 2015; Saracaloglu, Karasakaloglu & Evin Gencel, 2010; Satici, 2013; Yenice, 2012). However, when studies conducted in Turkey are examined, it is seen that the number of studies (Ayra & Kostereliogl u, 2015; Ozciftci & Cakir, 2015; Selcuk, 2016) aimed at preservice teachers in which lifelong learning and self-efficacy beliefs are used jointly is limited.

Studies conducted today are being handled in an omnibus fashion in order to obtain better data. In this way, it is tried to examine the effects of each variable separately as much as possible in research studies. Occasionally, one has to determine the relationship between two variable sets. For this aim, canonical correlation might be used (Gurbuz, 1989). Canonical correlation analysis (CCA) attempts to analyse the relationship between two sets of variables by testing maximum correlations between the linear functions of these variables (Borga, 1998). It also serves to determine the variables in both sets that contribute most to the inter-cluster correlation.

There are several studies in the literature of educational research which examine the relationships between data sets by using CCA (Y. Akbas & Takma, 2005; Catalbas, 2014; Giray, 2011; Keskin & Ozsoy, 2004; Larson, Capobianco & Hanson, 2000; Sit & Lindner, 2005; Tabachnick & Fidell, 2001; Tatar & Elicin, 2002; Timm, 2002; Toker, 2013). Thus, it is thought that the determination of lifelong learning and self-efficacy beliefs of preservice teachers is important in terms of training lifelong

learners. Moreover, it is expected that this research will constitute an important source for further research since there is no comprehensive research conducted in education faculties in this regard. The fact that preservice teachers who have higher levels of lifelong learning competencies and self-efficacy beliefs might effectively carry out the role of 'mediating in social change' imposed on them. Therefore, the research questions of this study might be stated as follows:

i. Is there a statistically significant correlation between self-competency belief set and lifelong learning competency belief set?
ii. If there's, from which sub-dimensions (factors) of each belief set does this significant total correlation stem from?

2. Methodology

Research method, sampling method, data collection tools and data analysis techniques are explained below.

3. Research method

In this study, CCA was used in order to elicit the degree of correlation between self-competency belief set (factors) and lifelong learning competency belief set (factors). In this method, the maximum amount of correlation between linear functions of two variable sets is determined. This maximum correlation is called canonical correlation and the functions are called canonical functions.

4. Study sample

The target population of the study is all preservice teachers in Turkey from four different departments, i.e., i) Turkish education, ii) social sciences education, iii) primary education and iv) science education. The study sample consisted of 1,242 preservice teachers from four different departments from a state university in the west of Turkey.

Table 1. Study sample

Variables (groups)	Level (subgroups)	Frequency	Percentage
Gender	Female	753	60.6
	Male	489	39.4
Department	Turkish education	239	19.2
	Science education	197	15.9
	Social science education	431	34.7
	Primary education	375	30.2
Year of study	1	206	16.6
	2	323	26.0
	3	311	25.0
	4	402	32.4
	Total	1,242	100

According to Table 1, 753 (60.6%) of the preservice teachers were female and 489 (39.4%) were male; 206 (16.6%) of students were in their first year 323 (26.0%) of students were in their second year, 311(25.0%) of students were in their third year, and 402 (32.4%) were in their forth. Table 1 also illustrates that 239 (19.2) of the preservice teachers were in Turkish education, 197 (15.9%) were in science education, 431 (34.7%) were in social science education and 375 (30.2%) were in primary education department.

5. Data collection tools

There are two different measurement instruments in this study. First, the 51-items Lifelong Learning Competencies Scale with six factors developed by Uzunboylu and Hursen (2011). Second, Teacher Self-Competency Scale was used, which was developed within a three-factor structure by Tschannen-Moran and Hoy (2001), and adapted into Turkish by Capa, Cakiroglu and Sarikaya (2005) who confirmed its three-factor structure.

The Lifelong Learning Competencies Scale is a five-point Likert-type rating scale. There are five options as 'Complete', 'Very', 'Medium', 'Low' and 'None'. In addition, the expressions in the scale were scored by giving numerical values from 5 to 1 towards 'None' option from 'Full' option. The original scale was reported to have a reliability value of 0.95. The scale consisted of 51 items and six dimensions such as 'self-direction competence' (13 items), 'learning to learn competence' (12 items), 'sense of initiative and entrepreneurship competence' (10 items), 'obtaining knowledge competence' (6 items), 'digital competence' (6 items) and 'decision-making competence' (4 items) (Uzunboylu & Hursen, 2011).

On the other hand, there are eight items on the 'Student Participation' factor of the Self-Efficacy Belief Scale, eight items on the second factor called 'Teaching Strategies' and eight on the third factor called 'Classroom Management'. The original of the scale is rated as five (nothing, very little, some influence, quite a bit and great deal) but consists of nine equal intervals. In this study, the scale was rated as five, but the interval number was reduced to five. The choices on the scale are arranged as (1) 'nothing', (2) 'very little', (3) 'some influence', (4) 'quite a bit' and (5) 'great deal'. Cronbach's alpha internal consistency coefficients of the adapted 24-item scale were calculated as 0.82 for the first factor and 0.86 for the second factor, 0.84 for the third factor and 0.93 for the whole scale (Capa et al., 2005).

6. Data analysis

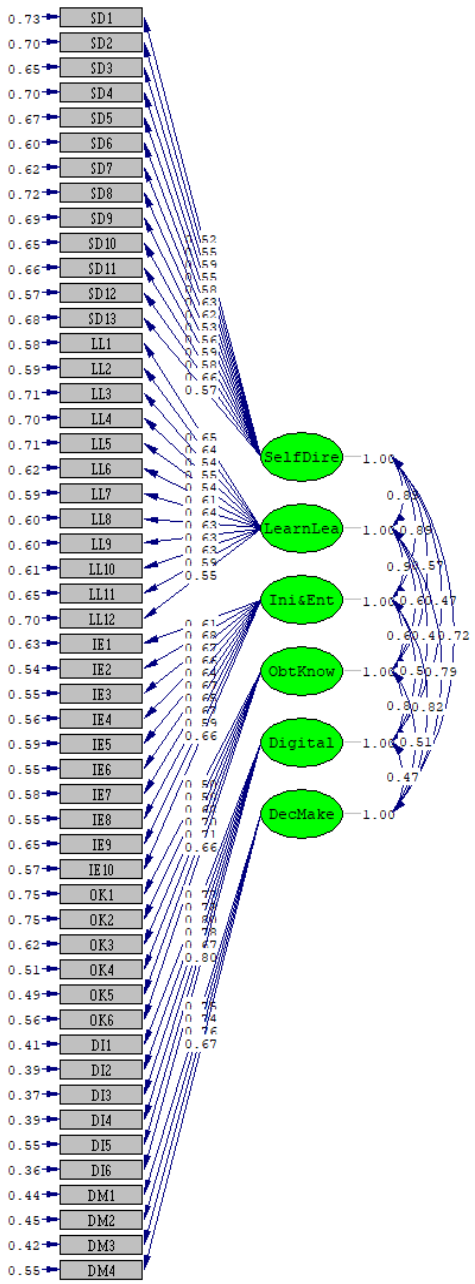
This study explores the existence of statistically significant correlation between self-competency belief set (factors) and lifelong learning competency belief set (factors). For this aim CCA was used. CCA is a widely used multivariate statistical technique for exploring the relation between two sets of variables (Gao, Ma, Ren & Zhou, 2015). This method is based on finding the maximum correlation among linear combinations of a set of variables with linear combinations of another set of variables (Anderson, 2003; Tatlidil, 2002). In CCA, it is intended to find the most effective model by which the relationship between two sets of variables can be maximally explained (Anderson, 2003; Hotelling, 1936, cited in Gao et al., 2015; Temurtas, 2016). In this study, self-competency belief set (factors) were treated as and lifelong learning competency belief set (factors) as dependent variables as is usual in CCA (Kalayci, 2014).

Before CCA, the hypothetical assumptions of CCA were tested. First of all, the number of missing values and outliers was determined. The single and multi-variate normality of the data were examined. Then, homoscedasticity assumption was tested and finally the existence of multiple collinearity and singularity problems was checked. If all the aforementioned assumptions were met then the existence of a statistically significant canonical correlation was examined using multivariate tests of significance. Then, the number and nature of functions contributing to the canonical model were examined using eigenvalues, effect sizes and dimension reduction analysis. Finally, the contributions of each covariate (independent variable) and dependent variable to these functions and to the entire model were investigated. Then, the results of these tests were interpreted.

7. Findings

Two scales were used in this study. Before conducting CCA, confirmatory factor analyses (CFAs) were conducted to the data set in order to confirm the factor structures (Santor et al., 2011) of both the Lifelong Learning Competency Beliefs Scale having six factors (Uzunboylu & Hursen, 2011) and the

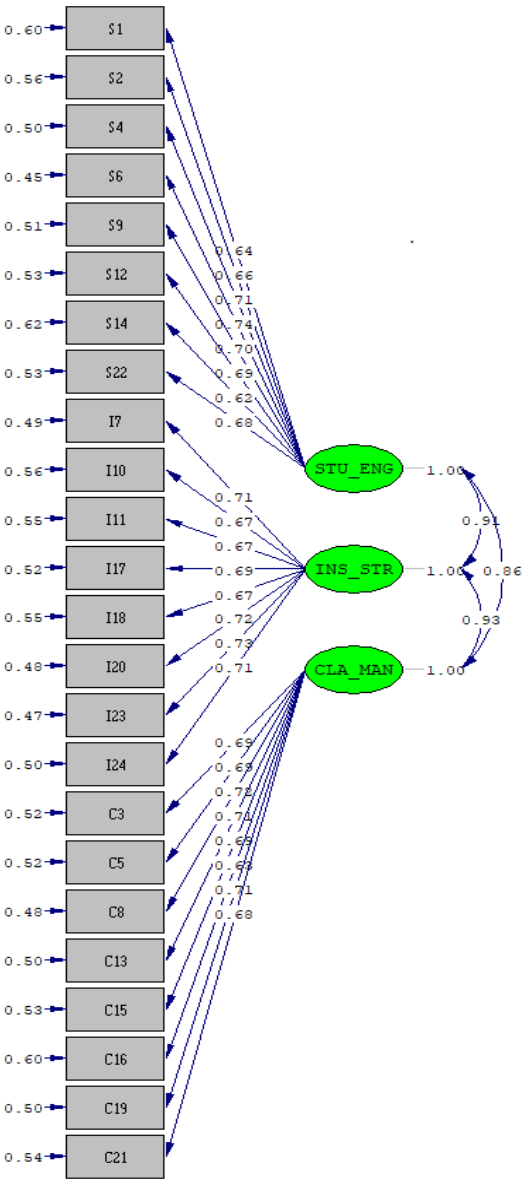
Turkish Adaptation of Teacher Self-Competency Scale having a three-factor structure (Capa et al., 2005; Tschannen-Moran & Hoy, 2001). In CFA, multiple goodness-of-fit indices were examined together. The findings of the CFA for Lifelong Learning Competency Beliefs Scale are illustrated in Figure 1.



Findings and Comments		
Parameters		**Acceptable intervals of good fit**
N	1242	
df:	1209	
X^2:	4986,81(P=.00)*	**$0 \leq X^2 \leq 3df$**
X^2/df:	4,12	**$0 \leq X^2/df \leq 3$**
RMSEA	0.054	**0 ≤ RMSEA ≤ .08**
GFI	0.90	**.90 ≤ GFI ≤ 1.00**
AGFI	0.85	**.85 ≤ AGFI ≤ 1.00**
CFI	0.98	**.95 ≤ CFI ≤ 1.00**
NFI	0.97	**.90 ≤ NFI ≤ 1.00**
NNFI	0.98	**.95 ≤ NNFI ≤ 1.00**
Weak Items According to CFA (faktor loading < ,50)		
No Items		

Figure 1. Findings of confirmatory factory analysis for Lifelong Learning Competency Beliefs Scale

The findings of CFA as goodness-of-fit statistics for Lifelong Learning Competency Beliefs Scale shown in Figure X demonstrates a good level of fit to six-factor structure (RMSEA = 0.05, NFI = 0.95, NNFI = 0.96, GFI = 0.90, AGFI = 0.88 and CFI = 0.96) (Bryne, 2001). The findings of the CFA for Teacher Self-Competency Scale are illustrated in Figure 2.



Findings and Comments		
Parameters		**Acceptable intervals of good fit**
N	1242	
df:	249	
X2:	796.81(P=.00)*	**$0 \leq X^2 \leq 3df$**
X2/df:	3,20	**$0 \leq X^2/df \leq 3$**
RMSEA	0.04	**$0 \leq RMSEA \leq .08$**
GFI	0.91	**$.90 \leq GFI \leq 1.00$**
AGFI	0.87	**$.85 \leq AGFI \leq 1.00$**
CFI	0.98	**$.95 \leq CFI \leq 1.00$**
NFI	0.98	**$.90 \leq NFI \leq 1.00$**
NNFI	0.98	**$.95 \leq NNFI \leq 1.00$**
Weak Items According to CFA (faktor loading < ,50)		
No Items		

Figure 2. Findings of confirmatory factory analysis for Teacher Self-Competency Scale

The findings of CFA as goodness-of-fit statistics for Teacher Self-Competency Scale shown in Figure X demonstrates a good level of fit to three-factor structure (RMSEA = 0.04, NFI = 0.98, NNFI = 0.98, GFI = 0.91, AGFI = 0.87, and CFI = 0.98) (Bryne, 2001). The findings of both CFA demonstrated that according to the collected data in the selected sample both scales have three-factor structures. These findings allow the researchers to further conduct CCA on the dataset.

After the factor structures of both scales were confirmed, the fit of data to CCA was examined. First, it was found that no missing values and outliers (*z*-score smaller than −3 or larger than 3) were present in the dataset according to common criteria cited in the literature (Tabachnick & Fidell, 2012). There were numerous multivariate outliers revealed by Mahalanobis distances. Because of limited starting variables as much as nine and because the initial calculations by omitting the multivariate outliers did not yield different results, the multivariate outliers were kept as recommended

(Tabachnick & Fidell, 2012). Skewness and kurtosis values between −1 and 1 for all items indicated normality assumption was met for all variables (Tabachnick & Fidell, 2012). Table 2 shows skewness and kurtosis values for all variables.

Table 2. Findings of skewness and kurtosis tests for all belief sub-dimensions (variables)

Beliefs	Variable	*N* Statistic	Skewness Statistic	Standard error	Kurtosis Statistic	Standard error
Lifelong learning competency	SelfDirect	1,242	−0.087	0.069	−0.500	0.139
	LearnTOLearn	1,242	−0.091	0.069	−0.357	0.139
	SenseIn&Ent	1,242	−0.218	0.069	−0.349	0.139
	ObtainKnowl	1,242	−0.569	0.069	−0.173	0.139
	Digital	1,242	−0.829	0.069	0.049	0.139
	DecMake	1,242	−0.166	0.069	−0.321	0.139
Self-Competency	Engage	1,242	−0.650	0.069	0.556	0.139
	Strategies	1,242	−0.567	0.069	0.252	0.139
	Management	1,242	−0.549	0.069	0.185	0.139
	Valid N (listwise)	1,242				

Table 2 demonstrates that a normal distribution was found for all variables. The next test is to examine the mono-linearity assumption. The findings of are shown in Table 3.

Table 3. Findings of mono-linearity

		Self-competency beliefs		
		Engage	Strategies	Management
Lifelong learning competency beliefs	SelfDirect	0.540**	0.517**	0.501**
	LearnTOLearn	0.521**	0.540**	0.500**
	SenseIn&Ent	0.562**	0.556**	0.522**
	ObtainKnowl	0.460**	0.456**	0.467**
	Digital	0.407**	0.381**	0.416**
	DecMake	0.483**	0.509**	0.464**

*$p < 0.05$. **$p < 0.01$.

Table 3 indicates that all single variable pairs (sub-dimensions of both beliefs) were significantly correlated ($p \geq 0.01$ or 0.05). Homoscedasticity assumption was tested looking at the distributions of residuals in SPSS. A fit line parallel to the *x*-axis demonstrated similar results that homoscedasticity assumption was met for all variables (Koyuncu, 2016; Tabachnick & Fidell, 2012). Finally, it was shown that multi-collinearity problem ($r > 0.90$) and singularity problem ($r = 1.00$) did not occur in the dataset. This finding can be observed in Table 3. After testing the assumptions, the canonical correlation tests were performed using Syntax in SPSS 22. The findings of CCA between self-competency belief set and lifelong learning competency belief set are presented below.

7.1. Canonical correlation between lifelong learning competency beliefs and self-competency beliefs

In this part, the model fit and the existence of a statistically significant canonical correlation was examined using multivariate tests of significance. The findings are shown in Table 4.

Table 4. Multivariate tests of significance

Test name	Value	Approximately *F*	Hypoth. DF	Error DF	Sigificance of *F*
Pillais	0.45	35.97	18	3705.00	0.000
Hotellings	0.74	50.75	18	3695.00	0.000
Wilks	0.56	44.00	18	3487.94	0.000
Roys	0,.42				

Note. S = 3, M = 1, *N* = 615 1/2.

The results in Table 4 show that the canonical correlation model is statistically significant [Wilks' λ = 0.57, $F(18, 3487.94) = 43.08$, $p < 0.001$]. There's a significant correlation between the lifelong learning competency beliefs set and self-competency beliefs set. The shared variance between two sets of variables was found as 44% (1 – Wilks' λ = 1 − 0.56 = 0.44) and indicates a medium level of association. In Table 5, the eigenvalues, the magnitude and significance of canonical correlation for each canonical function are shown.

Table 5. Eigenvalues and canonical correlations

Root no.	Eigenvalue	Pct.	Cum. pct.	Canon cor.	Sq. cor
1	0.71	95.73	95.73	0.64	0.42
2	0.02	3.01	98.75	0.15	0.02
3	0.01	1.25	100.00	0.10	0.01

Table 5 illustrates that the eigenvalue for the first canonical function is 0.71 and this function explains 42% of variance between two sets of variables. Second and third canonical functions make only 2% and 1% contributions to the model. Hence, only the first two canonical functions make statistically significant contributions to the model, a finding that was confirmed by the findings of dimension reduction analysis shown in Table 6.

Table 6. Dimension reduction analysis

Roots	Wilks L.	*F*	Hypoth. DF	Error DF	Sig. of *F*
1 TO 3	0.56	44.00	18	3487.94	0.000
2 TO 3	0.97	3.90	10	2468.00	0.000
3 TO 3	0.99	2.87	4	1235.00	0.022

Table 6 illustrates that there is a statistically significant correlation between two sets of variables for both the first and the second canonical functions [Wilks' λ = 0.56, $F(18, 3487.94) = 44.00$, $p < 0.01$ and Wilks 'λ = 0.97, $F(10, 2468.00) = 3.90$, $p < 0.01$, respectively]. On the other hand, it can also be observed that no statistically significant correlation between two sets of variables for the third canonical function [Wilks' λ = 0.99, $F(4, 1235.00) = 2.87$, $p > 0.01$].

In sum, there's a statistically significant correlation between the lifelong learning competency beliefs set and self-competency beliefs set with effect sizes of 42% and 2% for the first two canonical functions which indicated a moderate level of total effect size. The contributions of each variable in both variable sets are shown in Table 7.

Table 7. Correlations between all variables and canonical variables

Set	Variable	Function 1			Function 2			h2(%)
		Scc	Rc	Rc2(%)	Scc	Rc	Rc2(%)	
Lifelong	SelfDirect	−0.24	−0.86	0.74	−0.89	−0.16	0.03	0.76
learning	LearnTOLearn	−0.12	−0.86	0.74	0.95	0.29	0.08	0.82
competency	SenseIn&Ent	−0.29	−0.91	0.82	−0.24	0.06	0.00	0.82
beliefs	ObtainKnowl	−0.19	−0.76	0.57	0.14	−0.16	0.03	0.60
	Digital	−0.15	−0.65	0.43	−0.78	−0.46	0.21	0.64
	DecMake	−0.23	−0.80	0.65	0.70	0.38	0.14	0.79
Self	engage	−0.43	−0.95	0.91	−1.10	−0.21	0.05	0.96
conpetency	strategy	−0.42	−0.95	0.90	1.94	0.31	0.10	1.00
beliefs	management	−0.21	−0.92	0.84	−0.86	−0.19	0.03	0.87

Note. h^2 = common effect.

During CCAs conducted in this study, correlations between covariates, dependent variables and canonical variables (Rc) was preferred to standardized canonical coefficients (Scc). Scc values are found to be more sensitive to multi-collinearity problems (Kalayci, 2014; Tabachnick & Fidell, 2006). In the tables showing the contribution of variables to canonical analysis, Rc and values larger than 0.45 were taken as statistically significant contribution to the function and h^2 values larger than 0.45 were taken as statistically significant contribution to the model and were underlined (Temurtas, 2016). Based on these criteria, all variables made significant contribution to function 1 but not to function 2. Only digital variable made a significant contribution to function 2. Overall, all variables made significant contributions to the model with obtain Knowl and Digital variables making the least (0.60 and 0.64, respectively).

In summary, there's a statistically significant but moderate level of correlation between self-competency beliefs (covariate variable set) and lifelong learning competency beliefs (dependent variable set) explaining total 44% of the covariance between two belief sets. This significant relationship between two belief sets stems from two different functions. The first function has an effect size of 42% and is made up of significant relationships between all sub-dimensions of lifelong learning competency beliefs and all sub-dimensions of self-competency beliefs. The second function has a small effect size of 2% and demonstrates a significant relationship between Digital sub-dimension of lifelong learning competency beliefs and the whole model.

In other words, i) self-competency beliefs predict lifelong learning competency beliefs, ii) all sub-dimensions of self-competency beliefs significantly predict all sub-dimensions of lifelong learning competency beliefs and iii) 'Digital' sub-dimension of lifelong learning competency beliefs has some significant and distinct effects on the whole relationship between two sets of beliefs.

8. Results, conclusions and recommendations

This paper explores the overall correlation between self-competency belief set (factors) and lifelong learning competency belief set (factors). Tekin (1993) stated that CCA might be used for examining the existence and nature of a statistically significant correlation between two sets of variables. The two variable sets in this study are the factors of six-factor Lifelong Learning Competencies Scale (Uzunboylu & Hursen, 2011) and three-factor Teacher Self-Competency Scale (Tschannen-Moran & Hoy, 2001), which were administered to 1,242 preservice teachers from four different department at four different years of study. As a multivariate statistical technique, CCA might show the existence of statistically significant maximum correlations between linear combinations of two sets of random variables (Tatlidil, 2002). Some researchers also define CCA as a dimension reduction process through which the simplest model is sought to explain the relationship between two sets of variables (Bayyurt, 2004; Hardle & Simar, 2015; Kalayci, 2014; Temurtas, 2016).

This study revealed that a statistically significant correlation between self-competency beliefs (covariate variable set) and lifelong learning competency beliefs (dependent variable set) existed and explained total 44% of the covariance between the two belief sets. It was also shown in this study that the significant relationship between two belief sets is rooted in two different relationship types (functions). The first function with an effect size of 42% reveals a significant relationship between all sub-dimensions of lifelong learning competency beliefs and all sub-dimensions of self-competency beliefs. The second function with a tiny effect size of only 2% indicates a significant relationship between Digital sub-dimension of lifelong learning competency beliefs and the whole model. In her study, Selcuk (2016) pointed out that there was a significant difference in the 'technology and digital competence' sub-dimension of the preservice teachers according to types of teaching variable. On the other hand, Hursen (2011) also stated in his study that teachers had a high level of perception in the 'digital competence' sub-dimension. No sub-dimension of lifelong learning competency beliefs or lifelong learning competency beliefs had a significant effect on this function.

Overall, the findings indicated that there is a statistically significant correlation between self-competency belief set and lifelong learning competency belief set. Therefore, self-competency beliefs predict lifelong learning competency beliefs. In this direction of relationships, all dimensions of self-competency beliefs are powerful predictors of lifelong learning competency beliefs. Selcuk (2016) put forward in his study that there was a positive and highly significant relationship between lifelong learning competence perceptions and self-efficacy beliefs of preservice teachers. In the study conducted by Ayra and Kosterelioglu (2015), it was found out that there was a low level of positive significant relationship between teachers' perceptions of professional self-efficacy and life-long learning tendencies.

It is only through lifelong learning habit and self-efficacy beliefs that teachers are able to renew themselves constantly (Demiralay & Karadeniz, 2008; Soran, Akkoyunlu & Kavak, 2006). An individual who learns throughout his/her lifetime is curious about learning, enjoys learning, believes in the importance and necessity of lifelong learning and has self-efficacy beliefs that he/she can learn, and can overcome the difficulties that can be experienced in the learning process. In order to acquire the skills of lifelong learning in schools, first preservice teachers should be educated with these skills within the scope of the teacher training program, have lifelong learning competencies and can perform applications to make their students acquire these skills (Selvi, 2011, p. 68). Bandura (1994) points out that there are four main sources determining self-efficacy beliefs and emphasizes that the most effective of these is the knowledge that individuals have gained directly from their own experiences. According to Schunk (1990), satisfaction of reaching a goal doubles the self-efficacy beliefs, and the person sets more compelling goals for him. This process increases the individual's gains more. It is seen that individuals with high self-efficacy make more effort than individuals with low self-efficacy to achieve a goal, and they do not give up immediately when they meet with obstacles (Bandura, 1994).

Within this context, it is considered very important to determine preservice teachers' perception of competence and self-efficacy beliefs for lifelong learning approach in terms of training lifelong learners, and it is thought that this situation gains importance to the research. This study reveals the relation between lifelong learning and self-efficacy beliefs in teacher-training institutions, and there is no comprehensive research carried out in education faculties in this regard when the literature is examined, and these also make this study important. It is expected that the preservice teachers' awareness of lifelong learning and self-efficacy beliefs will be increased thanks to this study and it will provide new research opportunities on this field. Furthermore, making comparisons for preservice teachers in different departments in different universities or in different classes will make a great contribution to the literature.

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