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College of Education Students' Approaches to Learning and Study Skills

Eğitim Fakültesi Öğrencilerinin Öğrenme Yaklaşımları ve Çalışma Becerileri

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Abstract

Research on higher education identifies students' approaches to learning and study skills as a significant factor affecting the quality of learning. If teacher educators are to find ways for improving educational experiences of their students, they must understand how their students learn and the effects of the learning environment on their learning approaches. For this reason, this study examines Turkish and American college of education students' approaches to learning and study skills. Furthermore, this research attempts to investigate whether there is any difference in students' approaches to learning in regards to their major, school year, and gender. The Approaches and Study Skills Inventory for Students (ASSIST) was adapted to Turkish to investigate Turkish students' learning approach and study skills and original ASSIST was also used for describing those of American students. Findings indicated that most Turkish and American students prefer deep and strategic approaches to learning rather than surface ones. As the year of study increased, the use of deep approach inclined in contrast, while school year was increased the use of surface approach decreased. Turkish and American female students mostly prefer strategic approach whereas male students tend to use deep approach.

Keywords: students' approaches to learning and study skills; deep, strategic and surface, ASSIST, Turkish and American college of education students, gender, major, school year

Öz

Öğrencilerin öğrenme yaklaşımları ve çalışma becerilerinin, öğrenmenin niteliğini etkileyen önemli bir değişken olduğu birçok araştırmayla ortaya konmuştur. Öğretmen yetiştiren eğitimcilerin, öğrencilerinin eğitim yaşantılarını geliştirebilmeleri için onların nasıl öğrendiklerini, öğrenme yaklaşımlarını ve bu yaklaşımlarının gelişimine öğrenme çevresinin etkilerini anlamaları gerekmektedir. Bu nedenle, bu araştırmada, Türk ve Amerikan eğitim fakültesi öğrencilerinin öğrenme yaklaşımları ve çalışma becerileri belirlenmeye çalışılmıştır. Ayrıca, öğrencilerin tercih ettikleri öğrenme yaklaşımlarının alanlarına, sınıf düzeylerine ve cinsiyetlerine göre farklılık gösterip göstermediği de araştırılmıştır. Çalışmada, Türk öğrencilerin öğrenme yaklaşımlarını belirlemek üzere ASSIST Türkçeye adapte edilmiş, Amerikalı öğrenciler için ölçeğin orijinali kullanılmıştır. Elde edilen bulgular, Türk ve Amerikan öğrencilerin derinlemesine ve stratejik öğrenme yaklaşımlarını, yüzeysel öğrenme yaklaşımından anlamlı düzeyde daha çok tercih ettiklerini; sınıf düzeyi arttıkça derinlemesine öğrenme yaklaşımını kullanma düzeyinin arttığını; kız öğrencilerin stratejik, erkeklerin ise derinlemesine öğrenme yaklaşımını tercih ettiklerini göstermektedir.

Anahtar Sözcükler: Öğrenme yaklaşımları ve çalışma becerileri; derinlemesine, stratejik, yüzeysel öğrenme, ASSIST, Türk ve Amerikan eğitim fakültesi öğrencileri, cinsiyet, alan, sınıf düzeyi.

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Introduction

One of the main objectives of education is to help students become effective learners. Students should take responsibility for their own learning and be able to continue after they leave school (Gage & Berliner, 1992). Student learning in the classroom is affected by many variables. One main variable is students' background related to education such as support and encouragement from family, peers and others; and attitudes towards education of family, and other social groups. The other main variable is related to student characteristics such as prior knowledge regarding content; self-efficacy, motivation, level of interest, beliefs and attitudes towards learning context; knowledge and skills in using learning, and affective and metacognitive strategies. A third variable is related to teachers' attitudes towards herself/ himself, teaching students, and context; departmental/school environment, policy, and attitude towards teaching-learning process (Gage & Berliner, 1992; Senemoglu, 1997; Entwistle, 2000; Woolfolk, 2005).

Although all these components affect the quality and effectiveness of learning outcomes, it is difficult to conceptualize all of the influences on the process of teaching and learning. However, *many research findings point out that the approach to learning and study skills are significant factors affecting the quality of student learning. It is also known that quality of teaching-learning environment and assessment procedures affect student's approaches to learning and ultimately quality of learning outcomes* (Marton & Saljo, 1976; Entwistle & Ramsden, 1983; Ramsden, 1988; Biggs, 1993; Hounsell, 1997; Entwistle, 2000a; Entwistle, 2000b; Prosser & Trigwell, 2006; Smith& Miller, 2005; Byrne, et al., 2009).

For more than three decades, researchers in education have attempted to understand learning from a phenomenographic perspective (Duff, 2004). Early research on student learning based on text reading experiments in the 1970s. The starting point was to find ways of describing some of the main differences in how students think about learning and carry out their studies. Students were asked to read an article and were interviewed to assess their level of understanding and to determine their process of learning. In these studies, Marton and Saljo (1976) identified two levels of processing of learning- deep and surface- and this has been replicated and extended in many studies (Marton & Saljo, 1997; Prosser & Trigwell, 1999; Phan& Deo, 2007; Justicia, et al., 2008). Instead of "level of processing", Entwistle, Hanley, and Hounsell (1979) preferred to use the term "approach", which was also accepted by Marton and Saljo as the best descriptor for the qualitative differences in students' responses to learning tasks (Marton & Saljo, 1997).

Students adopting the *deep approach* to learning intend to understand the material, and they show active engagement and interest in their studies. They interact critically with the arguments and evidence by using prior knowledge and other resources. They also monitor the development of their own understanding (Entwistle, McCune & Walker, 2000). Learning is an internal process to them. In contrast, students who prefer the *surface approach* mainly tend to memorize the material without understanding. They intend to reproduce the learning material and use different forms of rote learning. Mainly, they are constrained by the specific learning task and do not go beyond it. In this approach*, predominant motivation is fear of failure and concern with the completion of a course.* Deep approach is more likely to result in a high level of understanding and effective learning whereas surface approach is likely to lead to a low level of understanding and ineffective learning (Entwistle & Ramsden, 1983).

Interviews on everyday studying drew attention to the pervasive influence of assessment procedures on learning and studying. These suggested the need for additional category. Third approach to learning is called *strategic approach.* Students who are primarily concerned with achieving the highest possible grades prefer to use the strategic approach. These students use both deep and surface approaches as they see appropriate and have a competitive motivation. In this approach, the major intention is to achieve the highest grades possible by means of organized study methods and time-management (Entwistle & Ramsden, 1983). Strategic approach also involves monitoring one's study effectiveness (Entwistle, McCune & Walker, 2000) and alertness

to the assessment similar to metacognitive alertness and self-regulation (Vermunt, 1998; Pintrich & Garcia, 1994; Entwistle, 2000b).

After phenomenographic investigations, the second line of research has taken the form of designed inventories which measure these concepts and so allow relationships to be established in larger representative groups. One widely used inventory was the Approaches of Studying Inventory (ASI- Entwistle & Ramsden, 1983), which has led recently to Approaches and Study Skills Inventory for Students (ASSIST- Tait, Entwistle & McCune, 1998). The ASSIST measures student's approaches to learning on mainly three dimensions referred to as main scales; *deep, strategic,* and *surface-apathetic*. Deep approach includes four sub-scales; 'seeking meaning', 'relating ideas', 'use of evidence', 'interest in ideas'. Strategic approach also has five sub-scales namely 'organized studying', 'time management', 'alertness to assessment demands', 'achieving', 'monitoring effectiveness'. Surface apathetic approach also includes four sub-scales namely 'lack of purpose', 'unrelated memorizing', 'syllabus-boundness', 'fear of failure'. ASSIST also contains sections related to student's definition of concept of learning and preferences for different types of courses and teaching.

Different versions of ASSIST have been used in studies for different purposes. Some of the recent studies were designed to investigate the reasons for poor performance at universities. Thus, these results can lead the educators to think how to increase quality of learning outcomes by promoting deep learning through teaching-learning process and assessment procedures (Entwistle, 2000; Byren, et al., 2002; Struyven, Dochy, & Janssen,2003; Byrne, et al., 2009; Mahesh & Babacan, 2009). Research to date on students learning approaches and study skills in education or in teacher training institutions is limited, yet students as teacher candidates must be prepared to facilitate their students how to learn effectively.

It is therefore crucial that teacher candidates possess and use effective learning strategies in their pre-service education. If teacher candidates used effective learning approaches and study skills in their own learning, they would provide their students with high quality learning approaches and study skills. For this reason, investigating learning approaches and study skills of students in colleges of education is very important in order to see how well we educate our future teachers and to enhance teacher training programs as necessary.

In addition, although in many western cultures, factor structure of ASSIST has been validated; the Turkish version of ASSIST can examine the validity of factor structure of ASSIST in a non-western culture. In other words, this study might contribute to evaluating whether the ASSIST has cross-cultural consistency, universal or culture-dependent. This study may also be interesting to observe similarities and differences in approaches and study skills of students who come from different countries and cultures.

The purpose of this study is to determine and compare the approaches to learning and study skills of students in colleges of education in the US and Turkey. For this purpose, answers to the following questions are sought:

▪ Which approach and study skills- deep, strategic, surface apathetic- do American and Turkish students in education prefer in their learning?

▪ Is there a statistically significant difference between approaches and study skills preferred by Turkish and American students?

▪ Is there a statistically significant difference between approaches and study skills preferred by Turkish and American students based on their major, school year, and gender?

Method

Subjects

This study involves American and Turkish students in colleges of education. Data were gathered from 206 American and 806 Turkish college freshmen, sophomores, juniors, and seniors who volunteered to participate in this study and whose major fields of study were early childhood education, elementary education, secondary education-humanities, secondary education-math and science.

Turkish students were over-sampled since this was the first time that the ASSIST would be adapted for use in Turkey and, thus, it was desirable to do confirmatory factor analysis of the Turkish version. The questionnaires were administered by the instructors of the course to the students who volunteered. Administering the inventory took approximately 20-30 minutes.

Instrument

In this study, ASSIST was used to determine the approach and study skills of students in colleges of education in the US and Turkey. The inventory contains 67 statements, and respondents indicate their agreement with each statement, using a five point Likert scale. ASSIST consists of four sections. The first section is a six-item measurement of the student's own conception of what the term "learning" means to them. The second section consists of 52 statements related to mainly three dimensions-- deep, strategic, and surface-apathetic. As mentioned above, every dimension has a subscale. Each approach has four or five subscales comprised of four items. The third section of ASSIST is an eight-item questionnaire measuring preferences for different types of teaching- lectures, courses, exams and books. In the fourth section, the students are asked how well they think regarding the overall performance assessed. All these statements were made by university students when asked what they usually did while they were learning (Entwistle et al., 2000; Diseth, 2001).

Permission of using and adopting ASSIST in Turkish has been received from N. Entwistle via electronic mail on October 24th 2005. In the first step of the adaptation process, five people translated ASSIST from English to Turkish. Importantly, a translator with an excellent command of both Turkish and English. Translated Turkish version back to English to check whether the original statement and the translation had the same meaning. Two native speakers also checked the original and translated versions in terms of compatibility. In addition, the Turkish and English versions were administered in 15 day-interval to the same group, which was made up of students who were majoring in English Language and Literature in Turkey. Correlation coefficient between English and Turkish versions was .82. This result roughly indicates that there is a high compatibility between English and Turkish versions. A confirmatory factor analysis has also been used to investigate factors, factor structures, subscales, and reliability.

Confirmatory Factor Analysis: Although translated with great care, the factor analysis would insure that this first translation of the instrument into Turkish was successful. For this reason, first, confirmatory factor analysis was performed since it provides a much stronger test of cross-cultural, within construct validity and allows tests of competing models. Moreover, ASSIST has robust construct validity; therefore, first, Confirmatory Factor Analysis was performed to examine the factor structure of the original inventory based upon data obtained from the Turkish students.

The structure of the analysis reported here is based upon the recent analysis of the ASSIST reported by Entwistle *et al*. (2000). Confirmatory Factor Analysis utilizing *LISREL 8.70* was used. The goodness of fit of the confirmatory factor structure was assessed by the following fit indices: Normed Fit Index (NFI), Non Normed Fit Index (NNFI), Comparative Fit Index (CFI), Root Mean Square Residual (RMSEA/RMR). GFI, AGFI, CFI, and NNFI values greater than 0.95 and RMSEA/RMR values less than .05 are used as indicator of very good fit of the data to the hypothesized models. According to Anderson and Gerbing (1984), Cole (1987), Marsh, Balla and McDonald

(1988), it is also acceptable for the model that GFI value is 0.85 and AGFI value is over 0.80 and RMSEA/RMR value is less than .08 even less than 0.10.

In this study 52 items were used to perform confirmatory factor analysis. In the first part of Confirmatory Factor Analysis, three-dimension structure (deep, strategic, and surface) of ASSIST was examined. *In the second part, each dimension structure based upon individual item and subscales analysis* was examined. Table 1 shows the fit indices and alpha values of the whole inventory and three dimensions- deep, strategic and surface. Data obtained from Turkish version (n= 806) produced a satisfactory fit to the model of structure of whole inventory, ASSIST since the *good fit* indices values are CFI= 0.91, NNFI= 0.91 greater than 0.90 and RMSEA less than 0.05 with the condition of removing items 3, 28, 38, 51 which have high correlation with other factors**.** In addition, as seen in Table 1, structure of deep subscale in Turkish version produced *very good* **fit** indices to fit the original model (CFI= 97, NNFI= 97, RMSEA= 0.03). Moreover, both the results of original ASSIST in the US and the Turkish version in Turkey showed that Cronbach's Alpha values ranged from .91 to .71 (see Table 1), which could be considered as a high internal consistency. However, structure of strategic and surface subscales have acceptable fit indices (AGFI value is over 0.80, GFI value is over 0.85, RMR or RMSEA values are less than 0.08). In short, the evidences indicated by factor analysis showed that Turkish version of ASSIST has internal consistency reliability, the levels varying from moderate to high, and satisfactory construct validity. Moreover, correlations between three factors (main scales; deep, strategic and surface) are presented in Table 2. Especially, correlations based on data obtained from original ASSIST administered in the UK were used to compare the correlations based on data obtained in this study, in the US and Turkey.

Table 1.

Fit indices and Cronbach's Alpha Values of Turkish Version of ASSIST and Subscales (N= 806)

Indices	Whole Inventory	SUBSCALES		
Scales	ASSIST (48 items)	DEEP (16 items)	STRATEGIC (19 items)	SURFACE (13 items)
RMR / RMSEA	0.05 / 0.04	0.03 / 0.03	0.06 / 0.08	0.06 / 0.07
GFI	0.86	0.96	0.89	0.91
AGFI	0.84	0.95	0.86	0.88
CFI	0.91	0.97	0.88	0.80
NNFI	0.91	0.97	0.86	0.76
IFI	0.91	0.97	0.88	0.80
Alpha- for Turkish version, N=806	0.81	0.81	0.81	0.71
Alpha- for original version- (in the U.S. N=206)	0.87	0.87	0.91	0.71

Table 2.

Correlations between Factors

Data obtained in the UK (Entwistle, et al., n.d.)	817	Factor I Factor II Factor III	(Deep) (Strategic) (Surface)	- 0.35 -0.20	- - -0.22
Data obtained in the US	206	Factor I Factor II Factor III	(Deep) (Strategic) (Surface)	- 0.66 -0.24	- - -0.16
Data obtained in Turkey	806	Factor I Factor II Factor III	(Deep) (Strategic) (Surface)	- 0.63 -0.26	- - -0.15

As seen in Table 2, correlations between deep and strategic approaches are positive and greater than correlations between deep & surface, and strategic & surface, based upon data obtained from British, Turkish and American students. However, correlations between deep and strategic approach produced by Turkish and American data were higher than those of British. This might indicate Turkish and American students adopting deep approach also tend to use more frequently some of the strategic study skills. These results might indicate that achievement motivation can be important for the Turkish and American students who adopted deep approach; therefore, the correlations between deep and strategic approaches are high. These findings also confirmed the assertions of Tait & Entwistle (1996), Tait, Entwisle & McCune (1998) and Entwistle, Tait & McCune (2000) stating that "the first three sub-scales in each approach are most consistently related with each other, and can be combined with confidence. Subsequent sub-scales are more likely to vary in their relationships across different samples. Relationships thus need to be checked in particular sample used for the study."

In short, the results of confirmatory factor analysis show that Turkish version of original ASSIST's scales and subscales have internal consistency reliability varying from acceptable to high, and satisfactory and very good fit construct validity (see Table 1). Therefore, the data obtained from the original model of Turkish version of ASSIST was used to answer the research questions.

Results and Discussion

Research question 1: Which approach and study skills- deep, strategic, and surface apathetic-do American and Turkish students in education prefer in their learning? To answer this question One Way Analyses of Variance (ANOVA) was performed on the data obtained from the students of each country separately. Mean scores, standard deviations of approaches to learning and study skills, and number of students from each country are presented in Table 3.

Table 3.

Descriptive statistics of data obtained from Turkish and American Students (mean scores computed out of 100 to compare preferences of each learning approaches)

Country	Learning App.	n	M / 100	sd
Turkey	Deep app.	1180	72.72	11.91
	Strategic app.	1180	70.92	11.41
	Surface app.	1180	61.74	11.64
USA	Deep app.	206	67.00	14.17
	Strategic app.	206	67.97	16.32
	Surface app.	206	59.29	11.99

The results of these ANOVAs for Turkish $F(2, 3537)= 301.22$ $p< 0.001$, and American students $F(2, 615)= 22.77$ $p< 0.001$) revealed statistically significant differences between their approaches to learning– deep, strategic, and surface. Scheffe post-hoc tests revealed that mean scores of Turkish students using deep approach were significantly higher than those of strategic and surface approaches, and strategic approach than those of surface approach. American students preferred deep and strategic approaches significantly higher than surface approach. These findings consist with the results of the research by Byren et al. (2009). But there was no significant difference between strategic and deep approaches.

Research question 2: Is there a significant difference between approaches and study skills preferred by Turkish and American students? Related to this question descriptive statistics presented in Table 3.

To investigate country differences in students' approaches to learning (deep, strategic and surface), a one-way between groups multivariate analysis of variance (MANOVA) was performed. There was statistically significant difference between country on the combined dependent

variables (deep, strategic, and surface learning approaches): *F* (1-1384)= 18.57, *p*=0.001; *Wilks' Lambda*= 0.96; *partial eta squared*= 0.04. When the results for deep, strategic and surface approaches were considered separately, the difference to reach statistical significance using alpha level of 0.05 was on deep: *F*(1-1384)=38.05, *p*< 0.001, *partial eta squared*= 0.027; strategic *F*(1-1384)=10.14, *p*= 0.001, *partial eta squared*= 0.007 and surface approaches *F*(1-1178)7.71, *p*< 0.006.

An investigation of the mean scores indicated that Turkish students reported slightly higher level of deep approach (*M*= 72.72, *sd*= 11.91) than American Students *(M*= 67.00, sd= 14.27). An inspection of the mean scores indicated that the same results with the deep approach were reported for the strategic *(M*=70.92, *sd*=11.41; *M*=67.97, *sd*=16.32 Turkish & American respectively) and surface approaches (*M*=61.74, *sd*= 11.64; *M*= 59.29, *sd*= 11.99 Turkish & American students respectively). These findings show that Turkish students prefer slightly higher level of all three approaches- deep, strategic, and surface- than American students.

Research Question 3: Is there a significant difference between approaches and study skills preferred by Turkish and American students based on their major, school year, and gender? Descriptive statistics related to this question are presented in Table 4.

Table 4.

Descriptive Statistics based upon Major, School Year and Gender

MAJOR (TR)	Deep			Strategic			Surface		
	n	*M*	*sd*	*n*	*M*	*sd*	*n*	*M*	*sd*
Early childhood	192	71.63	11.47	192	71.44	11.32	192	62.94	11.02
Elementary	102	71.50	10.96	102	70.06	9.09	102	62.92	10.18
Humanities	646	73.66	11.99	646	71.38	11.67	646	61.02	11.93
Math & Science	240	71.61	12.28	240	69.62	11.57	240	62.19	11.82
TOTAL	1180	72.72	11.91	1180	70.92	11.41	1180	61.74	11.64

MAJOR (US)	Deep			Strategic			Surface		
	n	*M*	*sd*	*n*	*M*	*sd*	*n*	*M*	*sd*
Early childhood	67	66.92	14.27	67	71.82	16.25	67	59.62	9.94
Elementary	32	66.64	11.00	32	65.75	14.78	32	62.34	10.79
Humanities	84	67.12	15.47	84	66.13	16.56	84	58.13	13.35
Math & Science	23	67.28	14.53	23	66.56	16.76	23	58.26	13.35
TOTAL	206	67.00	14.27	206	67.97	16.32	206	59.29	11.99

SCHOOL YEAR (TR)	Deep			strategic			surface		
	n	*M*	*sd*	*n*	*M*	*sd*	*n*	*M*	*sd*
Freshman	205	73.02	11.51	205	70.90	11.76	205	63.89	11.39
Sophomore	350	73.10	12.26	350	71.39	11.81	350	61.28	11.45
Junior	376	71.46	11.68	376	70.15	10.87	376	61.87	11.74
Senior	249	73.87	12.00	249	71.41	11.32	249	60.40	11.77
TOTAL	1180	72.72	11.91	1180	70.92	11.41	1180	61.74	11.64

SCHOOL YEAR (US)	Deep			Strategic			Surface		
	n	*M*	*sd*	*n*	*M*	*sd*	*n*	*M*	*sd*
Freshman	15	71.08	12.91	15	69.53	13.73	15	64.83	10.74
Sophomore	31	64.43	11.56	31	64.74	17.15	31	59.59	13.23
Junior	92	65.76	12.91	92	67.02	16.03	92	58.92	11.74
Senior	68	68.95	17.00	68	70.38	16.81	68	58.41	11.93
TOTAL	206	67.00	14.27	206	67.97	16.32	206	59.29	11.99

GENDER (TR)	Deep			Strategic			Surface		
	n	*M*	*sd*	*n*	*M*	*sd*	*n*	*M*	*sd*
Male	493	73.41	12.19	493	69.81	11.51	493	60.48	11.94
Female	687	72.24	11.69	687	71.71	11.27	687	62.64	11.34
TOTAL	1180	72.72	11.91	1180	70.92	11.41	1180	61.74	11.64

GENDER (US)	Deep			Strategic			Surface		
	n	*M*	*sd*	*n*	*M*	*sd*	*n*	*M*	*sd*
Male	47	67.36	13.25	47	64.93	13.18	47	58.43	14.48
Female	159	66.89	14.59	159	68.86	17.07	159	59.54	11.19
TOTAL	206	67.00	14.27	206	67.97	16.32	206	59.29	11.99

A one-way between groups multivariate analysis of variance (MANOVA) was performed to investigate differences of *major* in *Turkish students' learning approaches*. Three dependent variables were used; deep, strategic and surface learning approach. The independent variable was students' major, namely early childhood, elementary, humanities and math & science. There was a statistically significant difference between major on the combined dependent variables*: F* (3-1176)=1,90 , *p*=0,047; *Wilks' Lambda* = 0,98 ; partial eta squared= 0,005. When the results for the dependent variables were considered separately, the only statistically significant difference (*p*< 0.05) was in deep approach: *F*(3-1176)=2,93*, p*=0,03*, partial eta squared*=0,007. According to LSD test that mean scores of Turkish humanities students were significantly higher (*M*= 73.66, *sd*= 11.99) than those of preschool (*M*= 71.63 , *sd*= 11.47) and math-science (*M*= 71.61 ,*sd*= 12.28) in deep approach.

This finding is consistent with the observations of Entwistle and Ramsden (1983), Ramsden and Entwistle (1981), Watkins (1982), Harper and Kember (1986), and Jacobs & Newstead (2000). They have each observed that the arts students were inclined to adopt deep approach to learning more than the science students. This result also support the assertions of Becher (1994) and findings of Smith & Miller (2005), pointing out that disciplines such as humanities (as soft pure disciplines) are more focused on interpreting ideas, establishing coherence in an argument and reflecting and critically evaluating the given information on teaching-learning process than 'hard pure' (such as physics and chemistry).

A one-way between groups multivariate analysis of variance was performed to investigate differences of *majors* in *American students' learning approaches*. Three dependent variables were used: deep, strategic and surface learning approach. The independent variable was major. There was not a statistically significant difference between major on the combined dependent variables (deep, strategic, and surface: *F* (3-202)= 1.487 , *p*= 0.15 ; *Wilks' Lambda* = 0,936 ; *partial eta squared*= 0.022.

A one-way between groups multivariate analysis of variance (MANOVA) was performed to investigate *school year* differences in *Turkish students' learning approaches and study skills*. There was a statistically significant difference between school year on the combined dependent variables: *F* (3-1176)= 1.99 , *p*= 0.03; *Wilks' Lambda*= 0.985; *partial eta squared*= 0.005. When the results for the dependent variables were considered separately, the only statistically significant difference (*p*<0.05) was in surface approach*: F*(3-1176)= 3.63*, p*= 0.01, *partial eta squared*=0.009. According to LSD test, mean scores of surface learning approach of freshman were significantly higher (*M*= 63.89*, sd*= 11.39) than those of sophomores (*M*= 61.28, *sd*= 11.45), juniors (*M*= 61.87, *sd*= 11.74), and seniors (*M*= 60.40*, sd*= 11.77). There was no significant difference between the other groups.

This finding also support the research results that mature students preferred deep approach more than non-mature students did, and vice versa in surface approach. (Richardson, 1995; Sadler-Smith, 1996). This study also indicated that when students' school year increased, they would become more meaning oriented and less knowledge reproducing.

A one-way between groups multivariate analysis of variance was performed to investigate *school year* differences in *American students' learning approaches*. There was not a statistically significant difference between school year 2-3-4 on the combined dependent variables: *F* (2-203)= 1.118, *p*= 0.34; *Wilks' Lambda*= 0,951 ; *partial eta squared*= 0.016.

Even though there is no statistically significant difference between the school years, mean scores of deep approach increased as school year increased; and vice versa in surface approach.

A one-way between groups multivariate analysis of variance was performed to investigate *gender differences* in *Turkish students' learning approaches and study skills*. There was a statistically significant difference between males and females on the combined dependent variables*: F* (1-1178)= 11.98, *p*= 0.001; *Wilks' Lambda*= 0.97; *partial eta squared*= 0.03. When the results for the dependent variables were considered separately, there were statistically significant differences (*p*< 0.05) in strategic: *F*(1-1178)= 8.01, *p*= 0.005, *partial eta squared*= 0.007 and in surface approaches

F(1-1178)= 10.00, *p*=0.002, *partial eta squared*= 0.008.

According to post-hoc test results, the mean score of females were higher in strategic approach (*M*=71.71, *sd*= 11.27) than males (*M*= 69.81, *sd*= 11.51) and the same result was observed in surface approach (*M*= 62.64, *sd*= 11.34; *M*= 60.48, *sd*= 11.94 female and male respectively).

The aforementioned finding indicates that Turkish female students are much more motivated for achievement than male students, organizing their studies, monitoring their understandings and managing their time. This result is consistent with the findings of the research by Smith & Miller (2005) pointing out that Australian female students reported themselves to be consistent and regular in their study habits, regular in monitoring their understanding and organized in note-taking and assessment preparation. In addition, McCrae and Costa (1987) consider that being organized, conscientious, and disciplined can be accepted as female personality traits. Some of the researchers have also found that female students inclined more to surface approach than their male counterparts (Andreou et al, 2006) as it has been revealed in this study as well.

A one-way between groups multivariate analysis of variance was performed to investigate *gender* differences in *American students learning approaches and study skills* . There was not a statistically significant difference between males and females on the combined dependent variables*: F* (1-204)= 1.59 , *p*= 0.19; *Wilks' Lambda*= 0.98; partial eta squared= 0.023. Although there was no statistically significant difference between female and male students' learning approaches, female students reported that they were inclined more to strategic and surface approaches than their male counterparts. Male students preferred deep approach more than female students. These findings are quite similar to the findings obtained from Turkish students.

Conclusion

1. In this study, the Turkish version of ASSIST has been examined by confirmatory factor analysis. Analysis indicated that this inventory has showed robust reliability and construct validity in some of the measures. It can, therefore, be used for research aiming to reveal Turkish student approaches to learning in different samples, and to provide students with effective teaching-learning environment and assessment procedures. These analyses also indicate that main construct of the original ASSIST is mostly universal, only some of the items belonging to 'achieving' and 'monitoring effectiveness' have been correlated with deep approach at a higher level than strategic approach. This result points out that 'achievement motivation' might culturally be very important for the Turkish and American students adopting deep approach.

2. Turkish students were mostly inclined to deep approach than strategic and surface approach. They also prefer strategic approach significantly more than surface approach. American students mostly preferred strategic and deep approach than surface approach. American students' strategic scores were higher than deep scores. This might be cultural. Even if this is the case, finding is giving hope for pre-service teacher training program since these students will be teachers in both countries.

3. Turkish students in humanities preferred deep approach than the students in early childhood and math & science. This finding shows consistency with the observations of many researchers (as mentioned earlier). This result suggests that students in abovementioned fields must be provided with teaching-learning environment encouraging deep learning.

4. Findings show that school year, in other words maturity is an important variable in the preference of learning approaches. In this study when the school year increased, students adopt surface learning approach less, become less knowledge reproducing, and are more inclined to deep approach and become more meaning oriented. However, results indicate that as teacher educators, we should put more effort to encourage teacher candidates to gain deep learner traits in both cultures, American and Turkish.

5. In accordance with gender, findings show that female students adopt strategic and surface

approach more than male students. Turkish female students have achievement motivation. In higher education, especially in teacher training institutions, female students were observed as more motivated for achievement, more disciplined to prepare themselves for exams, more organized in their studies, more responsible in their own work. American female students also reported that they adopt strategic and surface approach more than their male counterparts. Both American and Turkish male students are more deep approach oriented than their female counterparts.

In short, these findings indicate that pre-service teacher training program, teaching-learning environment, and assessment procedures must be evaluated and redesigned to enhance the quality of learning outcomes of teacher candidates with deep learning approach consistently.

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ÖĞRENME YAKLAŞIMLARI VE ÇALIŞMA BECERİLERİ ÖLÇEĞİ

Bu ölçek, nasıl öğrendiğinizi ve çalıştığınızı belirlemek üzere hazırlanmıştır. Ölçekte çok çeşitli çalışma yollarını kapsayabilmek için birbiriyle bir dereceye kadar örtüşen çok sayıda soru sorulmuştur. Çalışma yaklaşımlarınızın doğru bir şekilde betimlenebilmesi için soruları lütfen içten ve gerçeğe uygun bir biçimde cevaplayınız.

Anketi içtenlikle cevapladığınız ve yükseköğretim düzeyinde öğretme-öğrenme süreçlerinin geliştirilmesine dönük yaptığınız katkı için çok teşekkür ederim.

Prof. Dr. Nuray Senemoğlu

Kişisel Bilgiler:

Anabilim Dalı:…….....

Cinsiyeti: ( )K ( )E

Sınıfı: ( ) 1 ( )2 ( )3 ( )4

Doğum Tarihi (Yıl):…….

A.Çalışma Yaklaşımları

Ölçeğin bu bölümünde, çalışma yaklaşımlarına ilişkin diğer öğrencilerden alınan görüşler yer almaktadır. Belirli bir teorik dersi düşünerek bu ifadelerin size hangi derecede uygun olup olmadığına göre cevabınızı uygun sütuna işaretleyiniz. Tüm soruları cevaplamanız çok önem taşımaktadır. Lütfen kontrol ediniz. Bu bölümdeki derecelerin anlamları şöyledir:

***1**=Kesinlikle katılmıyorum **2**=Çok az katılıyorum **4**=Büyük ölçüde katılıyorum **5**= Kesinlikle katılıyorum*

***3**=Kararsızım (fikrim yok): Zorunlu olmadıkça, kendiniz ya da dersle ilgili hiçbir bağlantı kuramadığınız ifadeler dışında bu seçeneği kullanmamaya özen gösteriniz.*

	Kesinlikle katılmıyorum	Çok az katılıyorum	Kararsızım (fikrim yok)	Büyük ölçüde katılıyorum	Kesinlikle katılıyorum
1. Çalışmamı kolaylıkla sürdürmemi sağlayacak koşulları düzenlemede başarılıyımdır.	1	2	3	4	5
2. Bir ödev üzerinde çalışırken öğretim elemanını en iyi şekilde nasıl etkileyeceğimi düşünürüm.	1	2	3	4	5
3. Kendimi, sık sık burada yaptığım çalışmanın değerli olup olmadığını düşünürken bulurum.	1	2	3	4	5
4.Genellikle, öğrenmek zorunda olduğumuz şeylerin benim için ne anlama geldiğini kavrayarak işe başlarım.	1	2	3	4	5
5. Zamanımı en iyi şekilde kullanabilmek için çalışmamı dikkatli bir biçimde planlarım.	1	2	3	4	5
6. Öğrenmek zorunda olduğum şeylerin önemli bir kısmında sadece ezberlemeye yoğunlaşmam gerektiğini düşünürüm.	1	2	3	4	5
7. Yaptığım işin mantıklı ve anlamlı olması için sürekli, dikkatlice gözden geçiririm.	1	2	3	4	5
8. Üstesinden gelmek zorunda olduğumuz işlerin ve konuların arasında sık sık kendimi boğuluyormuş gibi hissederim.	1	2	3	4	5
9. Çalıştığım konuyla ilgili kanıtları dikkatlice inceler ve kendim bir sonuca ulaşmaya çalışırım.	1	2	3	4	5
10. Aldığım derslerde, gerçekten yapabileceğimin en iyisini yaptığımı hissetmek benim için önemlidir.	1	2	3	4	5
11. Mümkün olduğunca, karşılaştığım fikirleri, diğer konu ve derslerde geçen fikirlerle ilişkilendirmeye çalışırım.	1	2	3	4	5
12. Genellikle, sınavdan geçmek için gerekli olanın dışında çok az okuma eğilimindeyim.	1	2	3	4	5
13. Başka şeyler yaparken, sürekli olarak kendimi derste geçen fikirler üzerinde düşünürken bulurum.	1	2	3	4	5
14. Sınavlar için hazırlanmak gerektiğinde, oldukça sistematik ve planlı olduğumu düşünürüm.	1	2	3	4	5

	Kesinlikle katılmıyorum	Çok az katılıyorum	Kararsızım (fikrim yok)	Büyük ölçüde katılıyorum	Kesinlikle katılıyorum
15. Gelecek sefer daha yüksek not almak için öğretim elemanının sınav (ödev) sonuçlarıyla ilgili önerilerini dikkate alırım.	1	2	3	4	5
16.Burada, ilginç ya da yararlı bulduğum pek fazla çalışma yok.	1	2	3	4	5
17.Bir makale ya da kitap okurken yazarın tam anlamıyla ne demek istediğini anlamaya çalışırım.	1	2	3	4	5
18. İhtiyaç duyar duymaz çalışmaya başlamakta iyiyimdir.	1	2	3	4	5
19. Çalıştığım şeylerin çoğu, anlamlı gelmez: Sanki birbiriyle ilişkisiz parçalar gibi.	1	2	3	4	5
20. Çalışmama odaklanmayı sürdürmek için o dersten ne elde etmek istediğimi düşünürüm.	1	2	3	4	5
21. Yeni bir konuya çalışırken kafamda tüm fikirleri nasıl uyumlu hale getireceğimi düşünürüm.	1	2	3	4	5
22. Çoğu zaman derslerin üstesinden gelip gelemeyeceğim konusunda endişe duyarım.	1	2	3	4	5
23. Sık sık kendimi, derslerde duyduğum ya da kitaplarda okuduğum şeyleri sorgularken bulurum.	1	2	3	4	5
24. Başardığımı hissediyorum ve bu beni daha çok çaba harcamaya teşvik ediyor.	1	2	3	4	5
25. Sadece, dersten geçmek için gereken bilgileri öğrenmeye odaklanırım.	1	2	3	4	5
26. Zaman zaman, akademik konuları çalışmanın çok heyecan verici olabileceğini düşünürüm.	1	2	3	4	5
27. Genellikle, öğretim elemanlarının önerdikleri okuma parçalarını okurum.	1	2	3	4	5
28. Ödevi hazırlarken, ödeve kimin not vereceğine ve ödevde neye önem vereceğine dikkat ederim.	1	2	3	4	5
29. Geçmişe baktığımda, bazen buraya gelmeye karar verdiğim için pişman olurum.	1	2	3	4	5
30. Okurken zaman zaman ara verir, okuduğumdan ne öğrenmeye çalıştığımı düşünürüm.	1	2	3	4	5
31. Her şeyi son dakikaya bırakmaktansa dönem boyunca düzenli olarak çalışırım.	1	2	3	4	5
32. Derslerde neyin önemli olduğundan emin olmadığım için alabildiğim kadar her şeyi not almaya çalışırım.	1	2	3	4	5
33. Ders kitaplarında ya da makalelerdeki fikirler benim, sık sık uzun uzun düşünmeme yol açar.	1	2	3	4	5
34. Bir ödevi ya da sınav sorusunu cevaplamaya başlamadan önce onun en iyi şekilde nasıl yapılacağını düşünürüm.	1	2	3	4	5

35. Yapmam gereken şeylerin gerisinde kalırsam genellikle paniklerim.	1	2	3	4	5
36. Bir şey okurken, okuduklarımın ne kadar uyumlu olduğunu anlamak için ayrıntıları dikkatlice incelerim.	1	2	3	4	5
37. En iyisini yapmaya kararlı olduğumdan çalışmalarıma çok çaba harcarım.	1	2	3	4	5
38. Çalışmamı sadece, ödevler ve sınavlar ne gerektiriyorsa ona göre yönlendiririm.	1	2	3	4	5
39. Derslerde karşılaştığım bazı fikirler beni gerçekten etkisi altına alır.	1	2	3	4	5
40. Genellikle haftalık çalışmamı, kâğıt üstünde ya da kafamda önceden planlarım.	1	2	3	4	5
41. Öğretim elemanının önem verdiği şeylere dikkat eder, çalışmalarımda o noktaya odaklanırım.	1	2	3	4	5
42. Aslında bu alana ilgim yok ama başka nedenlerle buradayım.	1	2	3	4	5
43. Bir problemi çözmeden ya da ödevi yapmaya başlamadan önce, amacının ne olduğunu anlamaya çalışırım.	1	2	3	4	5
44. Genellikle gün içinde zamanımı iyi değerlendiririm.	1	2	3	4	5
45. Genellikle, ezberlemek zorunda olduğum şeyleri anlamlandırmada zorlanırım.	1	2	3	4	5
46. Beni çok ilerletmeseler de kendi fikirlerimle oynamayı severim.	1	2	3	4	5
47. Bir çalışmayı tamamladığımda tüm istenenleri karşılayıp karşılamadığını kontrol ederim.	1	2	3	4	5
48. Başaramayacağıma inandığım çalışmalar hakkında endişelenerek sık sık uykusuz kalırım.	1	2	3	4	5
49. Bir tartışmadaki fikirleri izleyebilmek ya da gerisinde yatan nedenleri anlayabilmek benim için önemlidir.	1	2	3	4	5
	Kesinlikle katılmıyorum	Çok az katılıyorum	Kararsızım (fikrim yok)	Büyük ölçüde katılıyorum	Kesinlikle katılıyorum
50. Kendimi motive etmede asla zorlanmam.	1	2	3	4	5
51. Sınavlarda ya da diğer ödevlerde açıkça ne istendiğinin söylenmesinden hoşlanırım.	1	2	3	4	5
52. Bazı akademik konulara çok ilgi duyar ve onlar üzerinde daha derin çalışmak gerektiğini hissederim.	1	2	3	4	5

B.Öğrenme Nedir?

***ÖĞRENME**' terimi size ne ifade etmektedir?*

Aşağıdaki ifadeleri dikkatlice okuyunuz. Her bir ifadeyi sizin 'öğrenme' hakkındaki düşüncenize yakınlığı bakımından dereceleyiniz.

	Çok Farklı	Oldukça Farklı	Yakın Sayılmaz	Oldukça Yakın	Çok Yakın
53. Bilgiyi en iyi şekilde hatırladığınızdan emin olmak.	1	2	3	4	5
54. Bir birey olarak gelişmek.	1	2	3	4	5
55. Gerçekleri (olguları), enformasyonu kazanarak bilgiyi yapılandırmak.	1	2	3	4	5
56. Kazandığınız bilgileri kullanabilmek.	1	2	3	4	5

57. Yeni bilgiyi kendiniz için anlamlı hale getirmek.	1	2	3	4	5
58. Herhangi bir şeyi farklı yönlerden ve daha anlamlı bir biçimde görmek.	1	2	3	4	5

C. Farklı türlerdeki dersler ve öğretimine ilişkin tercihler

Bu bölümdeki derecelerin anlamları:

1= Kesinlikle beğenmiyorum, ***2*** = Büyük ölçüde beğenmiyorum, ***4*** = Büyük ölçüde beğeniyorum, ***5*****=** Kesinlikle beğeniyorum

3**=** Kararsızım; kendinizle ya da aldığınız derslerle hiçbir ilişki kuramadığınız ifadeler dışında, yani gerçekten kullanmak zorunda kalmadıkça bu seçeneği **kullanmamaya** çalışınız.

	Kesinlikle beğenmiyorum	Büyük ölçüde beğenmiyorum	Kararsızım	Büyük ölçüde beğeniyorum	Kesinlikle beğeniyorum
59. Neleri not alacağımızı tam olarak söyleyen öğretim elemanları	1	2	3	4	5
60. Bizi düşünmeye teşvik eden ve kendilerinin nasıl düşündüğünü görmemizi sağlayan öğretim elemanları	1	2	3	4	5
61. Dersin içeriğine ilişkin düşüncelerimi ifade etmeme izin veren sınavlar	1	2	3	4	5
62. Sadece derste verilen notlara, materyale dayalı olan sınavlar	1	2	3	4	5
63. Hangi kitapları okumamız gerektiğinin açıkça belirtildiği dersler	1	2	3	4	5
64. Konuyla ilgili, kendimiz için birçok kaynağı okumaya teşvik edildiğimiz dersler	1	2	3	4	5
65. İnsanı zorlayan, derslerin içeriğini daha geniş ve detaylı açıklayan kitaplar	1	2	3	4	5
66. Olguları ve bilgileri kolaylıkla öğrenilecek şekilde veren kitaplar	1	2	3	4	5

	Çok Zayıf	*Zayıf*	*Orta*	*İyi*	*Çok İyi*
67. S***on olarak;*** *şimdiye kadar not verilerek değerlendirilmiş çalışmalarınızda, kendinizi ne derece başarılı buluyorsunuz?*	1	2	3	4	5

(Bugüne kadar aldığınız notlara dayalı olarak lütfen kendinizi objektif olarak derecelendiriniz.)