Parents’ Voluntary Contributions to Primary Schools Which Are Not Directly Monetary

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Suggested Citation:

Abstract
Problem statement: A significant decrease has been recently observed in the resources for education allocated from Turkey’s public budget, despite the increasing number of teachers and students. It is possible to better observe this trend at the primary education stage, which is compulsory and free at public schools through law no 42 under the Constitution. Allocating fewer resources from the public budget for primary education has led to parents’ contributing more to primary education financing. Moreover, parents’ contributions to these schools are not limited to monetary contributions. Through various projects and regulations, parents are expected to contribute voluntarily and in an indirectly monetary way, such as helping with office work, working in measurement-assessment services, participating in school trips, etc.

Purpose of the study: This study aims to present the type of parents’ voluntary, but not directly monetary, contributions to schools according to school administrators’ views, and assess whether these contributions differ in sub dimensions of the scale and in other variables.

Method: The research is a survey model, and 443 public schools located in five central districts (Altındağ, Mecidiyeköy, Yeşilköy, Yeşilyurt, and Çankaya) within the borders of Ankara Metropolitan Municipality constitute the population of the research. The data in the study were obtained by using a scale of 26 items. This scale measures parents’ non monetary but voluntary contributions to schools in three dimensions. Descriptive analyses, t test, and one-way variance analysis were used in data analysis.
Results: The school administrators' opinions on parents' voluntary and indirectly monetary contribution to schools did not differ meaningfully in regards to age, gender, seniority level, position, or educational background in any of the dimensions in the scale. Furthermore, observed results differed in the SEL of the schools, such as where they are located and the number of students.

Discussion and conclusion: According to the findings of the research, parents' non-monetary but voluntary contributions to school management, educational and social-cultural activities increase as the SEL of the area where the school is located changes from the lowest to the highest. Furthermore, while parents' non-monetary but voluntary contributions to school management and instructional activities do not change meaningfully in relation to the student population, they differ meaningfully regarding their contributions to social-cultural activities in parallel to the student population.

Keywords: neo-liberal policies, primary education, volunteering, voluntary contribution

The Turkish economy experienced an economic crisis in the late 1970s because of high inflation, deficits in the balance of payments, lack of foreign currency, and overdue debts. Due to this, neo-liberal policies were put into practice which stipulated the diminishing of the state, liberalized the economy, and therefore led to an open economy by the IMF and the WB (Sezen, 1999). As a result of these policies, whereas a significant decrease has been observed in social expenditures since the 1980s, an increase has occurred in interest payments which seem to support the capital indirectly. Through this process, which is occurring as a solution to the process of depreciation of the capital, finding solutions to the capital crisis by eliminating the decrease in profitability with means of high yielding domestic debt was tried. When viewed within the context of public expenditure, an attempt at compensating for the cost of crisis was made by reducing the expenditure on service areas, the social sides of which were dominant so as to be defined as social expenses (Temelli, 2003). Education comprises one of the major areas of expenditure among social expenses. Neo-liberals predicate their stand on this issue upon the fact that public resources have become insufficient for the rapidly increasing demand on education: the system does not work efficiently, foreign debt has increased, and the previous age when everything was expected from the state has already ended (Eğitim Sen, 1998). The influence of these claims on the practices has appeared as a decrease in the amount of public resources allocated to education, as it may be estimated.

In parallel to the decrease in resources allocated for education from the public budget, a process has commenced that transfers the service of education from the public to local authorities, non-governmental organizations, families, and even to the personal responsibility of citizens. Therefore, large numbers of people have become
involved in the repair, maintenance, and equipment of all schools, to a certain extent. Its meaning in view of education is to eliminate the dependence on public resources for the service of education and to put social finance into effect instead, which is one of the private financial resources. Behram, Deolalikar & Soon (2002) stated that there are several ways in practice to apply social finance in education. Firstly, while the society allocates an area of land for school, constructs school buildings, and supplies equipment, the state employs educational personnel and pays their salaries. Secondly, whereas some parents and schools supply monetary contributions directly for constructing, equipping, maintaining, and repairing school buildings, some are encouraged to supply voluntary contributions which are not directly monetary, such as providing tools and materials for the construction, equipment, maintenance, and repair of school buildings, and supplying teachers and students with food. Thirdly, parents—especially those living in rural areas—are expected to participate in some indirectly monetary but voluntary contributions such as the construction, maintenance, and repair of school buildings as a labor force, along with planting and harvesting the crops to be used in cooking at schools.

An attempt to increase the public’s participation in educational finance in Turkey has been made since the early 1980s under different names and through comprehensive education campaigns and projects. The contribution of the public was 1.7% in 1982, 4.9% in 1985, 1.8% in 1990, 3% in 1995, 2.4% in 2000, and 4.1% in 2011 within the budget of the Ministry of National Education (MoNE). In parallel to the increase in the public’s rate of participation in educational finance, the rate of investments within the budget of MoNE has decreased significantly. For example, the rate of 15% in 1997 changed to 10% in 2005. Moreover, 18% of 159,951 classrooms constructed between 2003 and 2011 were constructed by citizens’ contributions (Writer, 2007; MNE, 2012). When the law no 42 under the Constitutional Law stipulating primary education to be compulsory and free at public schools is considered, it becomes possible to more clearly observe the situation articulated above. According to the research by the writer (2007), the expenditure rate on primary education in 1974–2003 decreased at the rate of 6.2% within the MoNE expenditure. The same is true for the investment expenditure on primary education. Despite the continuous increase in the student population in the stated period, a continuous decrease was observed, whereas an increase was supposed to occur at the same rate. Özkan’s (2008) research found that school repair and maintenance work is what school administrators expect the most contribution for, other than monetary aids and student affairs complying with the explanations above. Allocating fewer resources for primary education from public resources has led to parents’ significant level of contribution to primary education in view of the educational finance. The studies conducted in the related literature show that parents contribute to the educational finance via giving money directly for course materials or making compulsory monetary contributions, besides management expenses such as repair, maintenance, and cleaning (Kavak, Ekinci & Gökçe, 1997; Öztürk, 2002; Akça, 2002; Sütük, 2002; Sarıbal, 2005; Writer, 2007; Yamaç, 2010; Özdemir, 2011).
Voluntary contributions to public schools in Turkey are not a new incident. It is known that parents have participated for a long time in activities to provide income, besides their voluntary supports such as buying course materials and books, donating, etc. For example, 42 primary schools and 12 secondary schools were constructed by citizens in 1973. Moreover, mukhtars, citizens, and other organizations have also contributed to primary schools by providing televisions, radios, cupboards, libraries, and books (Bircan, 1979). However, the difference of the practice of volunteerism is that it relies upon creating an organic bond among schools, parents, and a majority of the community in an increasing rate. This bond is fulfilled through WB and EU controlled projects and regulations that aim to make structural reforms in the whole education system. The first is Curriculum Laboratory Schools (CLS), put into practice as suggested by the Project of Supporting National Education, a WB Project. CLS are pilot study schools where education programs and new education, instruction, and administration approaches are experimented before generalizing, and where technological advances are reflected. The second may be exemplified through regulations on CLSs, Permanent Staff, Educational Regions, Total Quality Management, School-Parent Associations, School-Parent-Student Agreement, address based registry system, and Social Activities of Primary Educations and High Schools. They aim at supplying financial resources from the close neighborhood by adopting an administration approach of sharing and a collaborative school culture (Şahin, 2009). Thus, parents' voluntary monetary contributions to educational finance become prominent. Parents' voluntary contributions to schools increase their children's academic successes are not restricted to only directly monetary contributions. Parents are encouraged to sacrifice more for their children by including them in all activities and work groups in the School Development Management Committee, as prescribed by the approach of TQM. Among these activities are the following: helping students as private tutors, helping with the office work, working in measurement-assessment services, and solved via solidarity among the related parts of the community.

In the literature, volunteerism is described as the spontaneous emergence of privatization. Volunteerism, as a frequently encountered method of privatization in practice, includes gathering people to work on a public kind of service without paying them (Koksal, 1993; Murphy, 1996; Murphy, Gilmer, Weise & Page, 1998). The rate of volunteerism practices in public services and programs was 1.1% in the USA in 1998 (The Florida School Boards Association & Florida Tax Watch). In the UK, it has become a sector for the last 30 years. The contribution of this sector to the work in voluntary activities (Bussell & Forbes, 2002). Volunteerism is given a significantly wide area of application in the Turkish education system.

The studies conducted in Turkey focus on revealing parents' monetary contributions to the educational finance (Kavak, et. al., 1999; Öztürk, 2002; Akça, 2002; Sütükat, 2002; Sanal, 2005; Writer 2007; Yamaç, 2010; Özdemir, 2011). Nonetheless, parents' indirectly monetary yet voluntary contributions to schools should be revealed, too. The research completes the dimensions left incomplete by others in the
literature. Therefore, the research is expected to contribute to the literature within this direction. Moreover, as this issue has not been researched before, it will allow for shedding a light on future studies.

The purpose of this research is to reveal parents’ non-monetary but voluntary contributions to primary schools. Answers to the following were sought:

1. What are the school administrators’ opinions on parents’ non-monetary but voluntary contributions regarding each item in the scale “Assessing parents’ non-monetary but voluntary contributions to primary schools”?

2. Do school administrators’ opinions on parents’ non-monetary but voluntary contributions differ in the sub-dimensions of “school management”, “instructional activities”, and “social-cultural activities”?

3. Do school administrators’ opinions on parents’ non-monetary but voluntary contributions differ in regards to their age, seniority level, duty, educational background, SEL of the area where the school they work at is located, and student population?

**Method**

Since this research described the existing occasion as it is, a survey model approach was adopted.

**Sample**

The research population is comprised of 443 public schools located in five central districts of Ankara (Altındağ, Mamak, Koçören, Yenimahalle and Çankaya) within the borders of Ankara Metropolitan Municipality. Thus, rather than gathering samples, the entire population was preferred. The data gathering tool was applied to 330 schools (74.4%) of those in the research; therefore, the research population became a sample.

Of 330 school administrators participating in the research, 27 % were 21-30 years old; 30,6% were 31-40, 42,4% were 41-50, and 24,2% were 51 years old and over. 16,7% of them were female, while 83,3% were male administrators. When the distribution ratio of their duties are viewed, 30% were school principals, 10,9% were head assistant principals, and 58,8% were assistant principals. Of all the participants, 12,1% had associate degrees, 72,7% had undergraduate degrees, and 15,2% had graduate degrees. Moreover, 53,6% were classroom teachers and 46,4% were branch teachers. 10,3% had 1-10 years of experience, 37,3% had 11-20 years of experience, 30,9% had 21-30 years of experience, and 21,5% had 31 years of experience or more. The SEL in 32,4% of the schools was low, while it was medium in 61,2% and high in 6,4% of the schools. 12% of these schools had 500 students or less, the population in 35,8% of them was 501-1000, the population in 27% of the schools was 1001-1500, the population in 18,2% of the schools was 1501-1200, and 7% of the schools was 2001 or more students.
Development and Implementation of the Data Collection Tool

Firstly, the related literature was searched while developing the data gathering tool. Moreover, interviews were held with the school administrators and teachers. Through these interviews, the intention was to gather information on parents’ voluntary contributions to schools which are not directly monetary. 45 items in total were created regarding parents’ voluntary contributions which are not directly monetary. The scale designed as a draft was presented to 15 field experts for opinions and suggestions. Under the direction of the specialists’ opinions and suggestions, the number of items was reduced to 35. The scale was prepared as a 5-point Likert scale; (1) never, (2) slightly, (3) moderate, (4) much, (5) absolutely.

In order to determine the validity and the reliability of the scale, factor analysis and reliability analysis were carried out. Kaiser–Meyer–Olkin (KMO) coefficients and Bartlett’s tests were examined prior to the factor analysis (Büyüköztürk, 2004; Balu, 1995). The value from the KMO test was 0.94, and the value from the Bartlett’s Test was $\chi^2 = 6,073, p<0.00$. The values from both tests were found to be significant. The principal components factor analysis was then applied so as to determine the factor structure of the scale.

In this analysis, done by 6-factor and Varimax rotation method, factor loads were examined. The items whose factor load values were under .30, the items which were found to be in more than one factor, and the items in which the difference between the factor loads were less than .10 were omitted from the scale. By using a Screen Plot graph, the scale was determined to be formed in a 3-factor structure (Büyüköztürk, 2004). Following the analysis, the scale was composed of 26 items and 3 factors covering these items. 9 items that were incompatible with the criteria were omitted from the scale.

When designating the sub-dimensions of the scale—(1) School Management, (2) Instructional Activities, and (3) Social–Cultural Activities—similar studies in the related field were examined and utilized (Kebece 2006; Polat, 2007; Özkan, 2008; Şahin, 2009). 9 of the remaining 26 items of the scale were taken under the sub-dimension of “school management”; 8 of them were taken under the sub-dimension of “instructional activities”; and 8 of them were taken under the sub-dimension of “Social–Cultural Activities”.

The reliability results obtained after carrying out the structural validity of the scale are as follows: The “school management subscale” consists of 9 items (1, 2, 3, 4, 5, 6, 7, 8 and 19), the factor load of these items range from .61 and .74, and the total correlations range from .50 and .72. The total variance which the school management explains is 51%, and the Cronbach alpha reliability coefficient is .86. 8 items in total (9, 11, 14, 15, 16, 17, 18 and 26) are included in the “instructional activities” subscale. Factor loads of these items range from .61 and .75, whereas their total correlations range from .62 and .82. The total variance explained by the instructional activities subscale is 53%, and the Cronbach alpha reliability coefficient is .87. There are 9 items (10, 12, 13, 20, 21, 22, 23, 24 and 25) in the “sociocultural activities subscale”. The factor load values of the mentioned subscale range from .61 and .75, and item total
load values range from .41 and .59. The total variance which the socio-cultural activities subscale explains is 53%, and the Cronbach alpha reliability coefficient is .90.

Data Analyses

Besides descriptive statistics such as arithmetic average, standard deviation, percentage, and frequency, a t test, one-way variance analysis was used first in analyzing the data. Whether parametric test hypotheses were implemented was checked via homogeneity of variances test. As a result of the one-way ANOVA test, Tamhane’s T2 test was applied to find the reason for the difference if the variances were not equal; if the variances were equal, a Tukey HSD test was used, one of the multiple comparative tests. In all meaningfulness tests, alpha value α=.05 was considered the meaningfulness level.

Findings

The distribution of school administrators’ opinions on parents’ voluntary contributions to schools which are not directly monetary, according to each item, are given in Table 1.

Table 1.
The Distribution of School Administrators’ Opinions on Parents’ Voluntary Contributions to Schools Which are Not Directly Monetary, According to Each Item in the Scale

<table>
<thead>
<tr>
<th>Order No</th>
<th>Item</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Providing materials for the physical maintenance and repair of school</td>
<td>330</td>
<td>1.42</td>
<td>0.77</td>
</tr>
<tr>
<td>2.</td>
<td>Helping in transporting the materials provided for the physical maintenance and repair of school</td>
<td>330</td>
<td>1.42</td>
<td>0.72</td>
</tr>
<tr>
<td>3.</td>
<td>Doing physical maintenance and school repair work such as plumbing, electricity, and painting</td>
<td>330</td>
<td>1.46</td>
<td>0.76</td>
</tr>
<tr>
<td>24.</td>
<td>Helping on Teachers’ Day by cooking pastries (cakes, cookies, etc.)</td>
<td>330</td>
<td>2.72</td>
<td>1.02</td>
</tr>
<tr>
<td>25.</td>
<td>Working on special occasions such as charity sales, tea parties, graduation parties, etc.</td>
<td>330</td>
<td>2.85</td>
<td>1.12</td>
</tr>
<tr>
<td>26.</td>
<td>Working at student clubs</td>
<td>330</td>
<td>2.90</td>
<td>1.15</td>
</tr>
</tbody>
</table>
Table 1 shows the items in which school administrators participated at the highest level regarding parents’ voluntary contributions to schools, excluding directly monetary contributions: “Working at school clubs (M = 2.90)”, “Working on special occasions such as charity sales, etc. (M = 2.85)”, and “Helping on Teachers’ Day by cooking pastries (M = 2.74)”. The qualitative correspondents of school administrators’ opinions on these three items are at the “moderately” level.

The items with the lowest average points are as follows, with the average score (M = 1.42): “Providing materials for the school’s physical maintenance and repair such as surrounding walls, plumbing, etc.”, and “Helping in transporting the materials provided for the physical maintenance and repair of the school such as surrounding walls, etc.”. These items are followed, respectively, by “Doing physical maintenance and school repair work such as plumbing, electricity, and painting (M = 1.46)”. The qualitative correspondent of school administrators’ opinions on three items are at “never” level.

The data on school administrators’ agreement levels on parents’ voluntary contributions to schools which are not directly monetary, according to dimensions, are given in Table 2.

Table 2.

The Distribution of School Administrators’ Opinions on Parents’ Voluntary Contributions to Schools Which are not Directly Monetary, According to the Dimensions in the Scale

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>School management</td>
<td>330</td>
<td>1.82</td>
<td>0.61</td>
</tr>
<tr>
<td>Instructional activities</td>
<td>330</td>
<td>1.66</td>
<td>0.60</td>
</tr>
<tr>
<td>Social-cultural activities</td>
<td>330</td>
<td>2.39</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Table 2 shows the dimension in which, according to school administrators, parents’ indirectly monetary but voluntary contributions to schools are at the highest level: “social-cultural activities (M = 2.39)”. The qualitative correspondent of school administrators’ opinions on this dimension is “moderately”. It is followed, respectively, by “school management (M = 1.82)” and “instructional activities (M = 1.66)”. While the qualitative correspondent of school administrators’ opinions on the former is “slightly”, its “never” for the next dimension.

According to the results of the t-test and one-way variance analysis, school administrators’ opinions on parents’ contribution to schools did not differ in relation to their age, gender, seniority level, position, or educational background in any of the dimensions. Furthermore, observed results differed in the SEL and population of schools.
The results of one-way ANOVA regarding the school administrators’ opinions on parents’ voluntary contributions to the school which are not directly monetary are given in Table 3, according to the SEL of the neighborhood.

Table 3.
The Results of One-way ANOVA Regarding the School Administrators’ Opinions on Parents’ Voluntary Contributions to the School Which Are Not Directly Monetary, According to the SEL

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Management</td>
<td>Among groups</td>
<td>7,403</td>
<td>2</td>
<td>3,70</td>
<td>10,17</td>
</tr>
<tr>
<td></td>
<td>Within groups</td>
<td>119,00</td>
<td>327</td>
<td>.36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>126,41</td>
<td>329</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional activities</td>
<td>Among groups</td>
<td>7,58</td>
<td>2</td>
<td>3,79</td>
<td>10,83</td>
</tr>
<tr>
<td></td>
<td>Within groups</td>
<td>113,70</td>
<td>325</td>
<td>.350</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>121,29</td>
<td>327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socio-cultural activities</td>
<td>Among groups</td>
<td>741,44</td>
<td>2</td>
<td>370,72</td>
<td>7,402</td>
</tr>
<tr>
<td></td>
<td>Within groups</td>
<td>16378,36</td>
<td>327</td>
<td>50,08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>17119,806</td>
<td>329</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows that the school administrators’ opinions on parents’ voluntary contributions which are not directly monetary differed meaningfully in the SEL of the neighborhood in the dimensions of “school management” \(F_{(2,327)} = 10.17, p<0.05\), “instructional activities” \(F_{(2,325)} = 10.83, p<0.05\), and “social-cultural activities” \(F_{(2,327)} = 10.83, p<0.05\). The school administrators’ opinions on parents’ indirectly monetary but voluntary contributions to schools differed meaningfully in the SEL of the neighborhood.

The school administrators’ opinions differed meaningfully in the SEL of the neighborhood in the dimension of “school management” \(F_{(2,327)} = 10.17, p<0.05\). A Tamhane test was applied to detect from which groups the difference among groups resulted from. Considering these results, when the parents from schools at high (\(M = 2.16\)) and medium (\(M = 1.89\)) SEL are compared with those at low SEL (\(M = 1.34,09\)), it is understood that they contribute voluntarily, but not directly financially, more than others in the school management dimension.
The school administrators’ opinions on parents’ indirectly monetary voluntary contributions to schools differed meaningfully in the SEL in the dimension of “instructional activities” \( F(2,329) = 10.83, p<.05 \). As a result of the Tamhane test, which was applied to find out the resource of this difference, it was detected that parents from schools located at high (\( M = 2,10 \)) and medium (\( M = 1,71 \)) SEL provided more voluntary contributions that are indirectly monetary than those at low (\( M = 1,49 \)) SEL in the dimension of instructional activities.

The school administrators’ opinions differed meaningfully in the SEL in the dimension of “social-cultural activities” \( F(2,327) = 10.83, p<.05 \). A Tukey HSD test was applied to detect from which groups the difference among groups resulted from. Consequently, it was detected that parents from schools located at high (\( M = 28,52 \)) and medium (\( M = 24,35 \)) SEL provided more voluntary contributions that are indirectly monetary than those at low (\( M = 22,36 \)) SEL in the dimension of social-cultural activities.

The results of One-way Variance Analysis regarding the school administrators’ opinions on parents’ indirectly monetary but voluntary contributions are given in Table 4.

**Table 4.**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Among groups</td>
<td>709,51</td>
<td>3</td>
<td>236,50</td>
<td>4,69</td>
<td>.003</td>
</tr>
<tr>
<td>Within groups</td>
<td>16410,294</td>
<td>326</td>
<td>50,33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17119,806</td>
<td>329</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows that the school administrators’ opinions on parents’ non-monetary voluntary contributions to the primary schools according to the school population differ significantly in the “social-cultural activities” sub-dimension of the scale \( F(3,326) = 4.69, p<.05 \), whereas for the other sub-dimensions of the scale, the school administrators’ opinions do not differ significantly.

A Tukey HSD test was applied to detect from which groups the difference among groups resulted from. According to this test, parents from schools with 1501-2000 students (\( M = 26,08 \)) provided more voluntary contributions that not directly monetary than those from schools with 1001-1500 students (\( M = 23,23 \)) and 0-500 (\( M = 21,27 \)) in the dimension of social-cultural activities.
Discussion and Conclusion

Of all voluntary but indirectly monetary contributions, those with the highest average points depending on the school administrators’ views are “working at student clubs”, “working for school charity sales, etc.”, and “cooking pastries for Teachers’ Day”. Parents’ making more voluntary contributions that are not directly monetary to the item “working at student clubs” may be explained with the “Regulations of MoNE on the Institutions of Primary and Secondary Education” (MoNE, 2008). The activities within the direction of the related regulation may be conducted within the scope of student clubs and community service by benefiting from the opportunities in and out of school. Voluntary parents can help and guide students’ participation in social activities, together with classroom/branch teachers. Parents’ increased voluntary contributions to items other than this may result from their being voluntary contributions provided for a long period of time.

The items with the lowest average points are the following: “providing materials for the physical maintenance and repair of school such as surrounding walls, etc.”, “helping in transporting the materials provided for physical maintenance and repair of the school such as surrounding walls, etc.”, “doing physical maintenance and repair works of the school such as plumbing, electricity, and painting”, and “helping in repairing tools and materials at school”. The reasons for parents’ voluntary and indirectly monetary contributions to the items at the lowest level is that supplying and transporting them to school would result in some certain level of expenses and require a certain amount of time to be spent besides the necessity of professional knowledge and expertise to deal with these issues. When this finding is handled along with of Writer’s (2007) and Özkan’s (2008) findings, it appears to be far from meeting school administrators’ expectations on this issue.

According to school administrators, the dimension with the highest average score is the dimension of “social-cultural activities”. Its reason may be explained by parents being more inclined to contribute voluntarily but not directly monotonously to social-cultural activities. It may be seen in parents’ efforts in preparing their children for ceremonies such as the Republic Day and April 23rd National Sovereignty and Children’s Day. Especially at schools with low SEL, providing directly monetary contributions to school causes trouble, and in cases when the teacher appears to be unskillful in this issue, (s)he supplies contributions from parents in teaching folk dances to children. Similarly, Kebeci (2006) suggested that 68,4% of parents contributed to social-cultural activities, and 30,7% of them express that they did not demand this support. According to school administrators, the dimension with the lowest average score is the dimension of “instructional activities”. This may result from the fact that the activities included in this dimension require pedagogical formation, experience, and communicative and persuasive skills.

The school administrators’ opinions differ meaningfully in the dimensions of school management, instructional activities, and social-cultural activities, and the SEL of the area. This mentioned difference is between the schools at medium SEL and lower SEL, and also between the school at higher SEL and lower SEL in the
school management dimension in the scale. Parents from schools at medium SEL make more voluntary but not directly monetary contributions to the school management than those at lower and higher SEL. This fact may result from parents’ expectations from education and the importance they place on their students’ education. Şahin (1999) observed parents making voluntary but not directly monetary contributions by dealing with repair works and painting schools, depending on their professions. Kebeçi (2006) suggested that 53% cooperate with the school administration to keep schools clean and hygienic, 20% provide support, which is not enough, and 26.4% do not contribute at all. Bray (1999) states that in rural Cambodia, parents are expected to contribute as a work force, besides supplying necessary materials for school maintenance and repair. Therefore, it was viewed that while some parents work at school construction, some contribute by supplying construction materials or equipment. Families in the Kampong Cham state in the rural areas contribute by giving rice. It was observed that some contribute to schools voluntarily but not directly financially by supplying construction materials such as sand, cement, and bricks; some provide equipment for schools in the same state. Some families even repair fences and mow the grass, as well. Despite variations depending on the country, in Nepal, Bangladesh, Uganda, Sri Lanka and Kenya, families make voluntary contributions to schools which are not directly monetary, such as maintaining and repairing school buildings, cleaning, and supplying construction, cleaning materials, and cereals (Boyle, Brock, Mace and Sibbons, 2002).

The difference among groups in the instructional activities dimension in the scale is between schools at higher and lower SEL, and also between those at medium and lower SEL. Thus, parents from schools at higher SEL make more voluntary but not directly monetary contributions to instructional activities than those at lower and medium SEL. This may result from parents’ expectations that their children receive a more qualified education by providing voluntary but not directly monetary contributions to instructional activities at schools. This finding complies with those of Şahin’s (1999).

The findings on the management expenditure and instructional activities comply with the findings of other studies in the literature on parents’ monetary contributions to schools. These direct expenditures are the financial contributions parents must make under different names. These include painting, cupboards, boards, photocopy and stationery costs, fees for school-parents associations, resource books, registration costs, computers, cinema and theatre costs, and costs regarding school management, educational, and social-cultural activities. (Kavak, et al., 1997; Öztürk, 2002; Akça, 2002; Sütüük, 2002; Sarıbal, 2003; Writer, 2007; Yamac, 2010; Özdemir, 2011). A research by the Turkish Statistical Institute (2006) shows parents’ contributions to primary schools constituted 13% of the household expenditure on education.

Writer’s (2007) and Özdemir’s (2011) studies the increase of parents’ directly monetary contributions to primary schools depending on the SEL. For example, Özdemir (2011) stated that when schools’ budgets are compared, schools’ budgets with the highest SEL are four times as big as those with the lowest SEL, and twice as
big as those with medium SEL. Thus, schools with the highest SEL supply more financial resources. It is also confirmed with the fact that schools with the highest SEL search less for out of budget resources than those with medium and lowest SEL in the writer’s (2007) related study. All these factors force parents to choose whether to contribute to educational expenses and whether to receive more qualified education. Thus, contributing to educational expenses cause injustice to the detriment of students in poor families, rather than the wealthy (Polat, 2007). Therefore, contributing to educational expenses preclude poor people from benefiting from education equally or in similar qualities.

In the social-cultural activities dimension, parents from schools at higher SEL make more non-monetary but voluntary contributions to social-cultural activities than those at medium and lower SEL. There may be several causes for these results. Firstly, activities involving indirectly monetary but voluntary contribution are included more often at schools with the highest SEL, and parents show interest in them. Şahin (1999) suggested that parents generally contribute by watching the national ceremonies and celebrations at school, participating in activities such as tea parties, charity sales, etc. Furthermore, it was observed that parents’ interest in schools increases as the schools’ SEL increase. Secondly, this may result from the efforts of encouraging parents to sacrifice more for their children by including them in all activities and work groups within the SDMC, as prescribed by the TQM approach. For instance, an SDMC representative’s duty is to take a role in and organize activities to develop the collaboration of schools with its neighborhood and parents, to contribute to improve the school’s physical resources, and to organize school publicity activities. The third may be the students’ success. Parents who participate in and support the school activities are significant for students’ success. Parents’ roles may differ, ranging from direct participation in educational, social, and cultural activities at school to being the audience. Parents, herein, are expected to be in contact with school administration and take roles in school activities in parallel to their strength (Gümüşeli, 2004). Kebeci (2006) expressed that whereas 2/3 of the families support social and cultural activities at school, 1/3 do not support them at all.

The school administrators’ opinions differ meaningfully in the social-cultural activities dimension depending on the school population regarding parents’ voluntary and indirectly monetary contributions to schools. Thus, parents from schools with 2001 students make more not directly monetary but voluntary contributions to social-cultural activities than those with 0-500 students; parents from schools with 501-1000 students contribute more than those with 0-500 students; parents from schools with 1501-2000 students contribute more than those with 0-500 students; parents from schools with 1501-2000 students contribute more than those with 501-1000 students; parents from schools with 1501-2000 students contribute more than those with 1001-1500 students; and parents from schools with 1501-2000 students contribute more than those with 1001-1500 students. This may result from the differentiation in parents’ profiles in parallel to the increase in student population.
Parents’ not directly monetary but voluntary contributions to schools could be said to increase as SEL increases. Whereas this leads to parents at the highest SEL to exploit schools according to their expectations, it also results in discrimination against students from lowest SEL. This serves to reproduce social inequalities as well as differentiation in educational acquisitions.

Several suggestions may be made regarding future research based upon the findings and results of this research. Firstly, research presenting the monetary values of parents’ voluntary contributions to schools that are not directly monetary should be conducted. Secondly, the methods and techniques school administrators and teachers employ to provide parents’ indirectly monetary but voluntary contributions should be identified, and the difficulties experienced at this stage should be revealed. Thirdly, a research study dealing critically with parents’ roles in school life should be made.

References


Boyle, S., Brock, A., Mace, J., & Sibbons, M. (2002). Reaching the poor ‘costs’ of sending children to school a six country comparative study. Published by Department for International Development.


Ailelerin İlköğretim Okullarına Doğrudan Parasal Olmayan Gönüllü Katkıları

Atıf:

(Özet)

Problem Durumu


Araştırmaın Amacı

Okul yöneticilerinin görüşlerine göre, ailelerin okullara hangi tür doğrudan parasal olmayan gönnülü katkılarla bulundukları ve bu katkıların öçeğin alt boyutları ve çeşitli değişkenler bakımından farklılaşıp farklılaşmadığını ortaya koymakta.

Yöntem

Araştırma taraflar modelinde olup çalışma evreni Ankara Büyükşehir Belediyesi sınırları içerisinde büyük merkez ilçelerde (Altındağ, Mamak, Keçiören, Yenimahalle ve Çankaya) bulunan 443 kamu ilköğretim okulundan oluşmaktadır. Araştırmının verileri, ailelerin ilköğretim okullarında doğrudan parasal olmayan gönnülü katkılarını üç boyutta ölçen ve 26 maddenin oluşan bir ölççek kullanılarak toplanmıştır. Verilerin analizinde betimsel istatistikler, t testi ve tek yönlü varyans analizi kullanılmıştır.

Araştırmaın Bulguları

Ailelerin doğrudan parasal olmayan gönnülü katkılarına ilişkin okul yöneticilerinin görüşleri, ölçecen hiçbir boyutunda; yaş, cinsiyet, kdem, görev, mezuniyet durumu...
bakımdan anlamli bir farklılık göstermemektedir. Bunun dışında okulların içinde bulunduğu çevrenin SED’i (Sosyo-Ekonomik Düzey) ve okulların öğrenci sayısına göre anlamli bir farklılık gösterdiği gözlenmiştir.

Araştırmanın Sonuç ve Önerileri

Araştırımda alt SED’den üst SED’de doğru gittikçe ailelerin okullara yapmış oldukları doğrudan parasal olmayan Güvende katklarının artmış olduğu gözlenmiştir. Bu durum üst SED’de bulunan ailelerin kendi beklentileri doğrultusunda, bir anlamda, okulları dönüştürenin/sömürgeleştirmenin yolunu açarken, alt SED’den gelen ailelerin çocuklarının ise ayrımcılığa uğramasına neden olmaktadır. Bu tür bunlar, eğitim yoluyla elde edilen kazanımlardaki farklılaşmayı beraberinde getirmenin yanı sıra toplumsal eşitsizliklerin de yeniden süreçlemesine yol açmaktadır.

Araştırımda elde edilen bulgu ve sonuçlarla dayalı olarak ilerde yapılacak olan araştırmalarla ilişkin birkaç öneride bulunulabilir. Bunlardan ilk, ailelerin okullara yapmış oldukları doğrudan parasal olmayan Güvende katklarının parasal değeri ortaya koymak bir araştırma yapılması gerektiği. İkincisi, okul yöneticilerinin, öğretmenlerin ailelerin doğrudan parasal olmayan katkılardıkları sağlamanada başvurdukları yöntem ve stratejiler ile bu süreçte karşı karşıya kaldıkları güçlüklerin ortaya konulmasıdır. Üçüncü de ailelerin okul yaşamındaki yerini sorgulayan bir çalışma yapılmasınıdır.

Anahtar Sözcükler: Neo-liberal politikalar, ilköğretim, Güvende, Güvende katkı
A Study of the Epistemological Beliefs of Teacher Candidates in Terms of Various Variables

Kemal Öğuz ER*

Suggested Citation:

Abstract
Problem Statement: Epistemological beliefs have a significant impact on both learning and the learning process. The levels of epistemological beliefs of teachers and students closely affect their ways of teaching and learning, their perceptions, efforts and acquisition. Thanks to the recent studies, the epistemological belief levels of students in different grades are researched in terms of different variables. It is important that the epistemological belief levels of the teacher candidates at teacher training institutions are defined continuously and regularly and that their beliefs are taken into account in teacher training programs.

Purpose of Study: The purpose of this study is to explore the epistemological beliefs of teacher candidates in terms of various variables.

Method: The study made use of a survey technique in which teacher candidates were asked to respond to an Epistemological Beliefs Inventory (EBI). The study group consisted of students at Balıkesir University Necatibey Faculty of Education (NFE) and Faculty of Science and Literature (FSL). Of the 533 students participating in the study, 216 were from the Necatibey Faculty of Education and 317 from the Faculty of Science and Literature. Of the total students, 341 were female while 192 were male. For data analysis, t test and ANOVA were used. In situations where the analysis of variance proved to be significant, Scheffe’s test was applied to determine the direction of the variation.

Findings and Results: The findings of the study led to the conclusion that epistemological beliefs of teacher candidates were moderately developed. Teacher candidates believed that learning is more dependent on ability rather than effort. The students in the Faculty of Science and Literature

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had a stronger belief that learning is dependent upon effort rather than ability, while the students in the Necatibey Faculty of Education, however, had more of a belief that learning is dependent upon ability and that there is only one unchangeable truth. The research revealed that epistemological belief levels exhibited significant differences in terms of departments and teaching types. Epistemological belief levels also differed significantly in terms of genders. It was found that male students, more than females, believed that learning is more dependent on effort rather than ability. It was found that there wasn’t any difference between the epistemological beliefs of teacher candidates in terms of the educational levels of their parents.

Conclusions and Recommendations: It was concluded that the epistemological beliefs of teacher candidates had matured moderately and they believed that learning was more related with ability rather than effort. Determining the levels of epistemological beliefs of teacher candidates at the faculties of education is important in terms of improving their beliefs positively and getting to know these students better. Moreover, it is thought-provoking to discover the high level of maturation of teacher candidates’ beliefs that learning is dependent upon ability and that there is only a single truth. Qualitative research should be carried out especially to understand why the level of belief in a single truth is so high.

**Keywords**: teacher education, teacher candidates, epistemology, epistemological beliefs

Epistemology, one of the fundamental areas of philosophy, essentially analyzes the nature, sources, boundaries, conceptual components of knowledge, and even whether the existence of that knowledge is possible (Bac, 2007). Related literature reveals that the first studies related to epistemological beliefs were conducted by Perry. In the studies mentioned, epistemological beliefs were interpreted as what information means and how it is acquired (Güven, 2009; Brownlee, Purdie & Boulton-Levis, 2001). Moreover, the term epistemology can be defined as “the resource, the nature, the limitations and the accuracy of the human knowledge” (Hofer & Pintrich, 2002). Kaya (2003) defines epistemology as “a theory of knowledge that is related to the knowledge of entity and how this knowledge is acquired, in other words, the science of knowledge related to the knowledge of the outside world” (p.35). Epistemological beliefs are the ideas of individuals about what knowledge is and the subjective beliefs of individuals are how knowledge and learning come to exist (Erdem, Yılmaz & Akkoyunlu, 2008).

Kitchener and King (1981), Ryan (1984), and Songer and Linn (1991) pointed that individuals’ beliefs about the nature of knowledge and learning, or epistemological beliefs, have been directly linked to their comprehension, meta-comprehension, persistence, and interpretation of information (Schommer, 1998). In addition, Schommer (1998) stated that there is a growing body of evidence indicating that in
regards to beliefs individuals have about the nature of knowledge and learning, epistemological beliefs affect their academic performance. Epistemological beliefs have a determining effect on variables such as the ways individuals process and interpret new information, their levels of understanding, their criteria of controlling their levels of understanding, the strategies they use to study, higher-order thinking and problem solving approaches and the time and effort they spend on learning (Deryakulu & Büyüköztürk, 2002, p.6). Epistemological beliefs also have a significant impact both on learning and teaching. Hofer (2001, cited in Walter, 2009) states that in order to develop students’ skills in critical thinking and discovering the nature of knowledge, teachers should create the right learning environments and students’ epistemological beliefs should be developed. Students’ epistemological beliefs should be reviewed and considered while developing instructional curricula. It may be thought that this is a long and difficult process. Roth and Roychoudhury (1994, cited in Brownlee, Purdie & Lewis, 2001), for example, have asserted that changing epistemological beliefs of the students is difficult, even in environments that support a constructivist perspective. On the other hand, if teaching programs, and particularly teacher training programs, could include different activities that show students different ways of reaching knowledge and learning how to learn, it may be possible to develop students’ epistemological beliefs with time.

The levels and development of the epistemological beliefs of university students, teacher candidates, and students have been the frequent subject of studies conducted by many educators in Turkey (Aypay, 2011; Meral & Çolak, 2009; Terzi, 2005). It is thought that recent research abroad showing the fact that epistemological beliefs constitute a determining factor in learning, may have contributed to this growing interest (Deryakulu & Büyüköztürk, 2005). The Turkish literature starts with Deryakulu and Büyüköztürk’s validity and reliability testing and adaptation (2002) for Turkish university students of the Epistemological Beliefs Inventory developed by Schommer. This is followed by another study by Deryakulu and Büyüköztürk (2005) in which the researchers review the factor structure of the epistemological beliefs inventory and make a comparison of epistemological beliefs according to gender and type of the training program. Deryakulu and Büyüköztürk’s studies are followed by other researches that have examined epistemological beliefs in terms of other variables. The following can be cited in this context: Gürol, Altunbas and Karaaslan (2010) on the self-efficacy and epistemological beliefs of teacher candidates; Öngen (2003), Akşan and Sözer (2007), on the relation between university students’ epistemological beliefs and problem-solving skills; Yılmaz (2007) on the relation between the epistemological beliefs of nursing students and locus of control; Baştırcı, Güleç, Akdoğan and Koç (2011) on the value choices and epistemological beliefs of teacher candidates; Güven and Belet (2010) on the views of classroom teacher candidates concerning their epistemological beliefs and cognitive knowledge; Topcu and Tüzün (2009) on the metacognitive and epistemological beliefs of primary students and their success in science, their gender and socio-economic status; Erdem, Yılmaz and Akkoyunlu (2008) on the knowledge literacy, self-efficacy beliefs and epistemological beliefs of teacher candidates; Demir (2007) on the epistemological beliefs and authoritarian tendencies of teacher candidates; Uysal (2010) on the
epistemological beliefs of primary students, their perception of their learning environments, their approaches to learning and the relation of these to their achievement in science. All of these studies have established significant differences between epistemological beliefs in terms of the various variables researched.

Silverman (2007) has set forth that the attitudes and beliefs of teachers have a direct impact on their relationships with their students and also in fact, on the classroom climate and what students gain from the class. Chan (2003) has stated that the values and epistemological beliefs of teachers affect their perceptions of learning and teaching. Nespor (1987, cited in Brownlee, Purdie & Lewis, 2001) has pointed out that teacher candidates’ epistemological beliefs are generally overlooked in teacher training programs. Brownlee, Purdie and Lewis (2001) assert that students should be encouraged to reflect their epistemological beliefs openly if their beliefs about learning are to be changed or facilitated. Pajares (1993) has pointed out that students do not always share their beliefs with teachers and it is for this reason that identifying with and understanding students is such a difficult task.

In the knowledge that epistemological beliefs have a determining effect on learning, these beliefs must be taken into consideration in teachers’ education and it is important that epistemological beliefs are identified in addition to students’ demographic characteristics. In other words, research shows that various variables (such as gender, department of study, and faculty) are interrelated to epistemological beliefs. For example, Schommer (1993) studied the difference between the technology sciences and social sciences university students’ epistemological beliefs, and tried to determine the dimensions of differences. In the study, it was found that there was a significant difference regarding the epistemological beliefs of the technology sciences university students and social sciences students. Furthermore, Deryakulu and Büyüköztürk (2005) noted that the epistemological beliefs of the students from the field of social sciences and related areas were more developed/mature than of the ones from the field of basic and applied sciences and related areas. In addition, Banks (2005, cited in Ertekin et al. 2010) stated that studies in different disciplines, especially in the domains of mathematics and science, show that epistemological beliefs can change from one domain to another. As an example, in a study carried out by Ertekin et al. (2009) on teacher candidates in the domains of mathematics and social sciences, it was determined that the candidates’ beliefs in the subscale of “belief that learning requires talent” in the epistemological belief scale were quite different. Chai, Khine and Teo (2006, cited in Güven, 2009) also studied the epistemological beliefs of Singaporean pre-service teachers and their learning levels. As a result of the study, they concluded that their epistemological beliefs differed; particularly there was a considerable difference in terms of gender, for the benefit of females. However it was found that there was no difference in terms of the participants’ learning levels.

Scheurman (1995, cited in Silverman, 2007) has in fact set forth that epistemological belief levels of teacher candidates should be identified at the very beginning of their training and the results must be taken into account of the teachers’ training programs. Pajares (1993) says that the beliefs of students at the faculties of
education should be explored logically and legally, also underlining that this might be more difficult in environments where instructors may be keen on encouraging the beliefs of students with whom they share a common perspective while challenging those students whose beliefs are inconsistent with their own. It was because of these different needs that the epistemological beliefs of students at Bursa Institute Necatibey Faculty of Education and Faculty of Science and Literature were chosen as subjects for this research.

The general purpose of this study was to explore the epistemological beliefs of teacher candidates in terms of various variables. In order to reach this purpose, answers to the following questions were sought:

1. What are the levels of the epistemological beliefs of teacher candidates?
2. Do teacher candidates’ epistemological beliefs differ according to the faculty in which they are studying?
3. Do teacher candidates’ epistemological beliefs differ according to the department in which they are studying?
4. Do teacher candidates’ epistemological beliefs differ according to gender?
5. Do teacher candidates’ epistemological beliefs differ according to the kind of teaching types?
6. Do teacher candidates’ epistemological beliefs differ according to the educational level of their parents?

Method

The Model and the Study Group

This research is a descriptive study that aims to determine the epistemological beliefs of teacher candidates in terms of various variables. Using survey method, the teacher candidates were queried with the help of an Epistemological Beliefs Inventory (EBI). The students of Necatibey Faculty of Education at Bursa Institute, as well as students from the university’s Faculty of Science and Literature studying in the “Pedagogical Formation” teacher eligibility program initiated by permission of the Board of Higher Education, constituted the study group of the research. Of the 533 students responding in the study, 216 were from Necatibey Faculty of Education (NFE) and 317 were students at the Faculty of Science and Literature (FSL). Female students accounted for 341 of the students while 192 were males.

The students who were recruited into the study group from Necatibey Faculty of Education, Department of Science and Mathematics for High Schools and Department of Social Fields of Education for High Schools were fourth- and fifth-year students studying in the Department of Physics Education (n=32), the Department of Chemistry Education (n=47), the Department of Biology Education (n=47), the Department of
(n=39), the Department of Mathematics Education (n=60) and the Department of Turkish Language and Literature Education (n=36). Students taken into the study from Faculty of Science and Literature were fourth-year students from the Department of Physics (n=48), the Department of Chemistry (n=81), the Department of Biology (n=94), the Department of Mathematics (n=40) and the Department of Turkish Language and Literature (n=56). The reason fourth- and fifth-year students were recruited from Necatibey Faculty of Education and only fourth-year students were taken in from the Faculty of Science and Literature was because the student population in the Faculty of Science and Literature was larger than in the Necatibey Faculty of Education. More students from their fourth and fifth years of Necatibey Faculty of Education were recruited into the study group to make up for this difference. The teaching programs of the departments in the Faculty of Science and Literature are four-year programs, while the Necatibey Faculty of Education is a five-year program. The field courses in the fourth- and fifth-year sections of the Necatibey Faculty of Education that were included in the study group are equivalent to the courses taken by final-year students at the Faculty of Science and Literature.

Data Collection Tool

This study, which is based on a quantitative research approach, used an Epistemological Beliefs Inventory (EBI) that was originally developed by Schommer (1990) and then tested for validity and reliability for use with Turkish university students by Deryakulu and Büyüköztürk (2005) and questions exploring the participants’ demographic characteristics such as academic department, age, gender, and parents’ educational levels.

Epistemological Belief Inventory (EBI)

The inventory was developed by Schommer (1990) on the basis of a four-factor format of 63 items. Deryakulu and Büyüköztürk (2002) implemented the inventory, testing for validity and reliability, with Turkish students. The analysis resulted in an inventory that differed from the original in that it was finalized as three-factor and composed of 35 items, constituting the final form adapted for use with Turkish students. Deryakulu and Büyüköztürk reviewed the Epistemological Belief Inventory structure later in 2005 and their factor analysis resulted in one question being removed from the Inventory altogether and one being transferred to another factor (the tenth item in the first factor was transferred to the second factor). The inventory has maintained its three-factor format.

The Epistemological Belief Inventory is a five-item Likert-type scale with responses that range as follows: (1) I absolutely disagree; (2) I disagree; (3) I have no idea; (4) I agree; and (5) I absolutely agree. The first factor in the scale, “The Belief that Learning Depends on Effort” comprises 17 items; its Cronbach Alpha internal consistency coefficient is .84. The second factor is “The Belief that Learning Depends on Ability” and contains nine items; the Cronbach Alpha internal consistency coefficient is .69. The third factor, composed of eight questions, is “The
Belief that there is Only One Truth” and the Cronbach Alpha internal consistency coefficient for this factor is .64. The Cronbach Alpha internal consistency coefficient for the scale as a whole is .81.

Scores on the Epistemological Beliefs Inventory are evaluated on a factor basis; all of the scores taken from the scale are generally not considered. This is because each factor on the scale is an independent dimension of belief and it has been found that each dimension has a different impact on learning. Higher scores in any of the factors indicate that the individual’s beliefs in that particular factor have not developed/matured; lower scores show that the individual’s beliefs have developed/matured (Schommer, 1990, cited in Deryakulu & Büyükoztürk, 2005).

Personal Data Form: To collect information on demographic variables, the participants were asked short questions about their faculty, department, age, gender, personal information.

Data Analysis

Analysis of research data, descriptive statistics and for independent samples the t-test and one-way Analysis of Variance (ANOVA) were used. In cases where the analysis of variance pointed to significant differences, the Scheffe test was used to determine the direction of the difference.

Findings and Results

The findings obtained from the data collection tools that were implemented are presented below.

Findings and interpretation of the epistemological beliefs of teacher candidates

An examination of Table 1 shows that the mean scores of the teacher candidates were 65.74 in “The Belief that Learning Depends on Effort” (Factor 1), 18.74 in “The Belief that Learning Depends on Ability” (Factor 2), and 26.74 in “The Belief that there is Only One Truth” (Factor 3). When it is considered that low scores on the inventory indicate that the individual’s beliefs have matured and developed, it can be said that teacher candidates showed the greatest maturation in “The Belief that Learning Depends on Ability” and the least maturation in “The Belief that Learning Depends on Effort.” In other words, teacher candidates had a stronger belief that learning depends on ability rather than on effort.
Table 1

<table>
<thead>
<tr>
<th>Sub-Factors</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Belief that Learning Depends on Effort</td>
<td>65.74</td>
<td>9.39</td>
<td>533</td>
</tr>
<tr>
<td>The Belief that Learning Depends on Ability</td>
<td>18.74</td>
<td>5.42</td>
<td></td>
</tr>
<tr>
<td>The Belief that there is Only One Truth</td>
<td>26.75</td>
<td>5.31</td>
<td></td>
</tr>
</tbody>
</table>

Findings and interpretation of the relationship between teacher candidates’ faculty and their epistemological beliefs

An unrelated t-test was used to determine whether there was a difference in the attitudes toward epistemological beliefs of teacher candidates according to the faculty they are attending. All of the scores taken from scale were not used in the analysis; scores were evaluated on the basis of factor.

Table 2

| T-Test Results on the Epistemological Beliefs of Teacher Candidates by Faculty |
|---------------------------------|--------|--------|-------|
| Factor 1: The Belief that Learning Depends on Effort       |
| Faculty | N    | SD    | F     | t     | p     |
| NFE     | 216  | 67.03 | 9.26  | 531   | 2.64  | .009* |
| FSL     | 317  | 64.86 | 9.39  |       |       |       |

Factor 2: The Belief that Learning Depends on Ability

<table>
<thead>
<tr>
<th>Faculty</th>
<th>N</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFE</td>
<td>216</td>
<td>17.84</td>
<td>4.98</td>
<td>531</td>
<td>3.18</td>
</tr>
<tr>
<td>FSL</td>
<td>317</td>
<td>19.35</td>
<td>5.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Factor 3: The Belief that there is Only One Truth

<table>
<thead>
<tr>
<th>Faculty</th>
<th>N</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFE</td>
<td>216</td>
<td>25.06</td>
<td>5.04</td>
<td>531</td>
<td>6.26</td>
</tr>
<tr>
<td>FSL</td>
<td>317</td>
<td>27.89</td>
<td>5.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<0.05
A review of Table 2 shows that the epistemological beliefs of teacher candidates displayed significant differences in all three sub-dimensions according to the faculty they were attending. Table 2 indicates that the beliefs of the students in the Faculty of Science and Literature in regards to the sub-dimension of “The Belief that Learning Depends on Effort” (Factor 1) (t(531) = 2.64, p<.009) are at a higher level of maturity/development than the beliefs of the students in Necatibey Faculty of Education. In other words, the students in Faculty of Science and Literature have a stronger belief that learning depends on effort rather than ability, compared to the students in the Necatibey Faculty of Education.

According to Table 2, in the sub-dimensions of “The Belief that Learning Depends on Ability” (Factor 2) (t(531) = 3.18, p<.002) and “The Belief that there is Only One Truth” (Factor 3) (t(531) = 6.26, p<.000), the beliefs of the students in Necatibey Faculty of Education were more developed than those of the students in the Faculty of Science and Literature. In other words, the students in Necatibey Faculty of Education had a stronger belief that learning depends on ability and that there is a single unchangeable truth.

Findings and interpretation of the relationship between teacher candidates’ departments and their epistemological beliefs

Another comparison of the epistemological beliefs of teacher candidates was carried out in terms of the departments the students were enrolled in. For this, instead of analyzing total scores, the three different factors were examined separately in order to understand whether there were significant differences in attitude using the scores of the students from the 10 different departments.

When the mean scores for Factor 1 are examined in terms of the departments, it is observed that the students of Departments of Mathematics (x̄=64.43), Turkish Language and Literature (x̄=66.94), Chemistry (x̄=64.01), Physics (x̄=64.43) and Biology (x̄=65.74) in Faculty of Science and Literature had more developed beliefs in the sub-dimension of “The Belief that Learning Depends on Effort” (Factor 1), compared to the students of the Departments of Mathematics Education (x̄=65.16), Turkish Language and Literature Education (x̄=68.07), Chemistry Education (x̄=67.40), Physics Education (x̄=68.40) and Biology Education (x̄=67.20) in Necatibey Faculty of Education.

An analysis of the mean scores by departments, it is observed that the epistemological beliefs of students in Departments of Mathematics Education (x̄=17.90), Turkish Language and Literature Education (x̄=17.93), Chemistry Education (x̄=16.08), Physics Education (x̄=18.93) and Biology Education (x̄=19.07) in the Necatibey Faculty of Education in the sub-dimension of “The Belief that Learning Depends on Ability” were more developed compared to the beliefs of the students in the Departments of Mathematics (x̄=19.86), Turkish Language and Literature (x̄=18.48), Chemistry (x̄=19.90), Physics (x̄=18.60) and Biology (x̄=19.45) in the Faculty of Science and Literature.

An analysis of the mean scores for the third factor, it is observed that the epistemological beliefs of the students in the Departments of Mathematics Education...
(x=24.58), Turkish Language and Literature Education (x=24.87), Chemistry Education (x=23.85), Physics Education (x=26.12) and Biology Education (x=26.48) in the Necatibey Faculty of Education were more mature in the sub-dimension of “The Belief that there is Only One Truth” compared to the students in the Departments of Mathematics (x=27.22), Turkish Language and Literature (x=27.41), Chemistry (x=28.09), Physics (x=27.39) and Biology (x=28.52) in Faculty of Science and Literature.

Table 3
Anova Results for the Epistemological Belief Scores of Teacher Candidates by Department

<table>
<thead>
<tr>
<th>Factor</th>
<th>Source of Variance</th>
<th>SD</th>
<th>Total Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: The Belief that Learning Depends on Effort</td>
<td>Between groups</td>
<td>9</td>
<td>1512.42</td>
<td>168.04</td>
<td>1.93</td>
<td>.045</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>523</td>
<td>45417.32</td>
<td>86.84</td>
<td>1.93</td>
<td>.045</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>532</td>
<td>46929.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2: The Belief that Learning Depends on Ability</td>
<td>Between groups</td>
<td>9</td>
<td>615.79</td>
<td>68.42</td>
<td>2.38</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>523</td>
<td>14969.81</td>
<td>28.66</td>
<td>2.38</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>532</td>
<td>15605.61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 3: The Belief that there is Only One Truth</td>
<td>Between groups</td>
<td>9</td>
<td>1316.19</td>
<td>146.24</td>
<td>5.58</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>523</td>
<td>13684.81</td>
<td>26.16</td>
<td>5.58</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>532</td>
<td>15001.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of Table 3 shows that the epistemological beliefs of teacher candidates displayed significant differences in all three factors by department. However, it was determined from the Levene F-test that the variance in the first factor was not equal or homogeneous. Büyüköztürk (2007) stated that one of the main assumptions of the Anova is that the variances of the dependent variable should be equal for each sample. The variances related to the independent variable were found equal in the second and third factors.
The Scheffe test was used to find out in which departments the difference is in the second and third factors between the departments. Concerning “The Belief that Learning Depends on Ability” (Factor 2), a comparison of the Department of Chemistry Education with the Department of Biology, the Department of Chemistry and the Department of Mathematics revealed a significant difference in favor of the Department of Chemistry Education. In the analysis for Factor 3, the Department of Mathematics Education was compared with the Department of Biology and in the Department of Chemistry the difference was significant in favor of the Department of Mathematics Education; the analysis between the Department of Turkish Language and Literature Education and the Department of Biology showed a significant difference in favor of the Department of Turkish Language and Literature Education. The Department of Chemistry Education was compared with the Department of Biology, the Department of Turkish Language and Literature was compared with the Department of Chemistry and the Department of Physics the difference was significant in favor of the Department of Chemistry Education.

Findings and interpretation of the relationship between teacher candidates’ gender and their epistemological beliefs

An unrelated t-test was used to determine whether there was a difference in the attitudes toward epistemological beliefs of teacher candidates in terms of gender factor (Table 4). Total scores were not used in the analysis; the scores were evaluated on the basis of factor.

Table 4

T-Test Results for the Epistemological Beliefs of Teacher Candidates’ in terms of Gender

Factor 1: The Belief that Learning Depends on Effort

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>341</td>
<td>66.96</td>
<td>7.89</td>
<td>531</td>
<td>4.07</td>
<td>.000*</td>
</tr>
<tr>
<td>Men</td>
<td>192</td>
<td>63.56</td>
<td>11.28</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Factor 2: Belief that Learning Depends on Ability

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>341</td>
<td>18.26</td>
<td>5.16</td>
<td>531</td>
<td>2.72</td>
<td>.008*</td>
</tr>
<tr>
<td>Men</td>
<td>192</td>
<td>19.58</td>
<td>5.75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Factor 3: The Belief that there is Only One Truth

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>341</td>
<td>26.71</td>
<td>5.16</td>
<td>531</td>
<td>.206</td>
<td>.572</td>
</tr>
<tr>
<td>Men</td>
<td>192</td>
<td>26.81</td>
<td>5.58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<0.05
When Table 4 is examined, it could be seen that there are significant differences in terms of gender in the epistemological beliefs of teacher candidates for Factors 1 and 2. In the sub-dimension in Table 4 on “The Belief that Learning Depends on Effort” (Factor 1) ($t_{531}=4.07\ p<.000$), it is observed that the beliefs of male students are more developed compared to those of female students. This finding could be interpreted to mean that male students have a stronger belief that learning depends on effort rather than ability compared to female students. Table 4 shows that in the sub-dimension of “The Belief that Learning Depends on Ability” (Factor 2) ($t_{531}=2.72\ p<.086$), female students were more developed in their beliefs than male students. Expressed differently, it could be said that female students are more of a belief that learning depends on ability compared to male students.

Findings and interpretation of the relationship between the teaching types and their epistemological beliefs

An unrelated t-test was used to determine whether there was a difference in attitudes toward the epistemological beliefs of teacher candidates according to the kind of teaching program they were attending (Table 5). Total scores were not used in the analysis; the scores were evaluated on the basis of factor.

### Table 5

**Epistemological Belief T-Test Scores of Teacher Candidates in terms of the Kind of Teaching Program**

**Factor 1: The Belief that Learning Depends on Effort**

<table>
<thead>
<tr>
<th>Teaching Program</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Prog.I</td>
<td>426</td>
<td>66.12</td>
<td>9.09</td>
<td>531</td>
<td>1.86</td>
<td>.036*</td>
</tr>
<tr>
<td>Teaching Prog.II</td>
<td>107</td>
<td>64.23</td>
<td>10.41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Factor 2: The Belief that Learning Depends on Ability**

<table>
<thead>
<tr>
<th>Teaching Program</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Prog.I</td>
<td>426</td>
<td>18.51</td>
<td>5.17</td>
<td>531</td>
<td>1.94</td>
<td>.003*</td>
</tr>
<tr>
<td>Teaching Prog.II</td>
<td>107</td>
<td>19.64</td>
<td>6.23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Factor 3: The Belief that there is Only One Truth**

<table>
<thead>
<tr>
<th>Teaching Program</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Prog.I</td>
<td>426</td>
<td>26.33</td>
<td>5.19</td>
<td>531</td>
<td>3.60</td>
<td>.557</td>
</tr>
<tr>
<td>Teaching Prog.II</td>
<td>107</td>
<td>28.38</td>
<td>5.47</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$p<0.05$
A review of Table 5 shows that there are significant differences in the epistemological beliefs of teacher candidates for Factors 1 and 2 in terms of the kind of teaching program. In the sub-dimension of “The Belief that Learning Depends on Effort” for Factor 1 in Table 5 \( t_{(531)} = 1.86 \), it is seen that the students in the second teaching program have more mature beliefs than the students in the first teaching program. This finding could be interpreted as evidence that the students of the second teaching program have more of a belief that learning depends not on ability but on effort, compared to the students in the first teaching program.

It could be seen in Table 5 that in the sub-dimension of “The Belief that Learning Depends on Ability” (Factor 2) \( t_{(531)} = 1.94 \), the students in the first teaching program have more developed beliefs than those in the second teaching program. In other words, the students of the first teaching program have more of a belief that learning depends on ability, compared to the students of the second teaching program.

Findings and interpretation of the relationship between teacher candidates' parents' education level and their epistemological beliefs

**Table 6**

*Anova Results for the Scores of Teachers Candidates' Epistemological Beliefs in terms of Parents' Level of Education*

**Factor 1: The Belief that Learning Depends on Effort**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SD</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6</td>
<td>340.17</td>
<td>56.69</td>
<td>0.64</td>
<td>.698</td>
</tr>
<tr>
<td>Within Groups</td>
<td>526</td>
<td>46569.58</td>
<td>88.57</td>
<td>0.64</td>
<td>.698</td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td>46929.75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Factor 2: The Belief that Learning Depends on Ability**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SD</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6</td>
<td>112.352</td>
<td>18.72</td>
<td>.64</td>
<td>.702</td>
</tr>
<tr>
<td>Within Groups</td>
<td>526</td>
<td>15493.259</td>
<td>29.120</td>
<td>.64</td>
<td>.702</td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td>15605.61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Factor 3: The Belief that there is Only One Truth**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SD</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6</td>
<td>210.055</td>
<td>35.00</td>
<td>1.24</td>
<td>.282</td>
</tr>
<tr>
<td>Within Groups</td>
<td>526</td>
<td>14790.956</td>
<td>28.12</td>
<td>1.24</td>
<td>.282</td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td>15001.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( p<0.05 \)

The analysis of Table 6 shows that there is no significant difference between teacher candidates' epistemological beliefs in terms of their parents' level of education in any of the three factors.
Discussion and Conclusion

In this study, which explored the levels of epistemological beliefs of teacher candidates in terms of some selected variables, it was found that teacher candidates had developed the greatest in the dimension of “The Belief that Learning Depends on Ability” and the least in the dimension of “The Belief that Learning Depends on Effort.” Gürer, Akıngır, and Karaoğlan (2010), Erdem, Yıldız and Akkoyunlu’s (2008) studies, too, arrived at the conclusion that teacher candidates exhibited the least maturation in “The Belief that Learning Depends on Effort.” In the mentioned researches, it was reported that teacher candidates had developed the greatest in “The Belief that there is Only One Truth” in contrast to this study.

Significant differences were found between faculties in the sub-dimensions of epistemological beliefs that hold that learning depends on effort, learning depends on ability, and that there is only one truth. Compared to the students in Necatibey Faculty of Education, the students of Faculty of Science and Literature had a stronger belief that learning depends on effort. When it is considered that students in Necatibey Faculty of Education received higher scores on the university placement test compared to students who placed in the Faculty of Science and Literature, it was understandable that Necatibey Faculty of Education students had more matured beliefs that support the concept that learning depends on ability. On the other hand, it was considered that the students of Necatibey Faculty of Education are the teachers of the future without completing any further educational programs; it was thought provoking that their beliefs were more mature about the concept that there is one single truth.

Significant differences were also found among departments in the sub-dimensions of epistemological beliefs that assert that learning depends on ability and that there is only one truth. A significant difference was found in favor of the Department of Chemistry Education in the sub-dimension of the belief that learning depends on ability when the Department of Chemistry Education was compared with the Department of Chemistry, the Department of Biology and the Department of Mathematics. In the sub-dimension of the belief that there is only one truth, significant differences were found between the Department of Turkish Language and Literature Education and the Department of Biology in favor of the Department of Turkish Language and Literature Education, between the Department of Chemistry Education and the Department of Biology, the Department of Turkish Language and Literature, the Department of Chemistry and the Department of Physics in favor of the Department of Chemistry Education. These findings support the results of the analysis based on the faculties. It had already been stated above that the beliefs of the students in Necatibey Faculty of Education had matured to a greater extent in the sub-dimensions of the belief that learning depends on ability and the belief that there is only one truth.

Significant differences were also found between genders in the sub-dimensions of the epistemological beliefs that learning depends on effort and that learning depends on ability. The results were achieved that in the sub-dimension of the belief that learning depends on effort, male students had more matured beliefs than female students and that females had more matured beliefs about learning being dependent on ability. While this result is consistent with some other studies (Başçı, Güleç, Akdoğan & Koç, 2011; Öngen, 2003), the findings do not agree with studies (Deryakulu & Büyüköztürk, 2005; Eroğlu & Güven, 2006; Güven, 2009) that have reached the
conclusion that compared to males, female students have more of a belief that learning is dependent on effort. In some other research (Ertem, Yılmaz & Akkoyunlu, 2008; Gürol, Altunbaş & Karaaslan, 2010), it has been found that the epistemological beliefs of male students in both sub-dimensions of the belief that learning depends on effort and that learning depends on ability are more developed than in female students. Kurt (2009) in a study on elementary and middle school students reached to the conclusion that girls have more matured beliefs compared to males on the truth of knowledge. In a study by Aksan and Sözer (2007), Terzi (2005), and Tümçay (2012) no significant difference was found in any of the three dimensions of epistemological belief in terms of gender. Chan’s research (2004) carried out in an educational institute in Hong Kong also indicated no significant difference between the epistemological beliefs of teacher candidates according to age, gender, and department.

The present study found that the students in the first teaching program had more matured beliefs in the sub-dimension of the epistemological belief that learning depends on effort but that the second teaching program students had beliefs that were more developed in the sub-dimension of the belief that learning depends on ability. In addition, there was no evidence of a difference between the epistemological beliefs of teacher candidates according to the educational level of their parents. This result is consistent with the findings of both Öğuz (2007) and Yılmaz (2007). Ergülü and Güven (2006), however, found that students whose fathers were middle school, high school, and university graduates had more developed epistemological beliefs compared to students whose fathers were elementary school graduates. In the same study no significant difference was found between the epistemological beliefs of university students with the educational status of their mothers. Güven (2009) reported that there was significant difference between epistemological beliefs of the distance education students in the sub-dimension of the belief that learning depends on ability with the educational level of parents or family. In the study it was found that students with a low educational level of family had more developed beliefs in the dimension that learning depends on ability, compared to students within a family of medium and high levels of education. Schommer (1990, cited in Deryakulu & Büyüköztürk, 2002) arrived at the conclusion that students with parents with a higher level of education had been given more responsibility to them in the family and had been supported more to build their own beliefs and opinions, and at that level they have sophisticated epistemological beliefs.

References


Öğretmen Adaylarının Epistemolojik İnançlarının Çeşitli Değişkenler Açısından İncelenmesi

Atıf:

(Özet)
Problem Durumu: Epistemolojik inançların hem öğrenme hem de öğretme süreçinde önemli etkileri vardır. Öğretmenlerin ve öğrencilerin sahip olduğu epistemolojik inanc düzeyleri, onların öğretme, öğrenme biçimlerini, algılarını, çabalarını, kazanımlarını yakından etkilemektedir. Son yıllarda yapılan çalışmalarla farklı öğretim düzeylerinde öğrencilerin sahip olduklarını epistemolojik inanc düzeyleri çeşitli değişkenler açısından araştırılmaktadır. Özellikle, öğretmen yetiştirme kurumlarında öğretmen adaylarının epistemolojik inanc düzeylerinin süreklili ve düzenli olarak belirlenmesi ve öğretmen yetiştirme programlarında öğretmen adaylarının epistemolojik inançlarının da dikkate alınması önemlidir.

Araştırmaın Amacı: Bu araştırmanın genel amacı, öğretmen adaylarının epistemolojik inançlarının çeşitli değişkenler açısından araştırılmasıdır.

(n=81), Biyoloji Bölümü (n=94), Matematik Bölümü (n=40) ile Türk Dili ve Edebiyatı bölümü (n=56) 4 sani öğrencici çalışma grubuna alınmıştır. Bu öğrencilerin 341'i kız, 192'si erkektrir. Araştırmaya verilenin analizinde, betimsel istatistikler, bağımsız örneklemek için t testi ve tek faktörlü varyans analizi (ANOVA) kullanılmıştır. Varyans analizi testinin anlamlı çıktığı durumlarda, farklılığın ne yönde olduğunu belirlemek için deShefe testi uygulanmıştır.

**Bulgular ve Sonuçlar:** Araştırmada öğretmen adaylarının epistemolojik inanç düzeyinin orta düzeyde olgunlaştırıldığı sonucuna ulaşılması. Öğretmen adayları öğrenmenin çabadan çok yeteneğe bağlı olduğuna inanmaktadırlar. Fen Edebiyat Fakültesi öğrencileri, öğrenmenin yetenekten çok çabaya bağlı olduğuna Eğitim Fakültesi öğrencilerine göre daha çok inanmaktadırlar. Eğitim Fakültesi öğrencileri ise öğrenmenin yeteneğe bağlı olduğuna ve tek bir değişme doğruğun olduğuna Fen Edebiyat Fakültesi öğrencilerine oranla daha güçlü bir biçimde inanmaktadırlar.


**Tartışma ve Öneriler:** Öğretmen adaylarının epistemolojik inanç düzeyde olgunlaştırığı ve öğrenmenin çabadan çok yeteneğe bağlı olduğuna inandıkları sonucuna ulaşılması. Üniversiteye giriş puanları göz önüne alındığında Fen Edebiyat Fakültesi öğrencilerine göre daha yüksek puanlarla bölümlerine yerleşen Eğitim Fakültesi öğrencilerinin öğrenmenin yeteneye bağlı olduğuna olan inançlarını daha olgusal olması正常的ı karşılanabilir. Ancak, Eğitim Fakültesi öğrencilerinin, doğrudan ek bir formasyon gerektirdiğinden geleceğin öğretmenleri olarak düşünüldüğünde tek bir doğruğun var olduğuna olan inançlarının daha olgusal olması düşünüldüctür. Öğretmen adaylarının epistemolojik inanç düzeylerini belirlemek ve olumlu anlamda yükseltmek için Eğitim Fakültelerinde öğrenciler epistemolojik inanç düzeylerinin belirlenmesi onlari daha yakından tanınamız açısından da önemlidir. Özellikle farklı üniversitelerde karşılaşılan nitel araştırma yapılarak özellikle tek bir doğruya olan inanç düzeyinin Eğitim Fakültesi öğrencilerinde neden gelmiş olduğu araştırılmalıdır.

**Anahtar Sözcükler:** öğretmen yetiştirmme, öğretmen adayları, epistemoloji, epistemolojik inanç
The Relationship between the Perceptions of the Fairness of the Learning Environment and the Level of Alienation

Çağlar ÇAĞLAR*

Suggested Citation:

Abstract
Problem Statement: The phenomenon of justice, which is defined as conformity to what is right and legal, is conceptualized into three aspects: distributive justice, procedural justice and interactional justice in educational organizations. The more students perceive their learning environment to be fair, the more they enjoy their school life. Otherwise, they experience dissatisfaction and alienation. Having such components as powerlessness, normlessness, isolation, and meaninglessness, the concept of alienation refers to a situation where the student is indifferent to the place he is in, i.e. the school.

Considering that all educational activities mainly aim to intentionally change learner behaviors, it is apparent that any negative attitudes like a feeling of alienation towards the school will considerably obstruct the educational organizations’ ability to achieve their goals. Therefore, it is important for schools to identify the school-related factors underlying the students’ feelings of alienation at the school and to alleviate their adverse effects. Some of the factors causing the feeling of alienation stem directly from the procedures in educational organizations. It is believed that the perception of fairness regarding the learning environment is one of the factors.

Purpose of Study: The purpose of this study was to determine the students’ level of alienation and to investigate the relationship between their levels of alienation and their perceptions of a fair learning environment.

Methods: This survey study was conducted on 952 student teachers, of whom 509 were female and 443 were male. The researcher investigated both the correlation between students’ perceptions of a fair learning environment and the actual, experienced alienation, and whether these

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variables differ significantly in terms of gender, type of program, grade and time of program. The data were collected using the “Personal Information Form,” the “Fair Learning Environment Questionnaire” and the “Student Alienation Scale.”

Finding and Results: Results indicated that students’ perceptions of fairness and their level of alienation differ significantly in terms of gender, type of program, grade and time of program. Perception of fairness is a significant predictor of their feelings of alienation.

Conclusions and Recommendations: Based on the research findings, it can be suggested that creating a fairer learning environment may decrease the feeling of experienced alienation. Involving students in administrative decisions, arranging events to increase student-faculty interaction, as well as extensively using objective measurement and evaluation procedures may improve students’ perceptions of fairness regarding the learning environment. Improving students’ perceptions of fairness can be said to have a positive impact on their feelings about school.

Keywords: Higher education, learning environment, fairness, alienation

The phenomenon of justice, which is defined as conformity to what is right and legal, and something that distributes to people what they deserve (TDK, 2009), is a concept with significant consequences both for individuals and society. The direct effect of justice on the behaviors of workers in an organization necessitates the attempt to enhance organizational efficacy, which is an indication of the degree of achieving the goal, to concentrate on the phenomenon of justice. From this perspective, in educational institutions, where individual dimension is more sensitive than institutional dimension, the informal side is heavier than the formal side and the effect area is wider than the authorization area (Bursaolingü, 1994), the perception of justice is fast becoming more important than in other organizations.

Organizational Justice

Organizational justice refers to perceptions regarding the extent to which workers in an organization are treated fairly and the consequences caused by these perceptions. A number of approaches regarding organizational justice define the concept as composed of three aspects: distributive, procedural and interactional (Bies, 2001; Greenberg, 1990; Özmen, Arbak & Özer, 2007).

Distributive justice is the workers’ perceptions of whether the sources of the organization are distributed fairly or not (Folger & Konovsky, 1989). A similar process of judgment is experienced in the classroom. Students can judge how fair the teacher’s evaluation is by comparing their exam scores with the score that they have expected or that they think they deserve, or with other students’ scores (Chory-Assad & Paulsel, 2004b). If the student believes that his actual score does not correspond with how much he invested, he is likely to judge it as an example of unfair distribution. Being exposed to distributive injustice may cause psychological stress in
students, can be perceived as directly or indirectly grievous, or can influence students to participate in behaviors which they believe will restore justice (Lizzio, Wilson & Hadaway, 2007).

Procedural justice refers to how decisions about the distribution of sources are made. Procedural justice means the equal treatment to all shareholders during procedures like refraining from under- or over-payment, involving shareholders in decision-making, and informing shareholders about results (Colquitt & Chertkoff, 2002). In terms of education, procedural justice refers to teachers’ policies about student behaviors, their approaches in classroom management and evaluating student performance (Chory-Assad & Paulsel, 2004a). Procedural justice involves not only the rules and procedures about how to grade student performance but also policies about instructional services, how the exams are done, learner behaviors with deceptive intentions, and cheating (Rodabaugh, 1996).

Interactional justice emphasizes interpersonal relations (Bies, 2001), as well as the quality of these relations and especially the relationship between authorities and other people. Interactional justice in the classroom refers to judgments about how fair the teachers are in their communication and behaviors with students (Chory-Assad & Paulsel, 2004a). If a faculty member acts in accordance with the principles of interactional justice, that means he treats every student equally while acting as a resource or facilitator without any discrimination. Students generally pay attention to the smallest details about interactional justice that affect their behaviors. A faculty’s actions regarding interactional justice not only affect the student on target but also other students witnessing that action, thus causing the learning environment to be perceived as unfair in general (Rodabaugh, 1996).

Because of the missions of school, they are organizations where organizational justice must be at its highest level (Titrek, 2010). If the value systems in a school can be formed as a lifestyle, by taking democracy and human rights as a basis, it may be possible to make important contributions in assisting students to gain democratic attitudes and behaviors with the help of hidden curriculum (Akar-Vural & Gümülsüz, 2010). A suitable classroom environment and a teacher with appropriate attitudes, expertise, and behaviors allow students to develop their critical thinking skills (Tannriverdi, Ulusoy & Turan, 2012).

There is a large body of research which investigated students’ perceptions of fairness in the learning environment (Chory-Assad, 2002, 2007; Chory-Assad & Paulsel, 2004a, 2004b; Houston & Bettencourt, 1999; Lizzio, et al., 2007; Mauldin, 2009; Özer & Demirtaş, 2010; Paulsel & Chory-Assad, 2005; Rodabaugh & Kravitz, 1994; Rodabaugh, 1996; Tata, 1999; Tomul, Çelik & Taş, 2012; Walsh & Maffei, 1994).

A significant relationship has been found between teachers’ fairness towards students and positive outcomes. Teachers’ fair treatment of students enhances learner motivation and performance (Rodabaugh & Kravitz, 1994), quality of learning outcomes (Walsh & Maffei, 1994), learner-teacher interaction (Lowman, 1984; as cited in Houston & Bettencourt, 1999), and learner satisfaction and achievement (Marsh & Overall, 1980).
When students perceive their exam scores, the way the teacher instructs, or the way the teacher communicates as unfair, they are quite likely to develop a directly aggressive stance and hostile attitudes towards the teacher, or a resistance against demands from the teacher (Chory-Assad & Paulsel, 2004b; Paulsel & Chory-Assad, 2005). If the students believe that most of the teachers are fair, school experiences tend to be satisfactory. The belief that teachers are not fair in general, however, would cause a considerable amount of dissatisfaction (Rodabaugh, 1996). One possible outcome of this dissatisfaction would be indifference towards the school or a feeling of alienation from the school.

**Alienation**

Alienation can be defined from various perspectives such as a feeling of detachment in a desired or expected relationship (Case, 2008), the distrust one feels for other people or society, and the feelings of powerlessness, meaninglessness, normlessness, isolation and self-alienation caused by social, institutional or interpersonal problems (Seeman, 1959), or the detachment of a person from himself, his yield, his natural and social milieu and then being predominated by them (Tolan, 1981). Alienation in education is characterized by an estrangement of individuals from knowledge, learning and relevant procedures; increased meaninglessness of these processes for individuals; decreased attention to the learning process and the gradual transformation of the learning process into a more boring and unpleasant state (Sidorkin, 2004).

Though research on alienation defines different dimensions of the concept, it seems more functional for the educational organizations to define four dimensions of alienation including powerlessness, normlessness, isolation and meaninglessness (Brown, Higgins & Paulsen, 2003; Mau, 1992; Sanberk, 2003).

Powerlessness refers to the lack of control by an individual on the products he yields and on the results of the instruments he used in this process (Seeman, 1959), and the situations where, though having high aspirations, an individual has weak expectations for achieving them. Those students who wish to achieve better grades but show poor academic achievement suffer from feelings of powerlessness more often than their peers (Mau, 1992). When students believe that they are directed by administrators, teachers, other staff at school and the system in general, they tend to withdraw themselves from schooling when they believe they have little chance of determining their academic future at school on their own (Brown et al., 2003).

Normlessness means a disapproval of the necessity of the actions deemed necessary to achieve goals (Seeman, 1959). Normlessness in terms of schooling refers to a rejection by a student of the decisions and rules that concern him and that are made by the school administration and teachers (Mau, 1992). This situation may cause the students to ignore the rules about the learning environment. Students experiencing feelings of normlessness say what the school administers and teachers want to hear and believe that breaking school rules and regulations is an appropriate behavior as long as they are not detected (Brown et al., 2003).
Isolation refers to a lack of friendship ties or minimal participation in the organizational environment (Seeman, 1959). Isolation can be experienced both when the individual withdraws himself from society and because others exclude him (Yılmaz & Sarpkaya, 2009). Isolation defines such feelings as estrangement from school, friends, and teachers, and failure to integrate with or belong to the school (Erjem, 2005). Students who perceive themselves isolated do not embrace school goals, thus they do not find them valuable (Rafalides & Hoy, 1971).

Meaninglessness refers to an individual’s failure to find his actions meaningful. It can be defined as a feeling caused by a person’s failure about what to believe (Tezcan, 1991). Meaninglessness refers to a failure to establish a connection between now and the future (Manneheim, 1954, as cited in Mau, 1992). Students may sometimes feel suspicious about why they have to participate in activities in school. Such students perceive a limited connection in terms of the relevance of what they learned during activities at school for their future life (Brown et al., 2003).

Major factors that cause and intensify alienation at school include students’ lack of control over their life, lack of autonomy, lack of a feeling of pride in academic achievement, failure to establish a connection between school learning and actual life, teachers’ being intolerant, poor parental awareness and authoritarian school rules (Kunkel, Thompson, & McElhinney). There is well-documented literature which has investigated the level of alienation in educational organizations (Bayhan, 1995; Calabrese, 1987; Çaglar, 2012; Çelik, 2005; Civitçi, 2011; Duru, 1995; Liu, 2010; Kunkel et al., 1973; Sanberk, 2003; Taylor, 1999; Trent, 2001; Valverede, 1987; Wiseman, Emry & Morgan, 1988).

Individuals feeling a considerable amount of alienation from their organization gradually isolate themselves from their social milieu, develop ignorance about their environment and go into their shells (Eryılmaz & Burgaz, 2011). It is observed that alienation has a considerable impact on organizations in general and schools in particular. Educational organizations’ failure to adapt to the needs of the times and social changes causes the services they provide to gradually turn into a set of meaningless and useless activities. Incompatibility between school activities and actual life outside the school, as well as deterioration in the sense of interconnection, develop negative attitudes towards the school over time. Considering that all educational activities mainly aim to intentionally change learner behaviors, it is apparent that any negative attitudes like alienation towards schools will considerably obstruct the ability of educational organizations to achieve their goals. Therefore, it is important for schools to identify any school-related feelings underlying the students’ feelings of alienation at school and to alleviate their adverse effects. Some of the factors causing feelings of alienation stem directly from procedures in educational organizations. It is believed that a perception of fairness regarding the learning environment is one of the factors. The purpose of this study was to determine students’ perception of fairness regarding their learning environment and to investigate the relationship between their perception of fairness and their levels of alienation.
Method

This study was designed as a descriptive and associative survey model. In this respect, this study aimed to analyze the relationship between students’ perceptions of the fairness of the learning environment and their feeling of alienation, and also to investigate whether these variables differ significantly in terms of gender, program, grade and time of program.

Participants

The population of the study is comprised of 2600 undergraduate students studying at Adyaman University School of Education. The sample of the study included 960 students selected from all programs using a stratified sampling technique. All students in the sample were administered the data collection instruments. After eight incomplete or defective forms were discarded, the remaining 952 forms were taken into further analysis. Descriptive statistics about the participants are presented in Table 1.

Table 1.
Descriptive Statistics About The Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (f)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>509</td>
<td>53.5</td>
</tr>
<tr>
<td>Male</td>
<td>443</td>
<td>46.5</td>
</tr>
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<td></td>
</tr>
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<td>12.3</td>
</tr>
<tr>
<td>Math</td>
<td>137</td>
<td>14.3</td>
</tr>
<tr>
<td>Preschool</td>
<td>61</td>
<td>6.4</td>
</tr>
<tr>
<td>Guidance</td>
<td>135</td>
<td>14.2</td>
</tr>
<tr>
<td>Sum</td>
<td>261</td>
<td>27.4</td>
</tr>
<tr>
<td>Social studies</td>
<td>160</td>
<td>16.8</td>
</tr>
<tr>
<td>Turkish language</td>
<td>83</td>
<td>8.7</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st</td>
<td>259</td>
<td>27.2</td>
</tr>
<tr>
<td>2nd</td>
<td>233</td>
<td>24.5</td>
</tr>
<tr>
<td>3rd</td>
<td>242</td>
<td>25.4</td>
</tr>
<tr>
<td>4th</td>
<td>218</td>
<td>22.9</td>
</tr>
<tr>
<td>Time of program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day program</td>
<td>611</td>
<td>64.2</td>
</tr>
<tr>
<td>Night program</td>
<td>341</td>
<td>35.8</td>
</tr>
</tbody>
</table>
Data Collection

**Personal Information Form:** This form was designed to collect information about participating students’ gender, type of program, grade and time of program (day or night).

**Fair Learning Environment Questionnaire:** The “Fair Learning Environment Questionnaire” was developed by Lizzio et al. (2007) to measure how the university students perceive the fairness of their learning environment. The validity and reliability studies of the questionnaire for Turkish were done by Özer and Demirtas (2010). The analysis produced a two-factor structure in accordance with the original construct with explaining the 44.71 % of the total variance [Factor 1: 35.82, Factor 2: 8.89]. Internal consistency of the scale was estimated to be .87 for the entire questionnaire [Factor 1: .81; Factor 2: .76]. In the present study, the internal consistency coefficients for the questionnaire were estimated to be .79 for the first factor, .64 for the second factor, and .82 for the entire questionnaire. Descriptive statistics on the scale of justice are presented in Table 2.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>n</th>
<th># of items</th>
<th>The lowest total score</th>
<th>The highest total score</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respectful partnership</td>
<td>952</td>
<td>9</td>
<td>9</td>
<td>39</td>
<td>2.46</td>
<td>0.72</td>
</tr>
<tr>
<td>Systemic fairness</td>
<td>952</td>
<td>6</td>
<td>6</td>
<td>30</td>
<td>2.68</td>
<td>0.79</td>
</tr>
<tr>
<td>Total</td>
<td>952</td>
<td>15</td>
<td>15</td>
<td>69</td>
<td>2.55</td>
<td>0.66</td>
</tr>
</tbody>
</table>

**Student Alienation Scale:** “Student Alienation Scale (SAS)” was developed by the Çağlar (2012) to measure students’ feelings of alienation. SAS is composed of 20 items under four factors: powerlessness (six items), normlessness (five items), isolation (five items), and meaninglessness (four items). The KMO value was found to be .91 and the Bartlett Test of Sphericity value was found to be 5226.28 (p = .000), and SAS was found to explain 53.56 % of total variance [Factor 1: 16.17; Factor 2: 13.07; Factor 3: 13.06; Factor 4: 11.25]. The internal consistency coefficients for SAS were estimated to be .79 for first factor, .75 for second factor, .76 for third factor, .76 for the fourth factor, and .86 for the entire scale. The internal consistency coefficients estimated for the present study for SAS were found to be .83 for the entire scale, .77 for the powerlessness factor, .68 for the normlessness factor, .67 for the isolation factor, and .71 for the meaninglessness factor. Descriptive statistics on the scale of alienation are presented in Table 3.
Table 3.
Descriptive Statistics on The Scale Of Alienation

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>N</th>
<th># of items</th>
<th>The lowest total score</th>
<th>The highest total score</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powerlessness</td>
<td>952</td>
<td>6</td>
<td>6</td>
<td>30</td>
<td>3.02</td>
<td>0.88</td>
</tr>
<tr>
<td>Normlessness</td>
<td>952</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>2.90</td>
<td>0.97</td>
</tr>
<tr>
<td>Isolation</td>
<td>952</td>
<td>5</td>
<td>5</td>
<td>25</td>
<td>2.82</td>
<td>0.88</td>
</tr>
<tr>
<td>Meaninglessness</td>
<td>952</td>
<td>5</td>
<td>5</td>
<td>25</td>
<td>3.13</td>
<td>0.99</td>
</tr>
<tr>
<td>Total</td>
<td>952</td>
<td>20</td>
<td>25</td>
<td>100</td>
<td>2.38</td>
<td>0.67</td>
</tr>
</tbody>
</table>

Data Analysis

Frequency and percentage as descriptive statistics were used to analyze the independent variables distributions. The perception level of students on alienation and fairness of learning environment, mean and standard deviation were also used as descriptive statistics. As the data set was found, a normally distributed independent samples t test was used to analyze whether students’ scores differed significantly in terms of gender and program time variables. Also, in order to test whether their scores differed significantly in terms of type of program and grade variables, a One Way ANOVA test was used, followed by a LSD post hoc test to find the source of difference. To test the effects of independent variables on dependent variables, a multiple linear regression analysis was done. In order to analyze obtained points, the following intervals were used. These are (1.00-1.79) very low-level, (1.80-2.59) low-level, (2.60-3.40) moderate-level, (3.41-4.21) high-level and (4.22-5.00) very high-level.

Results

Fair Learning Environment Perceptions and Alienation Level according to Gender

The results of the t-test to find whether students’ fair learning environment perceptions and alienation levels differ significantly according to gender are presented in Table 4.
Table 4.
The Results of the t Test Find Students’ Fair Learning Environment Perceptions And Alienation Level According to Gender

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Gender</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair learning environment perceptions</td>
<td>1.Female</td>
<td>509</td>
<td>2.68</td>
<td>0.67</td>
<td>3.139</td>
<td>.002*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>2.48</td>
<td>0.65</td>
<td>2.48</td>
<td>.020*</td>
</tr>
<tr>
<td>Respectful partnership</td>
<td>1.Female</td>
<td>509</td>
<td>2.52</td>
<td>0.72</td>
<td>2.328</td>
<td>.020*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>2.41</td>
<td>0.71</td>
<td>2.41</td>
<td>.020*</td>
</tr>
<tr>
<td>Systemic fairness</td>
<td>1.Female</td>
<td>509</td>
<td>2.77</td>
<td>0.82</td>
<td>3.413</td>
<td>.001*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>2.60</td>
<td>0.74</td>
<td>2.60</td>
<td>.001*</td>
</tr>
<tr>
<td>Alienation</td>
<td>1.Female</td>
<td>509</td>
<td>2.88</td>
<td>0.65</td>
<td>4.810</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>3.08</td>
<td>0.67</td>
<td>4.005</td>
<td>.000*</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>1.Female</td>
<td>509</td>
<td>2.92</td>
<td>0.86</td>
<td>4.005</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>3.15</td>
<td>0.89</td>
<td>4.005</td>
<td>.000*</td>
</tr>
<tr>
<td>Normlessness</td>
<td>1.Female</td>
<td>509</td>
<td>2.77</td>
<td>0.94</td>
<td>4.681</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>3.06</td>
<td>0.99</td>
<td>4.681</td>
<td>.000*</td>
</tr>
<tr>
<td>Meaninglessness</td>
<td>1.Female</td>
<td>509</td>
<td>2.97</td>
<td>0.99</td>
<td>-5.592</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>2.Male</td>
<td>443</td>
<td>3.32</td>
<td>0.95</td>
<td>-5.592</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*p<.05

Significant differences were found between students’ scores from the total fair learning environment scale \( t_{(950)} = 3.139; p< .05 \), and from the respectful partnership \( t_{(950)} = 2.328; p< .05 \) and systemic fairness \( t_{(950)} = 3.413; p< .05 \) subscales according to gender. An analysis of the mean scores revealed that while female students perceive the learning environment to be moderately fair \( \text{M} = 2.68 \), male students perceive the learning environment to be less fair \( \text{M} = 2.48 \).

While no significant difference was established in an isolation subscale of the student alienation scale, significant differences were found in total alienation scores \( t_{(950)} = -4.810; p< .05 \, \text{and powerlessness} \( t_{(950)} = -4.005; p< .05 \), normlessness \( t_{(950)} = -4.681; p< .05 \) and meaninglessness \( t_{(950)} = -5.592; p< .05 \) subscales according to gender. Though both groups have moderate levels of feelings of alienation, male students’ means from the total alienation scale, and powerlessness, normlessness and meaninglessness subscales were significantly higher than those of female students. This means female students experience less alienation compared to male students.
Fair Learning Environment Perceptions and Alienation Level according to Type of Program

The results of the ANOVA test to find whether students’ fair learning environment perceptions and alienation levels differ significantly according to type of program are presented in Table 5.

Table 5.
The Results of the ANOVA Test to Find Students’ Fair Learning Environment Perceptions And Alienation Level According to Program

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Program</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>P</th>
<th>Difference (LSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair learning environment perceptions</td>
<td>Science</td>
<td>115</td>
<td>2.45</td>
<td>0.69</td>
<td></td>
<td></td>
<td>1&lt;2, 1&lt;3</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>137</td>
<td>2.71</td>
<td>0.62</td>
<td></td>
<td></td>
<td>2&gt;4, 2&gt;6</td>
</tr>
<tr>
<td></td>
<td>Preschool</td>
<td>61</td>
<td>2.74</td>
<td>0.65</td>
<td></td>
<td></td>
<td>3&gt;4, 3&gt;6</td>
</tr>
<tr>
<td></td>
<td>Guidance</td>
<td>135</td>
<td>2.48</td>
<td>0.65</td>
<td>3.996</td>
<td>.001*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Samf</td>
<td>261</td>
<td>2.61</td>
<td>0.65</td>
<td></td>
<td></td>
<td>5&gt;6</td>
</tr>
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<td></td>
<td>Social studies</td>
<td>160</td>
<td>2.44</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turkish language</td>
<td>83</td>
<td>2.48</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respectful partnership</td>
<td>Science</td>
<td>115</td>
<td>2.35</td>
<td>0.75</td>
<td></td>
<td></td>
<td>1&lt;2, 1&lt;3</td>
</tr>
<tr>
<td></td>
<td>Math</td>
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<td>2.68</td>
<td>0.68</td>
<td></td>
<td></td>
<td>2&gt;4, 2&gt;5</td>
</tr>
<tr>
<td></td>
<td>Preschool</td>
<td>61</td>
<td>2.65</td>
<td>0.79</td>
<td></td>
<td></td>
<td>3&gt;4, 3&gt;6</td>
</tr>
<tr>
<td></td>
<td>Guidance</td>
<td>135</td>
<td>2.40</td>
<td>0.70</td>
<td>5.300</td>
<td>.000*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Samf</td>
<td>261</td>
<td>2.52</td>
<td>0.69</td>
<td></td>
<td></td>
<td>5&gt;6</td>
</tr>
<tr>
<td></td>
<td>Social studies</td>
<td>160</td>
<td>2.31</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turkish language</td>
<td>83</td>
<td>2.37</td>
<td>0.66</td>
<td></td>
<td></td>
<td>7&lt;2</td>
</tr>
<tr>
<td>Isolation</td>
<td>Science</td>
<td>115</td>
<td>3.00</td>
<td>0.88</td>
<td></td>
<td></td>
<td>1&lt;2, 1&lt;3</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>137</td>
<td>2.71</td>
<td>0.77</td>
<td></td>
<td></td>
<td>2&gt;6, 2&gt;7</td>
</tr>
<tr>
<td></td>
<td>Preschool</td>
<td>61</td>
<td>2.64</td>
<td>0.80</td>
<td></td>
<td></td>
<td>3&gt;6, 3&gt;7</td>
</tr>
<tr>
<td></td>
<td>Guidance</td>
<td>135</td>
<td>2.75</td>
<td>0.89</td>
<td>3.298</td>
<td>.003*</td>
<td>4&lt;7</td>
</tr>
<tr>
<td></td>
<td>Samf</td>
<td>261</td>
<td>2.74</td>
<td>0.85</td>
<td></td>
<td></td>
<td>5&lt;1, 5&lt;6</td>
</tr>
<tr>
<td></td>
<td>Social studies</td>
<td>160</td>
<td>2.91</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turkish language</td>
<td>83</td>
<td>3.03</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05
While significant differences were observed according to the type of program in the total fair learning environment, in the perception scores \( F(6, 945) = 3.996; p < .05 \), respectful partnership \( F(6, 945) = 5.300; p < .05 \) and isolation \( F(6, 945) = 3.298; p < .05 \) subscales, no significant differentiation was observed in other dimensions. The post hoc analysis revealed that the means of students from math and preschool programs from the fair learning environment scale in total and from the respectful partnership subscale were significantly higher than those of students from social studies and science programs.

Isolation scores of students from the Turkish teaching program and the science teaching program were found to be significantly higher than those of students in the preschool and math programs.

**Fair Learning Environment Perceptions and Alienation Level according to Grade**

The results of the ANOVA test to find whether students’ fair learning environment perceptions and alienation levels differ significantly according to grade are presented in Table 6.

**Table 6.**

The Results of the ANOVA Test to Find Students’ Fair Learning Environment Perceptions and Alienation Level According to Grade

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Grade</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>p</th>
<th>Difference (LSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair learning environment perceptions</td>
<td>1&lt;1st&gt; 259</td>
<td>2,72</td>
<td>0,68</td>
<td>1&gt;3, 1&gt;4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2&lt;2nd&gt; 233</td>
<td>2,61</td>
<td>0,64</td>
<td>11.716</td>
<td>.000*</td>
<td>2&gt;3, 2&gt;4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3&lt;3rd&gt; 242</td>
<td>2,48</td>
<td>0,67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&lt;4th&gt; 218</td>
<td>2,39</td>
<td>0,61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respectful partnership</td>
<td>1&lt;1st&gt; 259</td>
<td>2,61</td>
<td>0,74</td>
<td></td>
<td></td>
<td></td>
<td>1&gt;2, 1&gt;4</td>
</tr>
<tr>
<td></td>
<td>2&lt;2nd&gt; 233</td>
<td>2,52</td>
<td>0,69</td>
<td>7.094</td>
<td>.000*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3&lt;3rd&gt; 242</td>
<td>2,37</td>
<td>0,71</td>
<td></td>
<td></td>
<td></td>
<td>3&lt;1,</td>
</tr>
<tr>
<td></td>
<td>4&lt;4th&gt; 218</td>
<td>2,35</td>
<td>0,70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systemic fairness</td>
<td>1&lt;1st&gt; 259</td>
<td>2,88</td>
<td>0,83</td>
<td></td>
<td></td>
<td></td>
<td>1&gt;3, 1&gt;4</td>
</tr>
<tr>
<td></td>
<td>2&lt;2nd&gt; 233</td>
<td>2,76</td>
<td>0,79</td>
<td>13.476</td>
<td>.000*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3&lt;3rd&gt; 242</td>
<td>2,64</td>
<td>0,78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&lt;4th&gt; 218</td>
<td>2,44</td>
<td>0,67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>1&lt;1st&gt; 259</td>
<td>2,83</td>
<td>0,68</td>
<td></td>
<td></td>
<td></td>
<td>1&lt;3, 1&lt;4</td>
</tr>
<tr>
<td></td>
<td>2&lt;2nd&gt; 233</td>
<td>2,93</td>
<td>0,62</td>
<td>8.938</td>
<td>.000*</td>
<td>2&lt;4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3&lt;3rd&gt; 242</td>
<td>3,04</td>
<td>0,64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&lt;4th&gt; 218</td>
<td>3,13</td>
<td>0,68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
According to grade, variable significant differences were observed in students’ scores from the entire fair learning environment scale \(F(3, 948) = 11.716; p< .05\) and from the respectful partnership \(F(3, 948) = 7.094; p< .05\) and the systemic fairness \(F(3,948) = 13.476; p< .05\) subscales. While 1\(^{st}\) and 2\(^{nd}\) graders perceive the learning environment to be moderately fair, 3\(^{rd}\) and 4\(^{th}\) graders perceive it to be poorly fair.

In terms of alienation, while no significant difference was established in the obtained from the entire alienation scale \(F(3, 948) = 8.938; p< .05\), and the powerlessness \(F(3, 948) = 8.914; p< .05\), normlessness \(F(3, 948) = 8.388; p< .05\) and meaninglessness \(F(3, 948) = 13.304; p< .05\) subscales. The post hoc analysis revealed that 3\(^{rd}\) graders’ and 4\(^{th}\) graders’ means from the entire scale and the powerlessness, normlessness and meaninglessness subscales were significantly higher than 1\(^{st}\) and 2\(^{nd}\) graders. Though students across four grades experience moderate levels of alienation, it can be said that the level of alienation increases as the grade level increases.

**Fair Learning Environment Perceptions and Alienation Level according to Time of Program**

The results of the t-test to find whether students’ fair learning environment perceptions and alienation levels differ significantly according to the time of program are presented in Table 7.
Table 7.
The Results of the t Test to Find Students’ Fair Learning Environment Perceptions And Alienation Level According to the Time of Program

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Time of Program</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair learning environment perceptions</td>
<td>1.Day program</td>
<td>611</td>
<td>2.50</td>
<td>0.65</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.Night program</td>
<td>341</td>
<td>2.66</td>
<td>0.67</td>
<td>3.588</td>
<td>.000*</td>
</tr>
<tr>
<td>Respectful partnership</td>
<td>1.Day program</td>
<td>611</td>
<td>2.41</td>
<td>0.72</td>
<td>-3.378</td>
<td>.001*</td>
</tr>
<tr>
<td></td>
<td>2.Night program</td>
<td>341</td>
<td>2.57</td>
<td>0.71</td>
<td>-2.915</td>
<td>.004*</td>
</tr>
<tr>
<td>Systemic fairness</td>
<td>1.Day program</td>
<td>611</td>
<td>2.63</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.Night program</td>
<td>341</td>
<td>2.79</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>1.Day program</td>
<td>611</td>
<td>3.01</td>
<td>0.67</td>
<td>2.081</td>
<td>.038*</td>
</tr>
<tr>
<td></td>
<td>2.Night program</td>
<td>341</td>
<td>2.91</td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powerlessness</td>
<td>1.Day program</td>
<td>611</td>
<td>3.07</td>
<td>0.87</td>
<td>2.165</td>
<td>.031*</td>
</tr>
<tr>
<td></td>
<td>2.Night program</td>
<td>341</td>
<td>2.94</td>
<td>0.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normlessness</td>
<td>1.Day program</td>
<td>611</td>
<td>2.95</td>
<td>0.99</td>
<td>1.975</td>
<td>.044*</td>
</tr>
<tr>
<td></td>
<td>2.Night program</td>
<td>341</td>
<td>2.82</td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

According to the type of schooling variable, significant differences were found between students’ scores from the entire fair learning environment scale \(t_{(950)} = -3.588; p < .05\), and the respectful partnership \(t_{(950)} = -3.378; p < .05\) and systemic fairness \(t_{(950)} = -2.915; p < .05\) subscales. Night schooling students perceive the learning environment to be moderately fair while day schooling students perceive the learning environment to be poorly fair.

In terms of type of schooling, while no significant difference was observed between students’ mean scores from isolation and meaninglessness subscales, significant differences were found between students’ scores from the entire alienation scale \(t_{(950)} = 2.081; p < .05\), and the powerlessness \(t_{(950)} = 2.165; p < .05\) and normlessness \(t_{(950)} = 1.975; p < .05\) subscales. An analysis of the significant differences via post hoc tests revealed that, although both groups of students experienced moderate levels of alienation, day schooling students’ means from the entire alienation scale, and the powerlessness and normlessness subscales were significantly higher than those of night schooling students.

Correlation between Fair Learning Environment Perceptions and Alienation Level

The results of the analysis to find whether students’ fair learning environment perceptions significantly predict their levels of alienation are presented in Table 8.
Tablo 8.
The Results of Analysis to Find Whether Students' Fair Learning Environment Perceptions Significantly Predict Their Levels of Alienation.

<table>
<thead>
<tr>
<th>Alienation</th>
<th>B</th>
<th>Standart Error</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>84.922</td>
<td>1.498</td>
<td>56.701</td>
<td>.000</td>
<td>-</td>
<td>.470</td>
</tr>
<tr>
<td>Respectful</td>
<td>-.736</td>
<td>.070</td>
<td>-.357</td>
<td>-</td>
<td>.000</td>
<td>-.402</td>
</tr>
<tr>
<td>Systemic fairness</td>
<td>-.563</td>
<td>.096</td>
<td>-.200</td>
<td>-7.842</td>
<td>.000</td>
<td>-.402</td>
</tr>
<tr>
<td>( R = .498^{a} )</td>
<td>( R^2 = .248 )</td>
<td>( R^2_{adj} = .247 )</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

\( F(2, 948) = 156.796 \) \( P = .000 \)

Bivariate correlation analyses between predictive variables and alienation revealed a negative moderate level of significant correlation \( (r = -.47) \) between respectful partnership and alienation and a negative moderate level of significant correlation \( (r = -.40) \) between systemic fairness and alienation. Combined together, respectful partnership and systemic fairness were significantly and moderately correlated with alienation \( (R = .498, R^2 = .25, p < .01) \), and explained about 25% of the variance in alienation. When the t test results regarding the significance of regression coefficients were examined, respectful partnership and systemic fairness were found to be significant predictors of alienation.

**Discussion and Conclusion**

The results of the study revealed that students' perceptions of fairness and levels of alienation significantly differed according to their gender, type of program, grade and type of schooling. It was found that the perception of fairness had a predictive impact on feelings of alienation.

In terms of gender variables, female students perceived the learning environment to be moderately fair, fairer than male students. Though there are findings regarding fairness perceptions which indicate no differentiation between genders (Lizzio et al., 2007; Mauldin, 2009), this finding is consistent with those of Özter & Demirtaş (2010) and Tomul, Çelik & Taş (2012). Both research studies found that more female students perceive the learning environment to be fairer than male students. This finding can be associated with female students' expectations and conformity. Though there is a legally equal situation in terms of gender roles in society, females are imposed some inequalities in having access to educational opportunities. This can cause lower levels of expectations among female students, which in turn may cause the learning environment to be perceived to be relatively fairer.

Female students experienced less alienation than male students. While this finding contradicts some research findings about alienation (Çelik, 2005; Williamson and Cullingford, 1998), it corresponds with the results of similar studies (Brockner
Less prevalence of alienation among female students may be related to their expectations from the school. Social inequalities about gender roles cause females to benefit from educational opportunities less often, which may cause female students to be content with whatever possibilities they have obtained and thus develop lower levels of expectations.

In terms of type of program, students enrolled in math and preschool programs perceived their learning environment to be moderately fair, and fairer than students enrolled in social studies and Turkish language teaching programs. The relatively fairer perceptions of students from math and preschool programs compared to students from social studies and Teaching Turkish programs may stem from the attitudes and evaluation methods of the academic staff in these programs. Considering that academic staffs from the educational sciences department teach in every program in the faculty and the impact of faculty administration is similar across different programs, this difference can be said to be caused by each program’s own academic staff who teach most of the courses.

In terms of grade variables, it was found that as the grade level increases, students’ perceptions of a fair learning environment decrease. This finding is consistent with the finding by Özer & Demirtaş (2010). This differentiation can be because during the first years, the freshmen are not informed and experienced enough to adequately evaluate the learning environment and the academic staff; however, in the following years, they become more informed and experienced. As the grade level increases, students get more experienced, thus gaining enough data to make reasonable judgments.

 Though students across four grades experience moderate levels of alienation, it can be said that the level of alienation increases as the grade level increases. Considering that negative outcomes and experiences increase the feeling of alienation, as the grade level increases, quantitatively negative feelings and experiences also increase. Therefore, the increase in negative experiences may increase feelings of alienation.

In terms of type of schooling, students studying at night programs were found to perceive the learning environment to be moderately fair, while students at day schooling perceived the learning environment to be poorly fair. This difference is most likely to stem from requirements for admission to the day and night schooling. That night schooling students are admitted to the university with lower scores from university entrance exams, are regarded as equivalent to the day schooling students when they graduate, and have fewer expectations with regard to these scores may be some reasons for this difference. As the day students have higher expectations about programs that they have won with higher admission scores, they may perceive the learning environment to be less fair.

Also, it was found that day schooling students experienced more alienation compared to night schooling students. This difference can be a result of day schooling students’ higher expectations from the faculty as a result of being admitted
to their programs with higher scores. Failure to satisfy students’ higher expectations may increase their level of alienation.

Analyses of the individual items concerning the extent to which students perceive the learning environment to be fair provide clear ideas. To illustrate, 70% of the students either strongly disagree or partially agree with the item about the consideration of students’ opinions in the decision-making process in faculty. Similarly, 74% of the students think that while some improvements are made, thirds of the students do things they find wrong for the sake of completing school and believe that though they find the procedures senseless and meaningless, they must endure them. This finding suggests that though teacher training institutions try to provide student teachers with democratic traits, they themselves have not yet internalized these traits enough.

For student teachers to be able to create a fairer learning environment, acting as a more democratic, integrative and caring teacher in their future classes is possible as long as they gain the necessary skills. Considering that these skills are gained through experience, the learning environment they are trained in as teachers becomes more important. Though it is desired that students at schools of education are trained to be teachers of future who perceive the learning environment within the faculty to be exceedingly fair and experience less alienation, the results of the present study show that that level has not yet been achieved.

Based on the findings of this research, it can be said that turning the learning environment into a fairer place can decreased the experienced alienation. Thus, some of the possible actions to be taken to make the learning environment fairer are presented below:

- Caring about the students’ views on the administration and faculty, thus making the student representation and consultancy procedures more functional to involve the students in faculty administration.
- Arranging activities within each program in certain intervals to increase student-faculty interaction. Providing settings based on mutual trust where students can request for their expectations from academic staff.
- Extensive use of objective measurement and evaluation procedures across the faculty that will decrease possible biased judgments and endure credibility.
References


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Çivitçi, N. (2011). Lise öğrencilerinde okul öfkесinin s埼引lar olarak okula yabancılaşma ve algılanan sosyal destek [School alienation and perceived social support as predictors of school anger in high school students]. Elementary Education Online, 10(3), 861-871.


Öğrenme Ortamına İlişkin Adalet Algısı İle Yabancılaşma Düzeyi Arasındaki İlişki

Autf:


Örgüt içinde bulunan bireylere ne kadar adil davranışağa ilişkine algılar ile bu algıların yaratığı sonuçları ifade eden örgütünün adalet kavramu, eğitim örgütlerinde; dağıtımsal, işlevsel ve etkileşimsel olmak üzere üç boyutlu olarak kavramsallaştırılmaktadır.

Öğrenciler, öğrenme ortamını adil algıladıkları ölçüde, okul yaşamlarındandaki doyum sağlamakta, tersi durumda doyumsuzluğ ve yabancılaşma duygusu yaşamaktadırlar. Güçlüğü, kuralsızlık, soytulanışıklık ve anlamazlık boyutlarından oluşan yabancılaşma kavramını, öğrencinin bulunduğu ortama, okuluna karşı kayıtsızlık gösterdiği bir durumu tanımlamaktadır.

Eğitim etkinliklerinin temel amacını öğrencinin davranışlarındaki değişim olduğu göz önünde tutulduğunda, okula ilişkin gelişen yabancılaşma gibi olumsuz tutumların, eğitim örgütlerinin amaçlarını gerçekleştirmekte önemli sorunları üretceği açıklar. Bu nedenle öğrencilere okula yaşadıkları yabancılaşma duygusunun altında yatan etkenlerden okula ilişkin olarnının belirlenebilmesi ve bu duygunun olumsuz etkilerinin azaltılabilmesi okular açısından önemlidir. Yabancılaşma duygusuna yol açan etkenlerin bir bölümü doğrudan eğitim örgütlerinde bulunan süreçlerden kaynaklanmaktadır. Okullardaki öğrenme ortamına ilişkin adalet kavramının bu etkenlerden biri olduğu düşünülmektedir.

Araştırmaın Amacı: Bu çalışmada öğrencilerin yaşadıkları yabancılaşma duygusunun düzeyi ile okulaktaki öğrenme ortamına ilişkin algılanan adalet algısı arasındaki ilişkinin belirlenmesi amaçlanmıştır.


Araştırma Bulguları: Araştırma bulguları, öğrencilerin adalet algıları ve yabancılaşma düzeylerinde, cinsiyet, program türleri, sınıf ve öğrenim türü değişkenleri açısından farklılıklar olduğu, adalet algısının yabancılaşma duygusu üzerinde yordayıcı bir etki yarattığını göstermektedir. Cinsiyet değişkeni açısından; kadın öğrenciler öğrenme ortamını orta düzeyde ve erkek öğrencilere oranla daha adil algılamakta ve erkek öğrencilere oranla daha az yabancılaşma
duygusu yaşamaktadırlar. Bu durum kadınların toplumsal yaşamındaki rolü ile ilişkilendirilebilir.

Program değişkeni açısından; matematik ve okul öncesi programlarında okuyan öğrenciler, öğrenme ortamını orta düzeyde, sosyal bilgiler ve Türkçe programlarında okuyan öğrencilerle oranla daha adil algılamaktadırlar. Bu durum, programlarda görev yapan alan öğretim elemanlarının davranışları ve öğretmenliğe atama koşulları ile ilişkilendirilebilir.

Sınıf değişkeni açısından; sınıf düzeyi yükseldikçe öğrencilerin, öğrenme ortamına ilişkin adil algılama düzeyleri azalırken, yabancılaşma düzeyleri artmaktadır. Bu durum okul ortamında geçilen süre ve bu süre içinde yaşanan deneyimler ile ilişkilendirilebilir.


Öğretmen adaylarının gelecekte, kendi sınıflarında daha adil bir öğrenme ortamı oluşturmalardan, daha demokratik, fullname ve öğrencilerini önemseyen bir yaklaşım sergilemeleri ancak gereklidir becerileri edinmeleri ile gerçekleşmebilir. Bu becerilerin yansıtılar yoluyla kazanacağı göz önünde bulundurulduğunda yetiştirilmesi şart olanlarda önem kazanmaktadır. Eğitim fakültesinde okuyan ve geleceğin öğretmenleri olacak öğretmen adaylarının fakülte ortamının daha yüksek düzeyde adil olarak algılanmaları ve daha düşük düzeylerde yabancılaşma duyguysu yaşamaları istenen bir durum olmasına rağmen araştırma bulguları henüz bu noktaya ulaşılmadığını göstermektedir.

**Araştırma Sonuçları ve Öneriler:** Araştırıma bulgularına dayanarak, öğrenme ortamının daha adil hale getirilmesinin yaşanayan yabancıasma duyguysunu azaltabileceği söylenebilir. Buradan harekete öğrenci ortamının daha adil algılanmasına dönük olarak yapılabilecek bazı etkinlikler sunlar olabilir;

- **Fakültelenin yönetim sürecinde,** öğrenci görüşlerinin önemsenmesi, onların okul yönetimine katılımını sağlamak amacıyla, öğrenci temsilcilikleri ve danışmanlık sistemleri daha islevsel hale gelirilebilir.
- **Öğrenci- öğretmen elamanı etkileşimi artırarak** amacılı bir birlikte programlar düzeyinde etkinlikler düzenlenebilir. Bu etkinliklerde öğrencilerin öğretmen elamanlarından beklenilerini açıkça paylaşılabilecekları güvene dayalı ortamlar sağlanabilir.
- **Öğretim elamanlarının öğrenci becerilerini değerlendirdikten oluşabilecek** yanlış davranışları azaltılar ve hapse verilebilirliği sağlayan değerlendirmeye biçimleri fakülte düzeyinde yaygınlaştırılabilir.

**Anahtar Sözcükler:** yükseköğretim, öğrenme ortamı, adalet, yabancılaşma.
National Standardization of the Occupational Field Interest Inventory (OFII) for Turkish Culture According to Age and Gender

Kaan Zülfikar DENIZ

Suggested Citation:

Abstract

Problem statement: Interest can be defined as “when an individual pays attention to an object without special effort, maintains her/his attention for a long time, and is aware of and transforms this attentiveness into a response and an attitude.” Vocational interests indicate an individual’s feelings about employment, courses of study, hobbies, free time activities and life choices. A multitude of interest inventories are used for measuring vocational interest throughout the world. Currently in the Republic of Turkey, however, there are very few available interest inventories being utilized for educational and/or research purposes. Most of them are only used to established norms.

Purpose of the Study. The aim of this study is to create a standardization process which incorporates the values to be used as norms in Occupational Field Interest Inventories (Mesleki Alan İlişki恩anenti: OFII)’s for sub-dimensions according to age (13-19+ years old) and gender in Turkey.

Method: The application has been performed in Level 1 of Nomenclature of Territorial Units for Statistics (NUTS). Twelve provinces, one from each region, were used in this application. Within the research group, a sampling method based on probability was used. Participants ranged in age from 11 to 26, but most (98.8%) were between 13 and 20. The participants consisted of 3799 students, 51% men (n=1936) and 49% women (n=1863). The data for the study was collected online using the OFII during a period of approximately one month. In this study, independent samples t test and two-way ANOVA were used for the significance of mean difference.

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Findings and Results: There were significant differences favoring men in six sub-dimensions: mathematics, computer, agriculture-outdoor, engineering, political-financial sciences and sciences (p<.001). Seven sub-dimensions favored women: psychology, education, Turkish language, health (p<.001), fine arts, law (p<.01), and foreign language (p<.05). According to the common effect of gender and age, the differences in engineering (p<.001), mathematics, psychology, agriculture-outdoor (p<.01), foreign language, visual arts, sciences (p<.05) were significant but in computer, education, Turkish language, law, communication, political-financial sciences and sciences, they were not significant.

Conclusions and Recommendations: At the end of this study, it was determined that the younger age groups, in particular those from 13 to 15 years of age, had interests in many sub-dimensions, which significantly differed from the 16, 17, 18, and 19+ year old males and females. This is reasonable given the age borders clarified in the literature in order to support these results. By taking into consideration the gained results and literature, an individual’s interest score for one of the 14 sub-dimensions should be calculated with the help of formulas. It is then suggested that a 60 t score be used as a cutoff point in order to identify in which area the individual has the greatest interest.

Keywords: standardization of Turkish culture, age norm, gender norm, Occupational Field Interest Inventory (OFII)

Edward K. Strong (1943), a leader in research studies in the study of vocational interests, explored the word “interest” as a kind of reaction such as “liking,” “not liking,” or “being oblivious” to someone, something, or an action (cited in Herr & Cramer, 1996). According to A Comprehensive Dictionary of Psychological and Psychoanalytic Terms the word “interest” is defined as differentiation an object or a case, or a kind of approach or sense which comes spontaneously (cited in Savickas, 1999). Strong, a leader in studies related to surveying vocational interests, followed the definition of interest according to Webster’s Dictionary, which defines the word interest as “a kind of attention or coming into action towards an object.” Strong highlighted four key elements in this definition: the first and second are the continuity of attention and sense related to an object; the third is heading towards (an individual approaches or moves away from something liked or disliked); and the fourth is activity (an individual is active about that which s/he is interested).

Some sociologists and psychologists have opposed the preceding definitions of interest. For example, the Harper Collins Sociology Dictionary highlights possible benefits of interest defining it as, “beneficial results for a private person or group.” The National Career Development Association (2007) defines the word interest as “activities which are going to be performed by a person because that person thinks that s/he is going to enjoy those activities or s/he may enjoy those activities.”
According to Holland, (1985) vocational interests are indicators of personality in terms of job, courses of study, hobbies, free time activities and choices. An individual responds to particular vocational interests, general vocations and activities with responses such as “I enjoy,” “I do not enjoy” or “It does not matter.” (Savickas, 1999) Despite the different points of view, there are many common issues in regard to defining vocational interest. On the basis of those given above, vocational/occupational interests can be redefined as an inherent process in which an individual pays attention to an object willingly without a special effort, carries on this attention for a long time and is aware of and transforms this into a response and an attitude.

Vocational interests can be categorized as expressed and measured. Expessed interests are usually determined through answers which are derived from open-ended questions. Measured interests occur when individuals discover their career choice in a better way than through an inventory of vocational interest. Even though there are different methods utilized to measure one’s vocational interests, the most widespread methodology used is the inventory of interest (Silvia, 2006). One reason that the inventory of interest is widely used is that an individual expresses his/ her own interests noting and comparing different vocations.

Lokan (1997) explains that vocational interests were generally measured in a paper-based fashion. More recently, as a result of technological developments, most measuring scales are applied by computers, which allow us to gather information easily, often via the Internet. Previously, vocational interests were determined according to an individual’s affinity toward the people who practiced the vocation. With current trends, however, vocational interests are now measured according to an individual’s enjoyment, satisfaction and happiness. Today’s vocational inventories, which are widely used, name specific vocational activities. Harmon (1999) divided the measuring scales used for vocational interest into two parts: those based on empirical and homogeneous items, and the other according to developing style. In empirical scales, some expressions are given to people who work in a vocational area and they are queried about whether they like or dislike the expressions. Using this format the most liked expressions can be determined for each vocation. In order to measure the vocational interest, it is accepted that these expressions reflect that area. For example, the expression “playing chess” is given to two different vocational groups such as law and education and the like-dislike conditions are determined. Presuming that jurists liked the expression 75%, and educators liked the expression 20%, the vocational interest of people who choose the expression “playing chess” is then reconciled with law. This example can be seen as overly simplified, but the thinking style associated with playing chess can also be a guideline for determining interests. Some scales that exemplify this group include the Strong Vocational Interest Blank, the Strong Interest Inventory-SII and the Kuder Occupational Interest Scales-KOIS. In the other scales based on homogeneous items the item groups are constituted reasonably or with various statistical technics (such as factor analysis) or using both methods. According to the fixed factor structures, the factors that the research incorporates can be concluded. The first scale developed using this technique was the Kuder Preference Record which contains ten factors (Harmon, 1999).
In Niles and Haris-Bowlesboy's (2002) opinion, in the twenty-first century people's choices of vocation will differ from the choices of the twentieth century. When some vocations disappear, other unknown vocations come to light and some vocations likely undergo big changes. As a result, the vocational expectations of individuals are sure to change, and for this reason the developed scales must be frequently updated.

There are some interest inventories which are currently used in Turkey, such as the Kuder Preference Record-Vocational, the Kuder Career Search - KCSonline, the Self-Directed Search-SDS, the Academic Conceil Search, the Self-Rating Inventory, and Newspaper Reports Testing. However, there have not been any updated studies conducted on these scales. Additionally, none of the inventories have been standardized to reflect the Turkish culture.

The standard scores or cut scores are determined from the raw scores after the administration of the scale. Standard scores enable interpretation of the scores obtained from different ranges. When the tests having standard scores are administered, the results of the person's performance on the test are interpreted as norm-referenced (APA, 1999). Any standardization study should incorporate the norm values of the culture in question. While establishing such values, it is extremely important that the population that is being targeted by the scale be selected from throughout the country using a random sampling method based on probability. Although it has been determined that standardization studies have been conducted on certain scales that are used in social sciences throughout the Republic of Turkey, there are very few real standardizations. The studies that have been performed by collecting purposeful sampling cannot be deemed real standardization studies.

Hoverdanoğlu and Sargin (1997) and APA (1999) concur that it is very difficult and expensive to establish national norms. Therefore, the norms of some scales are generated by using the scores of a particular sample calculated in a certain period. According to APA (1999), these norms are named as user norms or program norms. There are some studies in which user norms have been used, e.g., Lüwe et al., 2010, Lüwe et al., 2008, Polat, 2006; Kılıç, İrak, Koçkar, Şener & Karakaş, 2002; Karakaş, Erdoğan, Sak, Soysal, Ulusoy, Ulusoy & Alkan, 1999.

The aim of this research is to create a standardization process which incorporates the values which will ultimately be used as norms in Occupational Field Interest Inventories (Mesleki Alan İliç EnvanteriOFII)'s for specific sub-dimensions, according to age (13-19+ years old) and gender in the Republic of Turkey.

**Method**

Research Model

The research design for this study is considered survey research because the OFII was administered online. In addition, the study is quantitative in nature with the data being easily accessible.
Population and Sample

Within the scope of this research, a cluster sampling technique has been used. Cluster sampling is a probability sampling technique, a method by which samples are gathered in a process that gives all the elements in the population an equal chance of being selected. It is used when "natural" but relatively homogeneous groupings are evident in a statistical population. It also may be used when it is either impossible or impractical to compile an exhaustive list of the elements that make up the target population. In this technique, the total population is divided into groups (clusters/subpopulations) and a simple random sample of the groups is selected. Then the required information is collected from a simple random sample of the elements within each selected group. This may be done for every element in these groups or a subsample of elements may be selected within each of these groups. The research group sampling method was based on probability sampling.

The application has been performed in Level 1 of the Nomenclature of Territorial Units for Statistics (NUTS). In this application there were 12 provinces with one province from each region, and there were 24 counties bound to those 12 provinces (Artvin [Merkez, Borçka], Bitlis [Merkez, Tatvan], Hatay [Merkez, Dörtyol], İstanbul [Bakırköy, Pendik], Kars [Merkez, Sankamaş], Konya [Hüyük, Meram], Manisa [Merkez, Gördes], Samsun [Havza, Atakum, Ilkadım], Tekirdağ [Merkez, Malkara], Yozgat [Merkez, Akdağmadeni], Yalova [Merkez, Çiftlikköy] ve Kilis [Merkez]). Additionally, 184 schools were used. The distribution of the sample according to NUTS for Turkey is shown in Table 1.

Table 1
Distribution of the Sample for Turkey According to NUTS

<table>
<thead>
<tr>
<th>Codes of regions</th>
<th>NUTS 1 (12 regions)</th>
<th>NUTS 2 (26 sub-regions)</th>
<th>NUTS 3 (81 provinces)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR1</td>
<td>İstanbul</td>
<td>İstanbul</td>
<td>İstanbul</td>
<td>313</td>
</tr>
<tr>
<td>TR2</td>
<td>BATI MARMARA</td>
<td>TEKİRDAĞ</td>
<td>TEKİRDAĞ</td>
<td>383</td>
</tr>
<tr>
<td>TR3</td>
<td>EGE</td>
<td>MANİSA</td>
<td>MANİSA</td>
<td>320</td>
</tr>
<tr>
<td>TR4</td>
<td>DOĞU MARMARA</td>
<td>KOCAELİ</td>
<td>YALOVA</td>
<td>304</td>
</tr>
<tr>
<td>TR5</td>
<td>BATI ANADOLU</td>
<td>KONYA</td>
<td>KONYA</td>
<td>233</td>
</tr>
<tr>
<td>TR6</td>
<td>AKDENİZ</td>
<td>ADANA</td>
<td>HATAY</td>
<td>335</td>
</tr>
<tr>
<td>TR7</td>
<td>ORTA ANADOLU</td>
<td>KAYSERİ</td>
<td>YOZGAT</td>
<td>356</td>
</tr>
<tr>
<td>TR8</td>
<td>BATI KARADENİZ</td>
<td>SAMSUN</td>
<td>SAMSUN</td>
<td>370</td>
</tr>
<tr>
<td>TR9</td>
<td>DOĞU KARADENİZ</td>
<td>TRABZON</td>
<td>ARTVİN</td>
<td>298</td>
</tr>
<tr>
<td>TRA</td>
<td>KUZEYDOĞU</td>
<td>AĞRI</td>
<td>KARS</td>
<td>333</td>
</tr>
<tr>
<td>TRB</td>
<td>ORTADOĞU ANADOLU</td>
<td>VAN</td>
<td>BİLTİS</td>
<td>334</td>
</tr>
<tr>
<td>TRC</td>
<td>GÜNLEYDOĞU</td>
<td>GAZİANTEP</td>
<td>KİLİS</td>
<td>220</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>3799</td>
</tr>
</tbody>
</table>
Table 1 indicates that a total of 3799 participants were distributed equally throughout 12 regions, which constitute the first level. The region with the most participants was Bati Marmara with 383 people, and the region with the least participants was Güneydoğu Anadolu with 220 people.

The participants were students from classrooms ranging from the 7th to the 12th grade. The number of students and grades were similar. Distribution of participants according to grades were as follows: 7th grade, 12% (n=447); 8th grade, 12% (n=450); 9th grade, 19% (n=730); 10th grade, 20% (n=782); 11th grade, 19% (n=708); and 12th grade, 18% (n=682).

A total of 184 schools participated including 68 primary schools (n=925) and 116 high schools (n=2874). The distribution of 116 high schools were according to types: basic high schools, 22 (n=571); anatolian high schools, 22 (n=602); vocational and anatolian vocational high schools, 21 (n=555); vocational religious and anatolian vocational religious high schools, 20 (n=441); girls' vocational and anatolian vocational high schools, 16 (n=396); science high schools 8 (n=125); tourism and hotel vocational high schools, 4 (n=103); and fine arts high schools, 3 (n=81).

Participants ranged in age from 11 to 26 but most of them (98.8%) were between 13 and 20. Students' age mean was 16.17 (median=16) and standard deviation 1.84. In addition, skewness 0.03 and kurtosis -0.35. It can be said that the sampling was distributed normally in terms of age. Fifty-one percent of the participants were men (n=1936) and 49% women (n=1863).

Research Instrument

Occupational Field Interest Inventory (Mesleki Alan İlişki Envanteri [MAI], OFII).

This inventory was developed by Deniz (2009) and comprised of 14 dimensions, namely mathematics, computer, foreign language, visual arts, psychology, education, Turkish language, law, agriculture-outdoor, communication-mass media, engineering, political-financial sciences, sciences, and health. The OFII has two different applicable forms: a short form (72 items) and a long form (156 items). In this research the long form with 156 items was utilized. A description of the OFII subdimensions is given in Table 2.
Table 2
Description of OFII Sub-Dimensions

<table>
<thead>
<tr>
<th>OFII Fields</th>
<th>Description of Interest Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education (Edu.)</td>
<td>Individuals willing to work in this field are keen on sharing their knowledge with other people as well as imparting information. They like to communicate with people and to deliver public speeches.</td>
</tr>
<tr>
<td>Agriculture-outdoor (Agr.)</td>
<td>Individuals eager to work in this field enjoy working in nature. They are fond of undertaking work that is related to soil and agricultural products and working outdoors.</td>
</tr>
<tr>
<td>Political-Financial Science (PF.)</td>
<td>Individuals enthusiastic to work in this field are keen on guiding, governing and leading the community. They like carrying out work associated with money and monetary policy, addressing crowds, and directing the masses.</td>
</tr>
<tr>
<td>Health (H.)</td>
<td>Individuals who enjoy working in this field love people and animals. They are interested in subjects related to human and animal health. They enjoy working in places such as hospitals and clinics for a long period of time.</td>
</tr>
<tr>
<td>Communication-Mass Media (Com.)</td>
<td>Individuals willing to work in this field like to communicate with people. They are fond of interviewing people and sharing the obtained information. They enjoy reaching people and the masses either through face-to-face communication or via mass media such as TV, radio and newspapers. They like to interpret people's ideas and to share their own.</td>
</tr>
<tr>
<td>Foreign Language (FL.)</td>
<td>Individuals enthusiastic to work in this field are interested in different languages and cultures. They are fond of finding out about various languages and cultures, learning more than one language, and making verbal and written translations among languages.</td>
</tr>
<tr>
<td>Turkish Language (TL.)</td>
<td>Individuals who are keen on working in this field enjoy investigating, learning and teaching Turkish language and culture. They are sensitive about the proper usage of the Turkish language.</td>
</tr>
<tr>
<td>Psychology (P.)</td>
<td>Individuals willing to work in this field have a very warm and understanding approach toward people. They find pleasure in taking care of people's psychological problems and in helping them. They also like to listen to people with patience and to show them a way out.</td>
</tr>
<tr>
<td>Law (L.)</td>
<td>Individuals eager to work in this field like to persuade people to their own ideas and beliefs. They are fond of seeking solutions to people's legal problems. They take pleasure in making contributions to proper realization of law in order to make the society equal and harmonious.</td>
</tr>
<tr>
<td>Computer (Comp.)</td>
<td>Individuals willing to work in this field enjoy working with computers. They prefer working with computers rather than communicating with people face-to-face. They prefer creating computer systems, working with mathematical codes, and writing computer programs.</td>
</tr>
<tr>
<td>Mathematics (Mat.)</td>
<td>Individuals who are keen on working in this field like to work alone and to deal with numbers. They enjoy spending extended hours working to solve problems that other people have difficulty in solving.</td>
</tr>
<tr>
<td>Science (Sci.)</td>
<td>Individuals enthusiastic to work in this field are keen on working in nature or in laboratories. They prefer completing their work alone to communicating with people. They like to conduct research, to perform experiments, and to work with plants, animals, chemical formulas and mechanical tools.</td>
</tr>
<tr>
<td>Engineering (Eng.)</td>
<td>Individuals willing to work in this field prefer working in industry facilities such as factories, mines, construction areas and open fields. They prefer working with machines, electronic and mechanical devices rather than people. They enjoy designing and drawing things.</td>
</tr>
<tr>
<td>Visual Arts (Vis.)</td>
<td>Individuals willing to work in this field are fond of reflecting their emotions and imagination through works of art such as paintings, sculptures and graphics. They like to work alone. They attach great importance to art and aesthetics.</td>
</tr>
</tbody>
</table>

Retrieved from Deniz (2009)
Validity and Reliability

The validity and reliability of the results obtained during the development period of OFII. Validity was conducted through an inventory of opinions from 88 academicians who have earned a PhD, all of whom were queried as to if the items reflected their areas of study. Also an exploratory factor analysis was completed and oriented toward the OFII’s construct validity. At the end of this analysis the conclusion was that these 14 factors explained 49% of total variance. Confirmatory factor analysis was conducted and it was determined that fit indexes have values between 0.87 and 0.99. Other construct validity, inter-correlations between the 14 sub-dimensions of the inventory, have been examined and the values were between -0.43 and 0.50 including the median of calculated correlations r=0.07.

The estimated Cronbach α value for every dimension of the inventory changes between 0.79 (agriculture-outdoor) and 0.95 (law), and it was shown that the median value of reliabilities was 0.89. With the result of test/ retest it was observed that reliability values changed between 0.79 (agriculture-outdoor) and 0.95 (law) and that the median value of reliabilities was 0.89. According to these results it was accepted that this inventory was reliable and valid. Also, because this inventory can be administered in 15-20 minutes, it has been accepted that this inventory is useful (Deniz, 2009).

In practice, this inventory can be answered in two different methods. In the first method, the participant chooses one item from each trio group and rates the chosen item (1 = Interests me very little, 5 = Interests me very much). In the second answering method, the participant rates every item on a scale from 1 to 5. In this study, the data was collected using the second answering style format.

The results of the validity and the reliability for OFII gathered in this study

In some of the scale development and adaptation studies only confirmatory factor analysis (Kocayürekl, 2010) was used in order to determine validity, while in some others exploratory and confirmatory factor analyses (Baltacıoglu-Güktalay & Cangür, 2008; Talepasand, Alijani, & Bigdoli, 2010; Erey-Gümüş, 2010; Kapkuran & Kapkuran, 2011; Wu, Valcke, & Koer, 2012) were performed. In the study for developing the OFII (Deniz, 2009) and in this study, both exploratory and confirmatory factor analyses were applied to the OFII. The results of validity of the inventory within the context of this study were that for the exploratory factor analysis it was observed that there were 17 factors with eigenvalues above 1. It was also observed that in three of them there was only one item number (cutoff point 0.40) which had enough value to constitute factors, so 14 factor styles were upheld. After reducing the factor numbers to 14, the factor analysis was repeated and at the end of this analysis the explained variance level increased to 65% difference from the result of the original factor analysis. It was also recognized that some items of the sub-science dimension were related to the health dimension. This difference may be associated with the answering method that was used in order to develop the inventory. This method has been explained previously; for example, there are trio-group items and the participants choose one item.
Cronbach's coefficients of internal consistency regarding the sub-dimensions of the inventory were between 0.92 and 0.96. Health had the least coefficients of internal consistency, and mathematics and computers had the highest. It is expected that this value should be over 0.70 for inventory affective domain. It can be said that these values were adequately high.

Procedure

The data for this study was collected online from schools bound to the Turkish Ministry of Education. Meetings about the online usage of the inventory were arranged with managers of each of these schools. Whenever possible the inventory was performed in dedicated computer laboratories within the school. In schools which did not have computer laboratories the study was performed in the Counselor Researching Center accompanied by the counselor and school managers. A substructure of this online system was prepared and administered by the Ministry of Education General Management of Education Technologies(Eğitim Teknolojileri Genel Müdürlüğü). The system was open for nearly a month and the applications were completed within this time frame. A total of 3799 participants who fully completed the inventory were included in the study.

Analysis of Data

From the collected data, descriptive statistics were obtained for every sub-dimension according to gender and age. In order to designate the significance of the difference between the means of inventory scores of gender groups, an independent samples t test was used. In order to designate the significance of the difference between age and gender groups two-way ANOVA was used.

The OFII scores regarding the age and sex of individuals was calculated with the help of t score. The mean and the standard deviation values belonging to each sub-dimensions were used for calculated t score. T score was used for the level of a person’s interest:

\[
 t = \frac{10z + 50}{1x} \]

An example. An individual who is 13 years old and a male. The raw score of mathematics sub-dimension is 52. When Table 4 has been analyzed, it has been seen that \( \bar{X} = 36.2 \) and \( S_x = 12 \) is belong to 13 years old men.

\[
 z = \frac{52 - 36.2}{12} = 1.32 \quad t = 1.32 \times 10 + 50 = 63.2
\]

Findings and Results

According to gender, the descriptive statistics related to the 14 sub-dimensions were calculated. The results of the t test directed towards comparisons of means for every independent group were gathered. It was observed that there was no important deviation from the normal distribution for every sub-dimension.
Descriptive statistics of the 14 sub-dimensions of the OFII according to gender have been provided in Table 3.

Table 3: Descriptive Statistics of the 14 Sub-dimensions of the OFII According to Gender

<table>
<thead>
<tr>
<th>OFII’s sub-dimensions</th>
<th>Men (n=1936)</th>
<th>Women (n=1863)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>1. Mat.</td>
<td>32.61</td>
<td>33.00</td>
</tr>
<tr>
<td>2. Comp.</td>
<td>39.47</td>
<td>41.00</td>
</tr>
<tr>
<td>3. F.L.</td>
<td>33.74</td>
<td>34.00</td>
</tr>
<tr>
<td>4. Vis.</td>
<td>34.76</td>
<td>35.00</td>
</tr>
<tr>
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M: Mean, Mdn: Median, S: Skewness, K: Kurtosis

When Table 3 has been analyzed it is seen that agriculture has the lowest mean both men and women (M_{men}=32.17, M_{women}=27.71), and for women education has the highest mean (M_{men}=40.01) for men computer has the highest mean (M_{men}=39.47). It has been seen that means and medians in every sub-dimension are similar. In addition co-efficients of skewness and kurtosis are generally between -1; +1 which is accepted as standard normal distribution. The results of t test related to if there is a significant difference in sub-dimensions according to gender are provided in Table 4.
When Table 4 is analyzed, it is evident that there is a significant difference in the 13 sub-dimensions with the exception of communication-mass media. There were significant differences in favor of men in six sub-dimensions such as mathematics, computers, agriculture-outdoor, engineering, political-financial sciences and sciences (p<.001). To the contrary, there were significant differences in favor of women in seven sub-dimensions such as psychology, education, Turkish language, health (p<.001), fine arts, law (p<.01), and foreign languages (p<.05). The results of two-way ANOVA related significant differences in sub-dimensions according to gender, age and common effect of gender and age. These are listed in Table 5.
Table 5.
The Results of Two-Way ANOVA According to Gender, Age and Common Effects of Gender and age

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<td>213</td>
<td>34.9</td>
<td>10.6</td>
<td>127</td>
<td>34.6</td>
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G: Gender, A: Age, G*A: Gender * Age; ***p<.001; **p<.01; *p<.05

Note: In this study 19+ is utilized as meaning 19-26 age groups.

In Table 5, the differences according to gender in mathematics, computer, psychology, education, Turkish language, agriculture-outdoor, engineering, political-financial sciences, sciences, health (p<.001), visual arts and law (p<.01) are significant, but in foreign language and communication the differences are not significant.

The differences according to age in mathematics, computer, foreign language, visual arts, education, Turkish language, agriculture, communication, engineering, political-financial sciences, sciences, health (p<.001) and law (p<.01) are significant, but in psychology the differences are not significant. If it is necessary to summarize the comparisons of post-hoc in addition to these results.

It is seen that:

- In the mathematics sub-dimension, 13 year old individuals differ from all the other age groups except 14 year old individuals; 14 and 15 year old individuals differ from 16, 17, 18, 19+ year old individuals;
In computer sub-dimension, 13 year old individuals differ from 17, 18, 19+.
In foreign language sub-dimension, 13, 14, 15 year old individuals differ from 17, 18, 19+.
In visual arts sub-dimension, 13 year old individuals differ from 17 and 19+.
In education sub-dimension, 13 year old individuals differ from 15, 16, 17 and 18.
In Turkish language sub-dimension, 13 year old individuals differ from 16, 17, 18; 14 year old individuals differ from 16 and 18.
In agriculture sub-dimension, 13 year old individuals differ from 17 and 18.
In engineering sub-dimension, 13 year old individuals differ from all the other age groups except 14; 14 year old individuals differ from 16, 17, 18 and 19+; 15 year old individuals differ from 17, 18 and 19+.
In health sub-dimension, 13 year old individuals differ from 16, 17, 18 and 19+; 14 year old individuals differ from 17, 18 and 19+; 15 year old individuals differ from 17 and 18.

According to the common effect of gender and age, the differences in engineering (p<.001), mathematics, psychology, agriculture-outdoor (p<.01), foreign language, visual arts, sciences (p<.05) are significant, but in computer, education, Turkish language, law, communication, political-financial sciences and sciences the differences are not significant. In summary, without mentioning post-hoc comparisons because there are hundreds of them, it can be seen that in engineering, mathematics, psychology and agriculture sub-dimensions in parallel with the results of age variability both men and women who are 13 and 14 years old usually have significant differences when they were compared to upper age groups. Also, there are significant differences both in the same or near age groups and the opposite sex in engineering and mathematics sub-dimensions which are significant in terms of gender. In some sub-dimensions such as agriculture-outdoor and psychology the significant differences are usually from the opposite sex.

**Discussion Conclusion**

In this study, research findings related to the OFII, which were obtained from the responses of 3799 students who study in public schools and are between 13-20 years old, have been shared. The aim of this study, by administering this inventory to these age groups and different genders, was to constitute standard values in order to put forth for consideration the level of vocational interest.

At the conclusion of this study, a significant difference was observed in the younger age groups’ interests in many sub-dimensions, as 13, 14 and 15 (especially 13), significantly differed from the opposite sexes who were 16, 17, 18, and 19+ years old. So it can be said that there are serious differences between pre-15 year olds and post-15 year olds when determining interests. This is an important finding for Turkey in terms of high school types and area choices. Therefore, vocational interests can change after selecting an area of study in high school. The results noted that the first year in high school is early to choose a domain. In addition to this finding, it has
been seen that in every sub-dimension the interests of 17, 18, and 19+ year old individuals do not significantly differ from each other. This finding is concurrent with the age border which has been clarified in the literature in order to make interests clear or stable (Hansen, 2005; Rottinghaus, Coon, Gaffey, & Zytowski, 2007). The results of this study are the results of a cross-sectional study; however, according to Rottinghaus et al., the longitudinal studies that have been conducted in this field support these results (Hansen & Swanson, 1983; Lubinski, Benbow, & Ryan, 1995).

Low, Yoon, Roberts, and Rounds (2005) have analyzed the stability of interests in different age groups with meta analysis which is a combination of 66 studies. It has been said that even the interests of early adolescents (for example, between 12-14) are very stable, yet after 18 the interests are very fixed throughout the rest of one’s life. In another study, which supports Yoon et al.’s study, regarding stability of interest, Roberts and Delvecchio (2000) have compared the stability of interests and personalities. The study indicates that in all of different age groups between 12 and 40 interests give more permanent results than personalities. According to the findings of this study, the results of the OFII calculated as 19+, can be used for the individuals who are between 20 and 25 years of age.

According to gender comparisons, it was evident that men show interest in numerical and asocial areas (such as mathematics, computer, engineering, sciences) and women show interest in verbal and social areas (such as psychology, education, health, law), so these results can be viewed as concurring with Tay, Drasgow, Rounds, and Williams (2009); Su, Rounds, and Armstrong (2009); Deng, Armstrong, and Rounds (2007); Lippa (1998 and 2005); Low et al. (2005); Sayin, (2000); Rounds (1995). In a study that was conducted on children of ages 5-6 in Turkey, it was concluded that girls are more social than boys (Güleryüz, 2011). This is also consistent with the fact that girls tend to choose more social professions.

The significant differences in terms of age, gender and the common effect of age and gender reveal that there should be separate reference scores according to age and gender groups in vocational interest inventories. The main statistics are mean and standard deviation, and they are used as reference scores in the studies of standardization. In these studies the critical border is used in order to display if they are decomposed or not in terms of the named feature. The cutoff point is $\bar{X} + 1.5\sigma$ (z score=1.5; t score=65) in some research (Nyenhuis et al., 1998; Butcher, 2011; Greene, 2011). For example, 65 t score has been chosen as the cutoff point for the Minnesota Multiphasic Personality Inventory-2 (MMPI-2), which has a standardization study, but many researchers say that in some special groups which have generally low values, this cutoff point can be reduced to 60 or 55. Also, Macmillan and Harpur (2003) point out that Kovacs (1992) used a 65 t score in the Children Depression Inventory and Reynolds and Richmond (1985) used a 66 t score as cutoff point in the Revised Children Manifest’s Anxiety Scale. It is also cited that some researchers have used a 60 t score as cutoff point (Black et al., 2002; Achenbach, 1991).

By considering the obtained results and literature, an individual’s interest score for one of 14 sub-dimensions should be calculated with the help of the formulas...
below and from Table 5. First, the z score and then t score should be calculated. Then it is suggested that 60 t score should be used as the cutoff point in order to identify in which area the individual has more interest, but if the interests of the individual cannot be separated clearly, the 65 t score should be used as the second cutoff point.

If we interpret the example of the method section (in analysis of data), it can be said that the person’s interest in the mathematics sub-dimension is higher than the normal borders of his group. This comparison should be done in the other sub-dimensions. Those scores too which come from the other dimensions should be taken into consideration and then the individual should be informed.

There are many important points in interest inventories. One of them is that the results are not absolute. As a result, the individual should be informed that these results are flexible. Another point is that as with every inventory, the results of the OFII have some limitations. There should be another dimension other than 14 sub-dimensions of the OFII and this should be explained to the individual.

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Mesleki Alan İlgi Envanteri (MAIL)’nin Yaş ve Cinsiyet Normlarına Göre Ulusal Standardizasyonu

Atıf:

(Özet)

Problem durumu


Araştırmaın Amacı

Bu çalışmanın amacı MAİ'nin yaş (13-19+ yaşları) ve cinsiyete göre norm olarak kullanılabilecek sınırları belirleyerek öçeğin Türkiye genelinde, bu yaş aralığı için, standartizasyonu yapmaktır.

Araştırma Yöneti

Uygulama, Türkiye İstatistikleri Bölge Birimleri Sınıflandırmasına göre (Nomencature of Territorial Units for Statistics NUTS- Türkiye B12) düzey 1 içinde, her bölgeden bir il olmak üzere, 12 il'e bağlı 24 ilçede, kur'a yöntemiyle seçilen ve 184 devlet okulunda yapılmıştır. Uygulama yapılan 184 okulun 68'i ilköğretim okulu ve 116'sı lisedir. Araştırma kapsamında olasılığa dayalı kırmızı örnekleme yöntemi kullanıldığı için sonuçlar Türkiye'de 13-19+ yaşları arasındaki devlet okullarında eğitim gören bileşenere genellenebilir. Katılmaların yaşları 11 ile 26 arasında değişen olup çoğunluğu (%68,8) 13 ile 20 yaşları arasındaki. Araştırma katılan öğrencilerin yaş ortalaması 16,17 (medyan=16) ve standart sapması 1,84'tür. Katılmaların %51'i (n=1936) erkek, %49'u (n=1863) kız öğrencilerden oluşmaktadır. Araştırma verileri MEB'e bağlı okullarda rehber öğretmen ve/veya okul yöneticisi eğiline bilgisayar ortamında toplanmıştır. Veriler 2009 yılında toplanmıştır EĞİTEK tarafından oluşturulmuş sistem yaklaştı bir a yerine açık kalmışsa araştırmaya katılan öğrenciler 14 alt boyuttan oluşan MAİ'nin 156 Maddeli formu doldurmuştur. Çalışmada MAİ'nin geçerlik ve güvenilirlik değerlendirmeleri de test edilmiş ve MAİ geliştirme çalışmasından sonuçlarla uyumlu olduğu gözlenmiş, Verilerin analiz edilmesinde betimsel istatistiklerin yanı sıra dağılımların normalinin test edilmesinden sonra bagimsız gruplar için t testi ve iki faktörli ANOVA kullanılmıştır.
Araştırmanın Bulguları
MAİ alt boyutlarına göre iletişim düşündüğü 13 alanında anlamlı bir farklık olduğu gözlemlenmiştir. Matematik, Bilgisayar, Ziraat, Mühendislik, Siyasal-Mali Bilimler ve Fen Bilimleri (<.001) olmak üzere altı alanında erkekler lehine yüksek anlamlı farklılık, Psikoloji, Eğitim, Türk Dili, Sağlık (<.001), Görsel Sanatlar, Hukuk (<.01), Yabancı Dil (<.05) olmak üzere yedi alanında kadın lehine yüksek anlamlı farklılık elde edilmiştir. Yaşa göre Matematik, Bilgisayar, Yabancı dil, Görsel sanatlar, Eğitim, Türk dili, Ziraat, iletişim, Mühendislik, Siyasal-Mali bilimler, Fen bilimleri, Sağlık (<.001) ve Hukuk (<.01) alanlarındaki farkların anlamlı olduğu, Psikoloji alanında ise anlamlı olmadığı görülmektedir. Cinsiyet ve yaşın ortak etkisine göre Mühendislik (<.001), Matematik, Psikoloji, Ziraat (<.01), Yabancı dil, Görsel sanatlar, Fen bilimleri (<.05) alanlarındaki farkların anlamlı olduğu, Bilgisayar, Eğitim, Türk dili, Hukuk, iletişim, Siyasal-Mali bilimler ve Fen bilimleri alanlarında ise ortak etkinin anlamlı olmadığı görülmektedir. Ortak etki konusundada post-hoc karşılaştırmalarını özeldelemek gerekirse, Mühendislik, Matematik, Psikoloji ve Ziraat alanlarında yaş değişkeni sonuçlarına paralel olarak 13 ve 14 yaşındaki hem kuz hem de erkeklerin üst yaş gruplarındaki hemcinsleriyle ve karşı cinsleriyle çokunlukla anlamlı farklılık gösterdiği gözlemlenmiştir.

Sonuç ve Öneriler

Anahtar Sözcükler: Mesleki Alan İliği Envanteri (MAİ), ulusal standardizasyon, yaş normu, cinsiyet normu,
The Crisis of the Sociology of Education and Its Reflections in Turkey: On the Critique of Functionalist and Eclecticist Pragmatic Tradition

Ali ESGIN* 

Suggested Citation:

Abstract
Basis of the study: The claims that the sociology of education has been in a crisis seem to be dependent upon the insufficiencies in doing science and acquiring results with the ontological and epistemological foundations of sociology as a discipline of science. The sociology of education has taken shape from the outset in the framework of American sociological tradition, and therefore has been the conveyor model of impasses arising from the limitedness of functionalist sociological agreement and pragmatic science tradition. The structure of a science practice of this sort favoring status quo, not only has narrowed its boundaries but it also has brought about the fact that the sociology of education has been unsuccessful in its defined targets such as the relationship between reality and education and unification of the issue of education with factual developments.

Purpose of the study: In this study, the kinds of directions taken in the field of the sociology of education is critically evaluated together with an assessment of issues in the field: the theoretical and methodological grounds of the practice of the sociology of education in Turkey; and the kinds of problems that the field is facing in the present situation.

Sources of Evidence: What is primary here is to characterize the theoretical and methodological insufficiencies in the background of claims of crisis. The epistemological and ontological discussions, which are descriptive of the insufficiencies in question, are evaluated with reference to the main texts, and the validity of claims of crisis in sociology of education is questioned with reference to the science practices that have dominated the discipline's course of development. Convictions in the West with regard to the idea that the sociology of education is in a crisis are exemplified in

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terms of their negative reflections in the discipline, and the actual debates in sociology of education are examined in comparison with the case in Turkey with reference to main sources in the literature.

Main Discussion and the Consequences: Discussions in sociology of education and the claims that the discipline is in a crisis are a reflection of the discussions that are searching epistemological and ontological foundations. However, sociology of education in Turkey has been to a large extent deprived of the foundation searching discourses that might constitute its internal dynamics. In the field of sociology of education in Turkey, theoretical correlations and scientific practices have not been the object of an attempted complete evaluation. Hence, the theoretical and methodological foundations upon which the discipline is based have turned out to be weak and superficial; conceptualizations have been depthless, and almost no methodological discussions have become a current issue in any way. Negativities such as these leading it to a crisis have cast doubt on the perfection of the field of sociology of education. Sociology of education is required. The condition of overcoming the crises that sociology of education experiences is subordinated to having a powerful scientific tradition, which takes new political processes and economic developments into account.

Key Words: Sociology of education, crisis, functionalist consensus, eclecticist tradition

At the top of today’s fields of intellectual debates, there are questions as to what degree social sciences in general and sociology in particular fulfill their professional missions, and to what degree they are successful in explaining social reality. Today, ontological, epistemological, methodological and theoretical grounds of sociology are subject to significant criticisms. The content of the criticisms has revived the claim that sociology is in a crisis. Indeed, several Western theoreticians such as Alvin Gouldner (1970), Zygmunt Bauman (2002), Alain Touraine (1999), Jurgen Habermas (1998) and Anthony Giddens (1990) seem to have started from the idea that sociology was in a crisis. In their minds, the underlying cause of the crisis was the uncertain state in determining the subject matter and the methodology of sociology. Should it examine social structures and society, or should it be restricted to individuals and to their actions? Is it to be structured in accord with the methodology of positivist natural sciences, or should it appropriate the hermeneutical approach, the aim of which is to understand the distinctive conditions of social life? This uncertain state, which involves separations such as structure-action, society-individual, macro-micro on the theoretical level, and which involves a wavering attitude between positivistic and hermeneutical approach on a methodological level, has given rise to a crisis in sociology. The epistemological and ontological foundation of sociology in the crisis has become controversial; and sociology has not attained the perfection required to explain both social actors and social collectivity. Appealing to structure-based or action-based theories, and focusing on solving problems related to the social field,
sociology has been unable to analyze the problems in their integrity, and has not been successful in the task of comprehending every aspect of social life.

Another element defining the crisis, according to some Western sociologists, is the unproductiveness of theoretical and methodological orientations that have dominated sociology for a long time. This unproductiveness, which is not free from the problem of structure-action duality, and which needs investigating concerning the influences it created, seems to have originated from one-sidedness and insufficiencies of dominant understandings in sociology. In this sense, functionalism, which is the prevalent scientific orientation in academic sociology, has supported the claims of crisis (Giddens, 1999, p. 11). Functionalism, revolving around an order and stability-focused reasoning, together with long-term developments, has overlooked rapid changes, conflicts and function-corruptive elements in the social field, and therefore has caused specifications of sociology concerning social reality to be superficial and insufficient. Moreover, sociology in this perspective has strictly resisted to the changes, and followed an attitude that favors status quo in its theoretical and methodological orientations structured within a functionalist framework. Sociology, instead of renewing itself, has continued persistently to cling to its early scientific presumptions, and to the functionalist tradition. Yet, functionalism or an understanding of sociology equated with functionalism is problematic in various respects and has controversial aspects in the task of explaining social reality.

The insistence of sociology that empirical investigations should be the dominant element in the examination of social problems constitutes the other side of the claims of crisis. In the framework of this understanding, sociology, which has taken form in accord with the model of natural sciences, has confined itself to an understanding of methodology that is isolated from theory. Consequently, in its analyses with regard to the social field, sociology has overlooked the determinative social processes such as history, individualism and subjectivism (Mills, 2000; Giddens, 2003). Sociology, while isolating itself from theory, has given prominence to a one-sided methodological mentality that involves extreme experimentalism, statistical assessments and the presentation of generalized data. However, a methodological orientation in that way, which has taken form within the framework of the model of positivist natural sciences, has dragged sociology to a difficult position in the definition of the social world, which is different from the natural world in various aspects.

Criticisms leveled against sociology are not merely composed of these. The criticisms, starting from contradictions and insufficiencies in theoretical traditions that have given shape to sociology, touch upon numerous problems on the methodological level. However, the main point underlying the criticisms is the fact that sociology is not capable of doing acceptable analyses in its present form. The sole way of responding to the criticisms, for Western sociologists, is to develop some new theoretical and methodological expansions capable of counterbalancing them on behalf of sociology, and capable of rendering sociology again a legitimate science. This is both a historical responsibility and a scientific requirement in their
perspectives (Esgin, 2008). Indeed, there has been a process of intense controversy since the 1970s in which sociology returned to itself in the West, questioned its theoretical, methodological orientations, searched for its insufficiencies and fostered some new investigations related to the nature of sociology. The common emphasis is that sociology needs to search out new epistemological and ontological foundations that are capable of securing itself from claims of uncertainty and crisis. In this regard, both functionalist sociology, and the conception of American sociology, in which functionalism was represented, have gradually been abandoned, and the uncertain state, which is defined as the duality between positivism and hermeneutics, has been overcome by means of new expansions. Anthony Giddens' theory of structuration, Jürgen Habermas' communicative action theory, Jeffrey Alexander's new-functionalism, Alain Touraine's activist sociology and Pierre Bourdieu's practical theory are the products of such an aim.

Most of the problems voiced with regard to sociology in the historical process are not separate from the problems sociology of education has experienced and faced. Therefore, sociology of education, which is a sub discipline of sociology, has had to meet the criticisms leveled against sociology. Indeed, all criticisms that address the insufficiencies of sociology in its theoretical and methodological orientation, its definition of science favoring status quo, and its future position are equally in force with regard to sociology of education (Shain & Ozga, 2001, p. 110). In this regard, sociology of education has become a pitiable field day by day in parallel to sociology. This is because practitioners in the field of sociology of education have, from the outset, defined it as a field restricted to some marginal issues and some specific fields of problems, instead of attaching the subject of education to social processes completely. More importantly, the inner dynamics of sociology itself or the scientific rules it entertained have specified the characteristics of sociology of education. Accordingly, sociology of education has also been subject to the crisis and to the uncertain state by the distinctions experienced in sociology between structure and action, society and individual, macro and micro (Shilling, 1992; Young, 2001). In its present situation, sociology of education is criticized and is seen as a field in crisis on the grounds that it has the same problems with sociology, that it is unproductive in theoretical and methodical sense, that it is insufficient in specifying the relationships between education and society, and that it is confined to one-sided methodological findings isolated from theory (Shimbori, 1979; Becker, 1986; Shain & Ozga, 2001; Young, 2002).

Controversies in sociology of education and the claims that the discipline is in a crisis are the reflections of the discussions that search for epistemological and ontological foundations. However, Shain and Ozga (2001, p.115) contend that influences of these reflections in sociology of education are more destructive. The reason for this, in their minds, is the fact that sociology of education mostly lacks some discourses that seek for foundations that are capable of constituting its inner dynamics. Sociology of educatation, even when rested on theoretical traditions that are prevailing in sociology, has not attempted to evaluate theoretical relations and scientific practices all together. Accordingly, the theoretical and methodological foundations on which the field rested have remained quite weak and superficial.
Conceptualizations in sociology of education, which subsist on sociology, have become distant from profundity, and one has never entered into methodological discussions. Within this framework, the claims of crisis in sociology of education are associated with its making itself isolated from theoretical and methodological discussions.

Similar developments concerning the issue in the West, just as those in sociology, brought about a process of self-criticism in which scientific assumptions of sociology of education were questioned, scientific practices and their future status were reconsidered, and new quests were fostered. Sociologists of education have questioned the qualifications of their own discipline for the first time since the 1970s; and they have formed a critical estimate of their own perspectives. What shaped the most important debate in that process was the question of why had it come to occupy a more pitiable position than it had in the past? The primary cause of this is the perception of the science of sociology of education and its making itself isolated from daily problems of social life in the context of methodological practices (Young, 2002, p. 65). Isolation is mainly a product of theoretical orientations that have dominated the sociology of education for a long time, namely the product of the "old conception of sociology of education". In the comprehension of the criticisms, the conception of sociology that represents the old or former intellects is unsuccessful in understanding the relations between education and society and in solving the possible problems. The old sociology of education, which advocates and supports status quo is full of insufficiencies (Shimbori, 1979, p. 406). The disputes displayed throughout 1960s are what constitute the background of criticisms with regard to sociology of education. It is especially possible to see a reflection of the influence of critical theory on sociology in the field of sociology of education. The definitions of "new sociology of education" in the field of sociology of education is a new concept of sociology that has developed under the influence of critical theory and has taken shape against functionalist sociology which was dominant in the field. Those who advocate new sociology of education have defined their chief aim as revaluation of the scientific convictions of sociology of education, its theoretical and methodological orientations, and their fundamental functions.

They have criticized orthodox Marxism much the same as they have criticized the foundations of functionalist sociology and the positivist understandings associated with it. According to the understanding of the new sociology of education, contemporary society has to be characterized by both change and conflict. The dimension of change is to be examined from every aspect of it. On the other hand, functionalist tradition has failed to explain the subject matter of the change as it has been jammed in an understanding that favors status quo, insisting on the issue of objectivity and ideological impartiality devoid of value. Therefore, it has not succeeded in realistically showing current problems and their causes. With its structure that favors status quo, functionalism has rendered problems superficial and served for the legitimacy of the order. It has been evident that the nature of education is not to be explained in terms of functionalisms. This is because functionalism has failed to comprehend the continually changing nature of education and societal
sphere and the determinative conditions of the change. For instance, the issue of equality of opportunity in education or class environment that does not consider conflict could not have been solved (Tan, 1990). These controversies have explained and established firmly the reason why the traditional form of sociology of education has been dragged to a state of crisis. Eventually, that the field should be set free from the functionalist approach and positivism has explicitly been expressed by sociologists of education. According to the sociologists of education who fulfilled this return, the present mission of sociology of education is to examine itself and the scientific dogmas it has, not to examine the concepts that have already been defined repeatedly. New sociology of education has to focus on the works of sociology of knowledge and to revise its theoretical and methodological foundations. Moreover, it is required to discuss the reflection of knowledge in the form of social organization or how and why certain pieces of knowledge become the subject matter of education (Shimbori, 1979, p. 407).

In its current state in the West, sociology of education is polarized within two main inclinations. The first is the old sociology of education, which prevails in America and maintains the criticized restrictedness of sociology of education, and the second is the new sociology of education, which we run across as an influential conception in Continental Europe, particularly in England. Indeed here, the old sociology of education becomes equal with the tradition of American sociology of education, which is a reflection of American sociology that represents positivist sociology favoring quantitative data from the outset. Consequently, the tradition of American sociology of education is taken largely to be the target of the criticisms related to sociology of education and of claims of crisis. Thus, according to many sociologists (Shimbori, 1979; Antikainen, 1992; Saha, 2008), functionalist American sociology of education has been insufficient in explaining the interaction between education and society while it restricts itself to micro sociological analyses and statistical data, and appeals merely to practical aims disregarding theoretical analyses. American sociology of education together with its static perception of science and with its structure that favors status quo seems to be a conception of sociology that lacks profundness. On the other hand, new sociology of education, with the aim of overcoming perceptible problems in American sociology of education, has espoused a conception of dynamic sociology, which follows a more critical attitude, and the pessimistic aspects of which predominate. The purpose in the new sociology of education is to set the discipline free from dead ends in order to assist it in its struggle for the quest of foundations. Sociology of education seems to be in need of returning to itself, and of specifying its insufficiencies on theoretical and methodological levels. Otherwise, the field of sociology of education is bound to lose its legitimacy in the scientific and social spheres.

Therefore, it would not be a mistake to say that the effort of explaining the interaction between education and society in accord with the dominant functionalist tradition and with one-way quantitative data loaded analyses, in the field of sociology of education in the West recently, has been abandoned. While a practice of science of this sort is maintained in USA in certain senses, most sociologists of education sustain their attempts of overcoming insufficiencies in theoretical and
The Crisis of Sociology of Education and Its Reflections in Turkey

Sociology, shortly after it arose as a science in the West, entered into Turkey and took shape in similar lines as it did in the West. Developed as a tool of finding solutions to economic, political, and social problems, primarily in France and other European countries, sociology became a basis for Ottoman thinkers who encountered similar difficulties and it became institutionalized during the course of time in parallel with the West (Erkul, 2009, p. 9-10). Entering into university in 1914 in Turkey as the oldest academic chair of the world, sociology seems to have followed various stages of development after it acquired the identity of an independent department in the 1960s. Sociology in Turkey, which has been dependent on Western sociology from the outset, has initially transferred theoretical texts found in the West to Turkish with an understanding of philosophical translation. Then it was quickly passed to the experimental edge, where field investigations that were devoid of theoretical foundations, assumptions and problems come into prominence, and the technique of surveying was the sole valid means of analysis (Kaçmazoğlu, 1999, p. 318). When we look at the issue in this perspective, the course of development of sociology in Turkey seems to have similar characteristics with the sociology in the West. Nevertheless, there are some differences as well. The most important of these is the fact that Turkish sociologists have a conservative practice of science that depends mainly on eclecticism while the Western sociology keeps its own dynamics of development, scientific acceptances, and foundations on theoretical and methodological levels alive. Accordingly, whereas the discussions in the West about the scientific identity of sociology (with regard to theoretical and methodological orientations) cover a large area, these discussions in Turkish sociology have stayed in the background in general. Sociological works in Turkey have kept going within the framework of dominant scientific convictions almost without questioning theoretical and methodological problems of sociology. Consequently, whatever the dominant sociological orientation is in the world, it has been the orientation maintained and accepted as a scientific foundation in Turkey. For instance, the tradition of Continental European sociology, with a theoretical foundation of which was more dominant, constituted the prevailing orientation in Turkey from the process of entrance of sociology into Turkey until the 1960s; American sociology has come to be the sovereign scientific orientation after those years in parallel with the sovereignty of the United States of America (Kaçmazoğlu, 2006; 2007).

Development of sociology of education in Turkey is, naturally, not free from being connected with the process of development of sociology and the problems it had in Turkey. Therefore, the definition and institutionalization of sociology of education in Turkey as an independent discipline was possible after 1960s together with sociology itself. Until that period, the issue of education was evaluated in a
category of general definition like other social institutions in sociological analyses, not in the scope of sociology. With the entrance of sociology into Turkey, Turkish intellectuals began to examine the issue of education starting from analyses that involved sociological approaches of some Western sociologists such as Le Play, Edmond Demolines and Emile Durkheim towards education. Turkish intellectuals such as Munif Ali Pasha, Ali Suavi, Prince Sabahattin and Ziya Gokalp also assumed that society could be straightened by means of education and well-educated staffs, just as it was assumed in the West. Although not completely institutionalized, especially some of Gokalp's works might be seen to be in the discipline of sociology of education. Gokalp made some theoretical expansions with regard to the topics of culture, education, family and group life that were defined as the main topics of sociology of education (Doğan, 2011, p. 58-59). In the period of the Republic, similar endeavors were carried on by Ismail Hakki Baltacoğlu, Nusret Köymen and Ismail Hakka Tonguç (Doğan, 2011; 2012). Although there are several differences between these thinkers with respect to their understanding of education, they might be said to have produced ideas serving the same purpose. The purpose in question was to grow citizens that were integrated with the West, to be able to reconcile society and individuals by means of education (Kaçmazoglu, 2011, p. 265). However, one cannot say that sociology of education gained an academic identity in the process to come. The definition of the field of sociology of education as an academic discipline in Turkey and its incorporation into curriculum was possible with the establishment of Ankara University Faculty of Education. After the establishment of this faculty, sociology of education was taught at different universities, and there was an observable increase in the academic works associated with the field (Doğan, 2011, p. 72-73). Together with institutionalization and increase in academic works, theoretical and methodological foundations that constitute the scientific base of sociology of education, which proceeds with the scientific acceptances of sociology, came to take shape. Sociology of education, at this stage, was directly under the influence of the orientations of sociology prevailing in Turkey in that period. Therefore, the tradition of Continental Europe, which was initially more theory-based, was abandoned, and a rapid transition to functionalist American sociological understanding was adopted. Those who went to the United States of America for specialization in the field of education and sociology of education and those graduate students sent there in the name of Ministry of National Education began to put into effect the scientific information they acquired after returning to Turkey. Therefore, they accelerated the above-mentioned transition. In this way, in the years after 1960, a period began in which the conception of functionalist American sociology dominated in Turkey in every respect. Along this period, there was concern about micro sociological topics and their general connections, and the arguments of functionalist sociology were adjusted to the circumstances of the country. As American sociology began to develop as the dominant understanding, sociologists in Turkey assumed that the theories and assumptions that were produced in the United States of America were also acceptable in Turkey. Therefore, our sociologists endeavored to prove these theories and assumptions, and they tried to make the findings they searched for overlap with the findings they had (Kaçmazoglu, 1999, p. 302-318).
The same understanding was effective in determination of topics and in selection of the techniques used in the investigations in the studies of sociology of education, which was dependent upon sociology. Sociologists of education transferred the concepts and the theories to the field by means of translations presented as the explanatory foundations of education in Turkey, and of societal interactions and problems. Especially when the content of textbooks used in the years 1970s and 1980s, and the treatment of the issues are examined, this assertion is obtained. Most of the textbooks in question were class books, which bore resemblance to each other largely in this respect and, approached certain issues such as education, school, class, family, culture, stratification and equality of opportunity in the framework of the definitions of functionalist American sociologists, and which were restricted to superficial evaluations in general. In this period, much of the academic activities related to the field were composed of the translations of the works of especially American sociologists. However, while the movements of translation led to acquisition of the required knowledge and assessments in the field, it also caused the orientations of sociology of education to become evident and therefore made room for the tradition of American sociology of education in our country. This is because theories acquired by means of translations were not the topics our sociologists of education mostly questioned. Theoretical texts originated in the West were usually seen as purely academic or sacred texts, and therefore, their relation with our historical and social structure was not carefully studied (Kayali, 2002, p. 12).

Into this specification, one might incorporate the deficiencies in assessments concerning the methodological aspects of the sociology of education, as the corollary of the same understanding. For instance, an indication of this is the fact that no one has deliberated, appealing to functionalism, which is in the limelight in sociology of education in Turkey, on the difficulties of methodological orientations that give prominence to field investigations. In short, except for one or two examples, no one, in the studies about sociology of education in Turkey, has been involved in the task of criticizing and examining sociology itself, and its theoretical and methodological aspects. Yet sociology, due to its distinctive features, is a science one needs to examine continuously, and to rebuild systematically in view of those examinations (Giddens, 1990, p. 240). A differentiation in both the old and the current conception of sociology is an obvious evidence of this. In this respect, sociology of education in the West, both seeks to make expansions with regard to the society as its object, its rapidly changing new appearances, and to find theoretical and methodological foundations that will put these expansions into force. The gradual withdrawal of functionalism, especially in the years after 1970, in sociology of education in the West, the exposure of American sociology of education to significant criticisms and the development of new orientations on theoretical-methodological level is a product of such an understanding. What is required to ask at this point is where and in what context of understanding does sociology of education in Turkey—which follows the West, approves indisputably of the theories and the arguments it took from the West—take a position? Scientific grounds of sociology of education in the West are in accord with the central problems of sociology, and the issue of what route sociology of education (capable of explaining the present-day conditions) should take, is given
a primary place. Against this, the reason why sociology of education in Turkey still goes ahead with past habits seems to be an important question needing reflection. What makes this question important is the insistence of sociology of education in Turkey, which was motivated by an eclectic understanding, on following an effective yet contentious path, and the fact that sociologists in Turkey were closed to new approaches in sociology, instead of deliberating on scientific challenges. The reason for this, perhaps, as Kayal (2005, p. 12) points to, was their assumption that doing sociology was associated with transmitting some theories and emphasizing some verdicts rather than facing the new approaches. Another reason might be that reducing sociology of education to the field investigations precluded the need for theoretical expansions (Canguzu, 2005, p. 35-36). However, the genuine problem is the fact that sociologists in Turkey in general might be inefficient, in their sociological works, in doing sociology of "sociology" (Erkul, 2000, p. 42).

While sociology of education in Turkey, in the years after 1990, seems to have preserved its tendencies of quoting Western resources and practicing statistical studies devoid of theoretical content, the changes that appeared in sociology of education in the West, had a direct influence, in parallel to the global changes, on our fields of interest. The concepts such as new world order, society of knowledge, postmodernism and globalization came to the forefront in the analyses of sociology of education and determined the orientations of sociology of education in Turkey as well as in the West. Sociologists seem to have carried out theoretical analyses in sociology of education in the West to a significant extent, and have sought to construe conditions of changing the world by means of developing new theories. The changes in the subject of sociology of education have brought about questioning and examining once again its theoretical and methodological foundations as a science in a different way than the past, and led to developing new orientations. Yet, while the field of sociology of education seems to have taken form in that period around the concepts mentioned, it does not seem to have adopted an attitude of critical reconstruction as it has done in the West. Discussions of this sort have become effective especially in recent studies of sociology of education with the increase of relevant translations. Yet, it seems obvious that it still keeps away from discussions similar to the dominant perspective in sociology of education.

Today, sociology of education in Turkey seems to be experiencing an obvious loss of value. Negative evaluations, on the part of the the Higher Education Council, universities and academic environment, regarding the insufficiency and needlessness of the field of sociology of education have increased. Accordingly, courses of sociology of education have been degraded to service courses losing their status as compulsory courses. In an academic sense, there have been significant decreases in the studies in the field of sociology of education. More importantly, sociology of education, insistently sticking to American sociology, and focusing on analyzing the relationship between education and society merely by means of quantitative data abstracted from the theory, seems to have handed over its functionality to some fields in sciences of education such as psychology of education, social psychology and practices of service to the society. This is the result of its resistance to criticisms
and change. Indeed, the basic reason of this negative picture drawn in the name of sociology of education is its inability in overcoming the crisis it has been experiencing in Turkey.

The crisis of sociology of education is directly connected with the fact that our sociologists have not sufficiently questioned the theoretical and methodological orientations in the processes described. Many factors have given rise to more obvious sense of the consequences of the crisis in Turkey, such as: being unopened to new theoretical quests; not being able to develop distinctive theories positively associated with the realities of our country; following methodological attitude without a theory related to functionalist paradigm; and more importantly the mentality of starting from a practice of science focused merely on statistical findings designed according to the model of natural sciences. The habit of starting from similar concepts in almost every study related to the sociology of education, making definitions that are almost in the same level of superficiality, and harping on the same string have strengthened the negative perception related to the field. Indeed, the repetition of countless failings, mistakes and limitedness in the consecutive editions of textbooks, not renewed even in terms of subject and problem selection, has intensified the negative perception related to the field (Doğan, 2011, p. 76). The other area where the repetitions in question and the practices of science subject to criticism, are frequently seen is in the other academic journals. Most of the articles published in academic journals monotonously follow an understanding of science that is deprived of theoretical analyses and evaluations. The issues examined in these publications are analyzed with reference to data acquired from samples selected by means of survey or other techniques without taking into consideration the historical analyses that are at the center of the problems, and without taking into consideration the intellectual backgrounds and the multi-dimensional causes. For instance, the descriptive criteria, which were developed in accordance with the characteristics of Western men and their social problems, are translated into Turkish and are attempted to be adapted to our society with the intention of finding solutions, by means of these criteria, to our problems related to our environment of education and to the young. Moreover, the studies that are formed with an understanding of this sort are seen as a necessary part of the scientific legitimacy in most academic journals. In these journals, the publication of the researches is subordinated to their conforming, both in terms of content and in terms of form, to the dominant understanding of science. Yet, this limited act of writing of this kind, which involves merely the parts of problem, method, findings and discussion, and which is mainly effective in the model of natural sciences, restricts not only the content of sociology of education, but it also restricts the content of other disciplines of social sciences. This is because the social scientist is not a technician who communicates the data he or she acquired. Between getting to know how a series of hypotheses are to be tested and getting to know the theory on which the hypotheses are to be grounded is an obvious gap (Merton, 1974, p. 239). Inattention to theory and reduction of scientific researches to the dimension of testing and data assessments not only makes that study a superficial one, but it also makes the social scientist a technician. In brief, the description of social problems solely by means of spontaneous data and findings acquired from the field
undermines the aim of social sciences of explaining social problems in all respects. Social problems are not suitable for explanation by means of spontaneously arising data or findings acquired from a specific group of samples. Besides, given the deficiencies and insufficiencies of positivism-centered sociology of education in the experimental process, it would be obvious how superficial and unsolvable an understanding of social science or sociology of education suffering from a lack of theory might be.

**Conclusion: Requirement of Quest for Foundation**

After all these specifications, we can say that the studies in the field of sociology of education in Turkey have for the most part been dependent upon West-transferring, i.e., quoting from Western resources. Therefore, although they reflect some periodical differentiations parallel to the discussions in the West, they seem to have preserved their West-addict peculiarity up to the present time. The tradition of functionalist American sociology has prevailed, especially in the years after 1960, in the field of sociology of education, as well as in sociology itself. Turkish sociologists who unquestionably adopted the functionalist and pragmatic American sociology have overlooked its insufficiencies on behalf of science and have confined it to a narrow domain. Indeed, American sociologists regarded education mainly as a tool of solving social problems because the USA had numerous multidimensional problems such as crime, divorce, unemployment, and poverty awaiting immediate solutions. Accordingly, social sciences in the USA were defined as a practical activity that gave priority to solving problems and it thereby acquired a characteristic that brought pragmatic inclinations forward. In other words, American sociology was not developed for academic reasons but as a response to practical needs (Shimbori, 1979, p. 396). The understanding of American sociology of education, which was formed in association with some pragmatic aims, kept theoretical expansions in the background, and restricted sociological analyses to statistical data and descriptions. The resistance that was leveled to the understanding of American sociology of education in the West in the years after 1970 gave rise to re-examination of the field and it accelerated the quests for alternative foundations. Conversely, no one ever attempted to enter into these discussions in Turkey; instead, one attempted to solve the problems within the scope of the definitions and the methodological orientations of the functionalist approach. In the field of sociology of education, as is the case with other sociological studies, the theories that were put forth in the USA, and that were effective in that society were adapted to Turkish society. Moreover, the verification of effectiveness of the theories was subordinated to using data. However, when the relevant data did not match up with the theories, or when the effectiveness of the theories was not convincing, one pointed to the backwardness of Turkish society as the cause. This situation, which was a significant delusion, is due to the acceptance of the arguments of Western sociologists and adopting unquestionably their methodological orientations (Kaçmazoglu, 1999, p. 318). Such a practice of investigation has given rise to important problems with respect to the perception of science. For instance, there have been some insufficiencies in the association of data,
the aim of which is not clear, with the theories, in their analyses and interpretations (Icli, 2001, p. 35). Therefore, scientific analyses have turned into analyses of quantitative data. Problems inherent in the relation between education and society have been defined within the scope of functionalist restrictions that ground on consensus and integration. In short, as a result of the sociological postures that are deeply connected to the Western sociology, an understanding of sociology has been effective, which is distant from the realities of its own society while peering into the West (Kızılcelek, 2005, p. 127). Focused on developments arising in the West and on the solutions developed for problems of Western society, sociology in Turkey has not been concerned with its own development and its own history, and therefore it has not been able to produce real solutions to its own problems; instead, it has satisfied itself with West-transferring (Kızılcelek, 2000, p. 129; Erkul, 2000, p. 32). This is the mentality of a social science that is unable to overcome its own difficulties, which does not question its insufficiencies, and regards science as a fixed and stereotyped field of practice that sees criticisms as external discourses contrary to the science, and which restricts itself to West-transferring as a way of doing science. Unfortunately, this mentality limits the sighting distance of the social scientist, as well as devastating the very prestige of the social sciences itself (Esgin, 2011).

Sociology of education is a discipline that explores, from a sociological perspective, the social processes and structures that are related to education. Sociology of education aspires to understand and analyze the relationship between institutions of education and society by using theories and methods on micro and macro levels (Saha, 2008). In this context, sociology of education is a field of study that has three aspects. These aspects consist of making analyses as the scientific aspect; of involving various practices as the technological aspect, and of producing theoretical foundations as the mental aspect (Akyüz, 1992, p. 117). In other words, sociology of education comprises the theory, the methodology and the practice all together. Theory is a web of concepts that corresponds to field-related evaluations and intellectual foundations. It consists of intellectual conclusions related to historical, philosophical and scientific aspects of the relationship between education and society. Theoretical foundations are crucially important in the definition of the possible interactions between the two fields, and in determination of cause-effect relations. The other foundation that is as much important as the theory is the methodology. Methodology is the aggregate of all methods and techniques required for scientific analyses. Methodology involves the ways of acquiring knowledge descriptive of social reality. Accordingly, methodological analyses that are broken off from the theory or the theoretical abstractions and that are far from methodological groundings are not satisfactory for definitions of being scientific minded. Indeed, since sociology of education is a dynamic field, its theoretical and methodological orientations should display a continuous development. This is because the society, the subject matter, is exposed to change. It does not seem realistic that one could penetrate into problematic fields of the changing society by means of a methodological orientation that is fixed by a theory belongs to previous decades. In the last quarter of the 20th century in the West, scientific foundations of sociology of education have been exposed to significant criticisms. The criticisms have provided
the field with its returning to itself, and its reevaluation of its theoretical and methodological orientations. In the context of these evaluations, Western sociologists have addressed some responsibilities that sociology of education should undertake on its own. The first of these is its entering into a quest of a new epistemological foundation that is different from an empirical research method that originates from positivism in methodological orientations of sociology of education. Second is the confrontation of sociology and sociology of education with the duality that comes into existence by virtue of theoretical breaks. The third is the fact that sociology of education has to solve the difficulties that new theoretical approaches have created (Saha, 2008, p. 303). In fact, these designations have various implications for sociology of education as well as for sociology and for the whole of social sciences. The questionable nature of scientific definitions and their changeability constitutes a crucially important feature of the scientific mind, although it is not taken for the most part into consideration. This is especially an obvious requirement for social sciences in comparison to natural sciences. The social sciences are a field that is the subject matter of a continuous change. Knowledge of change is more complicated than the relative continuous facts. Accordingly, in social sciences in general, and in sociology in particular, the effectiveness, objectivity, universality, relativity, and repeatability of the knowledge produced need to be examined (Güvenç, 2000, p. 25). In this sense, the requirement that the science should operate by some fixed and universal rules seems unrealistic. An understanding of science of this sort oversimplifies human abilities and the conditions in which these abilities arise. Moreover, the understanding that science is not changeable has a nature that harms science and renders it dogmatic while it overlooks physical and historical conditions that affect scientific change (Güzel, 1996, p. 15). The nature of social sciences that is open to questioning and changeability is the necessary requirement of its producing more effective solutions to problems of the social realm that display relatively rapid change. Besides, social sciences did not only intend to find the method of doing something, or reaching some practical aims. Social sciences are also concerned with answering the questions about what a “good” and “desirable” way of life is (Benton & Craib, 2008, p. 219). The most obvious aim of social sciences is to specify the conditions of creating a more humane society. Therefore, the conditions in question can only be determined with social sciences' acquiring a structure deep enough for getting reliable consequences.

Sociology of education has undertaken an important mission in the determination of the conditions of a more humane society by means of education. Yet the negativities that force it into a crisis bring the perfection of sociology of education into disrepute. However, its definition as being a field in crisis, and even its being degraded in various respects does not eradicate the significance that sociology of education has for academic and political fields. Sociology of education is needed. The claims of crisis seem to be acceptable for only a practice of science that is restricted to a functionalist understanding, that overlook its theoretical and methodological deficiencies, not for sociology of education in its entirety. Today, the primary task of sociology for many theoreticians is to construct some explanatory propositions, analytical tools and interpretative directives that are applicable to the problems
related to the theoretical and methodological dimension of sociology (Camic & Gross, 1998, p. 455). The construction process in question is both a requirement and a necessity on behalf of social sciences. The possibility of overcoming the crisis for sociology of education seems to require having a powerful tradition of science taking new political processes and economic developments into consideration. With this design, the problems that are defined with structure-action, society-individual, and macro-micro divisions, and that are regarded as the central problems of sociological theory need to be reevaluated in their own contexts. In addition, a critical attitude should be developed towards the insufficiencies of positivist paradigm that determine methodological orientations of the field, and the contents of alternative paradigms should be evaluated (Shain & Ozga, 2001, p. 115). Social sciences in general and sociology in particular have to keep alive the quest for scientific foundations by means of which one can realize the realities and problems peculiar to the social world. Otherwise, sociology of education will come face to face with being an obsolete human endeavor, and will lose its ground of legitimacy completely in the course of time.

References


Eğitim Sosyolojisinin Krizi ve Türkiye’deki Yansımları:
İşlevselci ve Akıtmacı Pragmatik Geleneğin Eleştirisini Üzerine

Atu:

(Özet)

Çalışmanın Amacı: Makalenin amacı, eğitim sosyolojisindeki bu türden yetersizliklere Türkiye’deki eğitim sosyolojisinin nasıl ve hangi yüntüleyle yansıdığını, Türkiye’de eğitim sosyolojisi pratiklerinin teorik ve metodolojik dayanaktanın ne olduğunun ve gelenen noktada eğitim sosyolojisi alanının ne türden problemlere yüzleşmek zorunda kaldığı konularını eleştirel bir değerlendirmesini yapmaktır.

Konu Kaynakları: Sosyolojinin bir alt dal olan eğitim sosyolojisinin krizi iddialarına temel teşkil eden problemler, doğal olarak, tarıhsel süreçte sosyolojinin yaşadığı ve yüzleşmek zorunda kaldığı problemlenin başgımız değildir. Dolayısıyla burdensa öncelikli olan, kriz/ddialarının arka planındaki teorik ve metodolojik yetersizlikleri tanımlamaktır. Çalışmada söz konusu yetersizlikleri tanımlayıcı epistemolojik ve ontolojik tartışmalar ana metinlerden hareketle değerlendirilmiş, özellikle alanın gelişim seyri içinde hakim konuma yerlesen bilim pratikleri üzerinden eğitim sosyolojisinin krizi iddialarının geçerliliği sorgulanmıştır.

Ana Tartışma: Eğitim sosyolojisindeki tartışmalar ve disiplinin kriz içinde olduğu iddiaları, sosyolojideki epistemolojik ve ontolojik temel arayışı tartışmalarının bir yansımasıdır. Ancak, eğitim sosyolojisi kendi içsel dinamiklerini oluşturacak temel arayışı söyleyimelden büyük ölçüde yokun kalmıştır. Eğitim sosyolojisi, sosyolojide egemen olan teorik geleneklere yaşıaran bir bile, teorik bağantılar ve bilimsel pratikleri bütünleyle değerlendirime girişiminde bulunmamıştır. Dolayısıyla alanın dayandığı teorik ve metodolojik temeller oldukça zayıf ve yüzeysel kalmıştır.
Sosyolojiden beslenen eğitim sosyolojisinde kavramlaştırmalar derinliklen uzaklaşmış, metodolojik tartışmalarla ise neredeyse hiç girilmemiştir.

Batı’da özellikle son dönemde eğitim sosyolojisi alanında eğitim ve toplum etkileşimini başkın işlevselci gelenek ve tekn yönlü nicel veri aşırılıktan analizlere açılış aşağıda artuk terk edildiği söylemek yanlış olmaz olmaz. Bu türden bir bilim pratigi Amerika’da belir acılarak devam ettirilir olsa da, çoğunun eğitim sosyoloğu, eğitim sosyolojisini dayandığı teorik ve metodolojik yönelimlerdeki yetersizlikleriasma, disipline sosyal problemle çözüm üretime mesruiyetini yeniden kazandırma çabalarını sürdürmekteidir.


Sosyal bilimler, özellikle sosyoloji, sosyal dünyaya özgü nitelik ve problemleri çok boyutlu olarak kavrayabilecek bilimsel temel arayışlarına canlı tutmalıdır. Aksi durumda, eğitim sosyolojisi meşruiyet zeminini yitirerek değer yitirme uğramaya devam edecektir.

Anahtar Kavramlar: Eğitim sosyolojisi, kriz, işlevselci oydaşma, aktarma gelenek
Is My Social Studies Teacher Democratic?

Kasım KIROĞLU*

Suggested Citation:

Abstract

Problem Statement: Democracy and education are two concepts that influence, transform, and improve each other in time. In this sense, we could talk about a symbiotic relationship between democracy and education. The social studies teacher himself or herself must primarily be tolerant towards the class, respect both students and fellow teachers, cooperate with all when needed, and then expect such behavior of the students. This is certainly not the sole responsibility of social studies teachers but a collective responsibility incumbent on all teachers. However, a teacher who is teaching the concept of democracy in class is obviously burdened with more responsibility in this context. It is therefore crucial that both the students and the teacher know the extent to which fairness, justice, freedom, and participation are actually practiced in the classroom. If a person’s self-concerning remarks are to be taken as significant and realistic, they need to be corroborated by others. In other words, a social studies teacher’s declaration ‘I am democratic’ gains significance only if their students, too, declare, ‘Yes, our teacher is democratic’.

Purpose of the Study: This study aims to reveal the extent to which social studies teachers’ behaviors are democratic in the classroom.

Method: The democratic behaviors of social studies teachers in primary school classrooms were assessed by means of two scales (teacher form and student form) developed by the researcher. The arithmetic mean, standard deviation, and t-test were used in the data analysis for comparable results of teacher (N: 194) and student (N: 1712) views.

Findings: The in-class democratic behaviors of social studies teachers in public primary schools are considered in four dimensions, i.e., freedom, equality, justice, and participation. According to the results of this study, social studies teachers’ perceptions of their democratic behaviors in the

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classroom are not shared by their students, as far as the freedom, equality, justice and participation dimensions of the research is concerned.

Conclusion: When we look at the results of this study, we cannot miss the dichotomy between the perceptions of teachers and those of the students. While social studies teachers claim to apply the core dimensions of democracy to real life, their students claim otherwise. The students who participated in this survey responded that their teachers did not do their share when it came to the free expression of opinions, equal treatment, consideration of their differences, acceptance as they are, fair treatment, and encouraging student participation in the class.

Keywords: Democracy, social studies teachers, 8th grade students, education

Democracy is a form of life and government based on human rights and freedoms where the majority has the right to make policies and the minority has the right to participate and criticize (Gömleksiz, 1988). According to Törtöp (1992), the basic principle of democracy is to be respectful and tolerant of different opinions. Dewey considers democracy as more than just collective decision-making in the political process. According to Dewey (1916), ‘a democracy is more than a form of government; it is primarily a mode of associated living, of conjoint communicated experiences’. In other words, unlike certain perceptions, democracy is not just about going to the ballots. It is about the internalization of such concepts as tolerance, rights, justice, fairness, respect of differences, participation, honesty, cooperation, freedom, responsibility, collaboration, and peace by the individual as an active member of society. The only way to internalize democratic principles is through education. Educational institutions play a pivotal role in raising democratic citizens and forming a democratic culture (Giroux, 1989; Apple & Beanne, 2011; Biesta, 2007). Democracy and education are two concepts that influence, transform, and improve each other in time (Dahl, 2010; Putnam, 2000). In this sense, we could talk about a symbiotic relationship between democracy and education. As Yeşil (2002) points out, while education is key to the existence, adoption, and flourishing of democracy on the individual and social levels, democracy, too, is a prerequisite to quality-raising in education and in educated individuals becoming useful for themselves and all humanity. In a democratic society, schools must be in harmony with democracy and teach relevant values, attitudes, and behaviors (Doğanay, 2010). Democratic classrooms are the optimal environment where students can best learn and live these values. Students learn how to make decisions autonomously, how to lead, how to tolerate different opinions, and how to collaborate with and respect the rights of others in the classroom (Matusova, 1997). In addition, a suitable classroom environment and a teacher with appropriate attitudes, expertise, and behaviors allow students to develop their critical thinking skills (Tanriverdi, Ulusoy & Turan, 2012).

The principles of a democratic society have to be ‘lived’ in the classroom if students are going to understand the full impact of their meaning (Gang, 1989).
democratic classroom is one where values like equality, freedom, justice, and participation prevail (Kesici, 2008; Shechtman, 2002; Knight, 2001). Reflecting society on a micro level, the democratic classroom is where students can live freedom, express their views, and learn to respect all sorts of differences. According to Hahn (1998), a participatory climate in the classroom gives individuals the chance to experience democratic life. These experiences enable students to grow conscious of their rights and justice as democratic values so as to guarantee student rights, as Grandmont (2003) puts it. Kubow and Kinney (2000) stress eight characteristics of a classroom environment with the above qualities. These characteristics are active participation, avoidance of textbook-dominated instruction, reflective thinking, student decision-making and problem-solving choice, controversial issues, individual responsibilities, recognition of human dignity, and relevance. The person to bring about a classroom environment with all these qualities is undoubtedly the teacher. If a teacher has democratic values, then his or her students will easily absorb these values. The adoption of these democratic values by the teacher will also make their internalization by the students easier (Selvi, 2006; Knight, 2001). If the students feel afraid of and intimidated by their teacher, that classroom is by no means democratic. Teachers with no democratic qualities do not care much about student participation and know or use no other technique than lecturing. Democracy is a system that requires multiple methods, not a single one. Quietness and democracy have a negative correlation. In a democratic classroom, communication is initiated in three ways: from the teacher to the student, from the student to the teacher, and, last but not least, from the student to the student. Not only does such communication negate quietness, but requires controlled ‘noise’. Osler and Starkey (2006) and Print, Ornstrom, and Nielsen (2002) hold that the teaching-learning setting in a democratic classroom requires the teacher to open subjects for debate and let the students freely express their views. Another characteristic of democratic teachers is that they treat all their students fairly and equally. If a teacher discriminates against their students on the basis of language, religion, creed, gender, socio-economic status, attire, and other points; is partial in giving out rewards and punishments; does not let everyone have an equal say; and is knowingly unfriendly towards certain students, then that teacher cannot be said to be fair or equalitarian – or, consequently, democratic. Another significant token of a democratic classroom is that all students feel free. This is not a feeling that the students can experience by themselves; the person who is to help them experience it is the teacher who has internalized democracy.

As a matter of course, all teachers should have their fair share in creating a democratic classroom setting. Having said that, teachers of social studies in particular, both in Turkey and in the rest of the world, have a special mission in imparting democratic values to students. As in almost all countries, social studies curricula have a certain amount of time allocated for the teaching of democracy and its constituent concepts, such as tolerance, rights, justice, fairness, respect of differences, participation, honesty, cooperation, freedom, responsibility, collaboration, and peace. In Finland, for instance, the social studies curriculum in primary education visibly stresses the teaching of democracy and the raising of conscious citizens as a result. Similarly in the US, what social studies curricula in
different states conspicuously have in common is the teaching of democracy and
democratic values. In Turkey, following the foundation of the Republic, the subject of
democracy was taught in ‘Citizenship Studies’ which was renamed ‘Social Studies’ in
1969. It became part of ‘Citizenship Studies’ again from 1985 until 2005, when the
new curriculum was adopted, and democracy and relevant concepts have since been
taught under the headings of ‘The Individual and the Community’, and ‘Power,
Government, and Society’ in a total of 41 lessons in eight units from year four until
year seven. This constitutes about a quarter of the existing curriculum. A 2010
addition to the curriculum – ‘Citizenship and Democracy Studies’ as a separate
subject in year eight – aims to raise awareness of democracy.

The main target of social studies is to raise active and participating citizens for a
democratic and modern society (Öztürk, 2007). However, sole lecturing of
democratic concepts or their rote learning by students will miss the target. It is not
sufficient when a social studies teacher simply tells the class to ‘be tolerant’, ‘respect
each other’, or ‘cooperate’. These are far better if experienced and lived in person in
the classroom. The social studies teacher himself or herself must primarily be tolerant
towards the class, respect both students and fellow teachers, cooperate with all when
needed, and then expect such behavior of the students. This is certainly not the sole
responsibility of social studies teachers but a collective responsibility incumbent on
all teachers. However, a teacher teaching the concept of democracy in class is
obviously burdened with more responsibility in this context. It is therefore crucial
that both the students and the teacher know the extent to which fairness, justice,
freedom, and participation – the basis of democracy and the pillars of a democratic
classroom – are actually practiced in the classroom. For this reason, this study aims
to reveal the extent to which social studies teachers’ behaviors are democratic in the
classroom.

Method

The democratic behaviors of social studies teachers in primary school classrooms
was assessed by means of two scales (teacher form and student form) developed by
the researcher.

Population and Sample

The population of this study consists of social studies teachers and eighth-year
students in public primary schools in central Samsun, Turkey. In the selection of
sampling, the numbers of public primary schools, teachers, and students were taken
into consideration. Targeting all of the social studies teachers in the research
population, no sample was taken, but all 194 teachers were surveyed. As for the
students, 10 were randomly selected for each teacher. Thus, 1,940 scales were sent
out and 1,712 were returned, of which 61 were discarded for not complying with the
survey standards. The most significant handicap of the survey was the possibility of
the students being pressured by the teachers and not filling in the scales freely and
realistically. In order to overcome this, the scale envelopes carried the warning that
‘the scales were to be administered especially by teachers other than the social
were male, 78% (151) were married, and 22% (43) were single. Of the students, 57% (938) were female and 43% (713) were male.

Development of the Data Collection Instrument

The research data was collected using the scale for democratic behavior in the classroom (teacher and student forms). The teacher and student forms were separately tested for validity and reliability. Both scale forms that were used as data collection instruments are described below:

**Scale for Democratic Behavior in the Classroom (Teacher Form)**

Following review of the literature on democratic behaviors in the classroom, a 29-item scale was developed for teachers. In order to test the validity and reliability of the scale, a pre-survey was administered to 89 teachers of social studies in the Bafran and Çarsamba districts of Samsun. Following the analysis of the pre-survey data, 10 items—with a total item correlation lower than .30, with factor load values lower than .40 and with items not parallel in two scales (teacher and student scales)—were taken out and the remaining 19 items were used for the scale. The Consistency factor of the scale was found to be 0.82.

The KMO and Bartlett tests were used to find out whether factor analysis would be necessary for the pre-survey data. The KMO test yielded a result of .71, which suggested that the scale could be interpreted through factor analysis; and the result of the Bartlett test (.000) being lower than the significance level of 0.05 meant that a factor could be obtained from the correlation matrix (Sencan, 2005). In the analysis for structural validity, the scale was divided into four factors (freedom, equality, justice, and participation), and the factor load values varied between .43 and .85. The total variation of the scale with a four-factor structure was calculated around 53%. A five-item Likert scale was used to reveal the extent to which social studies teachers' behaviors were democratic in the classroom. The lowest value of the scale corresponded to ‘never’ and the highest to ‘always’. The subscales of the research scale are described below.

**Freedom.** This subscale had the following items: ‘I let my students freely express their views in class’, ‘I give my students the chance to experience the freedom to choose’, ‘When assigning tasks, I organize elections’, ‘I avoid embarrassing my students in class’, and ‘I treat my students with love and respect’. The Cronbach α internal consistency factor for this five-item subscale was calculated as 0.77, and the factor analysis showed factor load values varying between .52 and .80.

**Equality.** This subscale had the following items: ‘I empathize with my students in all circumstances’, ‘If students have doubts about their grades, I show them their exam papers’, ‘Students can easily talk to me about any problem they may have’, ‘I treat my students fairly’, and ‘I tolerate all sorts of difference in the classroom’. The Cronbach α internal consistency factor for this five-item subscale was calculated as 0.75, and the factor analysis showed factor load values varying between .59 and .83.
Justice. This subscale had the following items: ‘I accept all students in my class as they are’, ‘I am fair in giving out rewards’, ‘I treat all my students fairly in letting them have their say’, ‘I inform my students about matters that may concern them’, and ‘I set an example of democracy with my behavior in the classroom’. The Cronbach $\alpha$ internal consistency factor for this five-item subscale was calculated as 0.70, and the factor analysis showed factor load values varying between .43 and .86.

Participation. This subscale had the following items: ‘I conduct student-centered classes to encourage them to participate’, ‘I keep my students active through class debates and project tasks’, ‘I use techniques (e.g., six hats, station, brainstorming, etc.) that facilitate the transfer of democratic values to real life’, and ‘I encourage posters and bills in the classroom, which are known to raise democratic awareness’. The Cronbach $\alpha$ internal consistency factor for this four-item subscale was calculated as 0.67, and the factor analysis showed factor load values varying between .58 and .76.

Scale for Democratic Behavior in the Classroom (Student Form)

Following review of the literature on democratic behaviors in the classroom, a 29-item scale was developed for students. In order to test the validity and reliability of the student form, the scale was administered by the researcher to 300 eighth-year students in five randomly selected schools in Bafr and five in Çarşamba, the largest districts of Samsun. Two hundred ninety-seven scales were included in the analysis, and three were discarded for not complying with the survey standards. Following the analysis of the pre-survey data, seven items with a total item correlation lower than .30 and with factor load values lower than .40 were taken out, and 22 items remained for the scale. A further three items were discarded in order to ensure a parallel structure to the teacher form, and the remaining 19 items composed the student form. The Cronbach $\alpha$ internal consistency factor of the scale was found to be 0.88.

The KMO and Bartlett tests were used to find out whether factor analysis would be necessary for the pre-survey data. The KMO test yielded a result of .93, which suggested that the scale could be interpreted through factor analysis; and the result of the Bartlett test (.000) being lower than the significance level of 0.05 meant that a factor could be obtained from the correlation matrix (Sencan, 2005). In the analysis for structural validity, the scale was divided into four factors (freedom, equality, justice, and participation), and the factor load values varied between .41 and .79. The total variation of the scale with a four-factor structure was calculated around 55%. A five-step Likert scale was used to reveal the extent to which social studies teachers’ behaviors were democratic in the classroom. The lowest value of the scale corresponded to ‘never’ and the highest to ‘always’. The sub-scales of the research scale are described below.

Freedom. This subscale had the following items: ‘Our teacher lets us freely express our views in class’, ‘Our teacher gives us the chance to experience the freedom to choose’, ‘When assigning tasks, our teacher organizes elections’, ‘Our teacher avoids embarrassing us in class’, and ‘Our teacher approaches us with love and respect’. The
Cronbach α internal consistency factor for this five-item subscale was calculated as 0.83, and the factor analysis showed factor load values varying between .54 and .78.

Equality. This subscale had the following items: ‘Our teacher empathizes with us in all circumstances’, ‘If we have doubts about our grades, our teacher shows us our exam papers’, ‘We can easily talk to our teacher about any problem we may have’, ‘Our teacher treats us fairly’, and ‘Our teacher tolerates all sorts of difference in the classroom’. The Cronbach α internal consistency factor for this five-item subscale was calculated as 0.78, and the factor analysis showed factor load values varying between .45 and .79.

Justice. This subscale had the following items: ‘Our teacher accepts us all as we are’, ‘Our teacher is fair in giving out rewards’, ‘Our teacher treats us all fairly in letting us have our say’, ‘Our teacher informs us about matters that may concern us’, and ‘Our teacher sets an example of democracy with his/her behavior in the classroom’. The Cronbach α internal consistency factor for this five-item subscale was calculated as 0.76, and the factor analysis showed factor load values varying between .44 and .59.

Participation. This subscale had the following items: ‘Our teacher conducts student-centered classes to encourage us to participate’, ‘Our teacher keeps us active through class debates and project tasks’, ‘Our teacher uses techniques such as six hats, station, and brainstorming’, and ‘Our teacher encourages posters and bills in the classroom, which are known to raise democratic awareness’. The Cronbach α internal consistency factor for this four-item subscale was calculated as 0.71, and the factor analysis showed factor load values varying between .41 and .77.

Data Analysis

The SPSS 16.0 statistical package program was used in the analysis of the research data on social studies teachers’ democratic behaviors in the classroom. The arithmetic mean, standard deviation, and t-test were used in the data analysis for comparable results of teacher and student views.

Results

In this section, the in-class democratic behaviors of social studies teachers in public primary schools are considered in four dimensions, i.e., freedom, equality, justice, and participation. The t-test was used to find out whether the views of social studies teachers and those of eighth-year students differed.

Freedom

The t-test results for social studies teachers' and eighth-year students' views on the freedom dimension of the scale are given in Table 1.
As can be seen in Table 1, a significant difference was found between the teachers’ and the students’ views on the freedom dimension of the scale \( t_{1843} = 5.128, \ p<0.05 \). In other words, social studies teachers’ perceptions of their democratic behaviors in the classroom are not shared by their students, as far as the freedom dimension of the research is concerned. Teacher and student views have been found to differ on the free expression of opinions, freedom to choose, elections in assigning tasks, avoiding embarrassing students in class, and approaching students with love and respect.

**Equality**

As can be seen in Table 2, a significant difference was found between the teachers’ and the students’ views on the equality dimension of the scale \( t_{1843} = 4.787, \ p<0.05 \). In other words, social studies teachers’ perceptions of their democratic behaviors in the classroom are not shared by their students, as far as the equality dimension of the research is concerned. Teacher and student views have been found to differ on empathizing with the students, showing the students their exam papers, talking to the teacher about any problem that the students may have, fair treatment of the students, and tolerance of all sorts of differences in the classroom.

**Justice**

The \( t \)-test results for social studies teachers’ and eighth-year students’ views on the justice dimension of the scale are given in Table 3.
As can be seen in Table 3, a significant difference was found between the teachers' and the students' views on the justice dimension of the scale ($t_{1843} = 5.709, p<0.05$). In other words, social studies teachers' perceptions of their democratic behaviors in the classroom are not shared by their students, as far as the justice dimension of the research is concerned. Teacher and student views have been found to differ on acceptance of all students as they are, fairness in giving out rewards and letting students have their say, informing students about matters that may concern them, and setting an example of democracy in the classroom.

Participation

The $t$-test results for social studies teachers' and eighth-year students' views on the participation dimension of the scale are given in Table 4.

As can be seen in Table 4, a significant difference was found between the teachers' and the students' views on the participation dimension of the scale ($t_{1843} = 3.240, p<0.05$). In other words, social studies teachers' perceptions of their democratic behaviors in the classroom are not shared by their students, as far as the participation dimension of the research is concerned. Teacher and student views have been found to differ on conducting student-centered classes, keeping students active through class debates and project tasks and encouraging them to participate, use of techniques (e.g., six hats, station, brainstorming, etc.) that facilitate the transfer of democratic values to real life, and encouraging posters and bills in the classroom, which are known to raise democratic awareness.
Discussion and Conclusion

School is the small sample of a society. Students soon take their places in society as adults, making use of the knowledge and skills they acquired throughout their education. It is for this reason that the objectives, content, methods, and democratic qualities of formal education offer important clues on the future of a country. The significance of the role of the teacher is undeniable, especially in learning democracy, which is the acquisition of attitudes and behaviors that require practice and a role model. In this process, the mission of social studies teachers is more critical than that of other teachers. Besides being role models simply as teachers, social studies teachers have a unique place in that they are the teachers of democracy as presented in the curriculum. For this reason, the present study aimed to reveal the extent to which social studies teachers, who have crucial responsibilities for the internalization of democracy by their students, display democratic attitudes and behaviors themselves in the classroom.

If a person’s self-concerning remarks are to be taken as significant and realistic, they need to be corroborated by others. In other words, a social studies teacher’s declaration ‘I am democratic’ gains significance only if their students, too, declare, ‘Yes, our teacher is democratic’. When we look at the results of this study, we cannot miss the dichotomy between the perceptions of teachers and those of the students. While social studies teachers claim to apply the core dimensions of democracy – freedom, equality, justice, and participation – to real life, their students claim otherwise. The students who participated in this survey responded that their teachers did not do their share when it came to the free expression of opinions, equal treatment, consideration of their differences, acceptance as they are, fair treatment, and encouraging student participation in the class. This is despite the democracy units in the social studies curriculum that were put in place in 2006, the student councils, and the Citizenship and Democracy courses in the new 2010 curriculum, which all aim to help students absorb democracy and create a more democratic classroom setting. Consistency between theory and practice depends on the teacher playing his/her part properly. The findings of this study, however, show that it is quite difficult to create a democratic classroom setting with teachers who are not democratic themselves, no matter how often the curricula are changed or how many democratic elements they may contain.

The literature review suggests similarities between the findings of this study and those of the few others conducted in this field. Kncal (2000), for instance, concluded that eighth-year primary school students did not find their teachers democratic enough and thought that a significant number of their teachers showed no tolerance or even resorted to violence. According to Tomul, Çelik, and Taş (2012), most students think that teachers behave unfairly in both distributing instruments, grades, punishment, rewards, and the like, and in their relations with some students. Durmuş and Demiratš (2009) found that while secondary school teachers claimed to be democratic in class, their students claimed otherwise. In his 2004 survey of university students, Demiratš concluded that the lecturers were not adequate in ‘democratic classroom management'. Likewise, Duman and Koç (2004) found that
university lecturers rarely sympathized with their students or admitted their own mistakes. In his two studies ten years apart, Ertürk (1970) compared teacher behaviors and concluded that teacher behaviors were mostly undemocratic and that these inadequacies increased significantly. Küçükahmet (1989) pointed to a positive correlation between teachers being democratic and students turning out democratic. Teachers’ democratic attitudes and behaviors in class will have a positive effect on education and help students internalize democracy.

When we consider the findings of this study and those of similar ones in the field, questions such as the following spring to mind: ‘Is it a dream to form democratic classroom settings in Turkey?’, ‘Can democratic behaviors be expected of the teachers of a country which has itself been unable to climb over the 88th rank since 2006 in the Economist Intelligence Unit democracy index, which ranks 187 countries according to democratic practices?’, ‘Is Turkey an undemocratic country because its education is undemocratic, or is Turkish education undemocratic because the country is undemocratic?’. The smoothest way out of the vicious circle of these questions is through education. Social structures become democratic through educated individuals. In order for democratic culture to remain, educational institutions must do their duties, and especially the teachers of these institutions must adopt and practice democracy as a method in the classroom. So long as freedom, equality, justice, and participation are not transferred to real life, democracy will merely remain as a dream. From the educational point of view, freedom, justice, and equality can come into life depending on participation. Any system that is not participatory cannot guarantee neither freedom nor equality nor justice. The constructivism that has been promoted in the Turkish educational system since 2005 essentially highlights participation and student-centered classes, which are closely related to the methods, techniques, and strategies that a teacher adopts when conducting classes. For example, a teacher can encourage collaboration and mutual assistance through the cooperative learning approach, looking at a fact from different viewpoints through the six-hats teaching technique, collectively completing an unfinished task through the station technique, problem-solving through brainstorming, and empathy and participation through drama. Such a classroom setting can change a student’s approach to events, interaction with people, preferences, values, and, in short, their view of life. It can affect the students’ interaction with their schoolmates, their teachers, and the individuals outside school. It can also help shy, reserved, and timid students become more active. It enables students with different characteristics to work in cooperation and learn together. It improves the sense of duty and responsibility in students. In the long run, an individual who was educated this way can internalize participatory democracy and help contribute to a future democratic society.
References


Sosyal Bilgiler Öğretmenim Demokrat mı?

Ateş:


(Özet)


Başka bir deyişle bu sonuç, Sosyal Bilgiler öğretmenlerinin adalet boyutunda sınıf demokratik davranışlar sergilediklerine ilişkin algılarının öğrencilere tarafindan paylaşıldığını ortaya koymaktadır. Öğretmenlerin öğrencileri olduğu gibi kabul etme, otluk dağıtımında ve söz hakkı vermede adil davranma, öğrencileri ilgilendiren konular da onları bilgilendirmeye ve onları demokrasi konusunda örnek olma noktalarında öğretmen ve öğrencinin görüşlerinin farklılaştığı belirlenmiştir. Öğrenin katılım boyutuna ilişkin öğretmen ve öğrencinin görüşleri arasında anlamlı bir fark bulunmuştur. Başka bir deyişle bu durum, Sosyal Bilgiler öğretmenlerinin katılım boyutunda sınıf demokratik davranışlar sergilediklerine ilişkin algılarının öğrenciler tarafından paylaşıldığını ortaya koymaktadır. Öğretmenlerin öğrencileri merkezli bir ders işleyerek sınıfta içi tartışma ve proje görevlileriyle öğrencileri derste etkin kılma ve disable katılımlarını sağlama, demokratik değerlerin hayata geçirilmesini kolaylaşturan teknikleri (altı şapka, istasyon, beyin fırınları vb.) kullanma, demokrasi bilincinin yerleşmeine katkı sağlayan afiş, poster gibi şeylerin sınıf sergilenmesini özön gösterme konularında öğretmen ve öğrencinin görüşlerinin farklılaşdığı belirlenmiştir.


**Anahtar Sözcükler:** Demokrasi, sosyal bilgiler öğretmeni, 8. sınıf öğrencisi, eğitim.
Pre-service Science and Technology Teachers’ Mental Images of Science Teaching

Nil Yıldız DUBAN

Suggested Citation:

Abstract
Problem Statement: The constructivist reorganization of the elementary education programs in Turkey has revealed the importance of training skilled teachers who are familiar with both constructivist theory and the educational programs. In this way, teachers can adapt to their new roles, learn how to guide students, and prepare the best learning environment. Therefore, the determination of the pre-service science and technology teachers’ mental images of science teaching is assumed to provide great insight for the teacher training institutions into pre-service teachers’ perceptions of the teaching profession and of their students.

Purpose of Study: The purpose of this study is to determine the mental images of science teaching of the students of the Department of Science and Technology Education of Education Faculty at the University of Mersin and present the differences in their mental images in terms of certain variables.

Methods: This study is based on descriptive methods, and the universe consists of students of the Department of Science and Technology Education of Education Faculty at the University of Mersin in 2009-2010. 113 students were randomly selected for this study. The Draw-A-Science-Teacher-Test Checklist (DASTT-C) is one of the tools that can be used to measure pre-service teachers’ perceptions of teaching science. Variables such as gender and the year of study were covered in the sub-problems of the research. T-test and one way analysis of variance were carried out by using SPSS-15.

Findings and Results: As a result of this study, it was found that 13.08% of the pre-service teachers of science and technology courses had student-centered images (exploratory teaching style), 62.62% had mental images...
positioned between student-centered science teaching and traditional science teaching (conceptual teaching style), and 24.30% had traditional science teaching images (explicit teaching style).

Conclusions and Recommendations: In practical courses, such as school experience and teaching practice, pre-service teachers can be provided with opportunities to conduct observations and teach. Academic staff can act as a model by including student-centered activities in their courses.

Keywords: Pre-service science and technology teachers, constructivist theory, science teaching, mental images

The aim of science courses in elementary schools is to ensure that students
• feel curious about the environment that they live in,
• observe and explore their environment and transform their experiences into organized knowledge,
• develop technical and mental skills for their prospective scientific studies,
• are provided with opportunities to carry out hands-on activities so that they can understand the importance of science and its concepts,
• associate what they learn at school with their own lives,
• enjoy science and develop positive attitudes towards school,
• are raised as conscious citizens,
• develop an understanding of science so as to understand the problems covered in contemporary media and the causes of these problems,
• and understand the history of scientific development, the relationship between science and technology, and the social, cultural, and historical background of these developments (Trowbridge, Bybee & Powell, 2004; Howe, 2002; De Boer, 2000).

Considering these objectives, it is clear that elementary school science programs, as well as all other subject areas, need to be capable of developing students’ basic knowledge and critical thinking skills. These programs should also guide the students through developing the basic knowledge, skills, and thinking habits required to comprehend the subjects that they will study in detail in their following years of school (NRC, 2006). Programs designed in accordance with constructivist theory have these qualities. The main actors who implement constructivist programs in classrooms are science teachers who are able to communicate efficiently with the children. They are knowledgeable about child psychology and theories of learning, creating a dynamic learning environment in the classroom, and managing and directing this learning environment. This requires significant amount of effort and responsibility by teachers (Akcadag, 2012; Mui-Sio, 2002; Bager-Kiely, 2001). Teachers
who hold beliefs that are in concert with constructivist approaches are more likely to teach their own students accordingly. The teachers who feel that they can teach with a constructivist understanding are people who have positive attitudes towards science and science teaching. These teachers are also effective science teachers and have students who can learn science efficiently from them (Finson, Thomas & Pedersen, 2006).

Science teachers’ perceptions of science teaching really do matter. How they conceptualize themselves teaching science, or, in other words, their mental images of teaching, can indicate their perceptions of teaching. Perceptions of ability and capability depend heavily on one’s prior conceptualizations. These perceptions form via internal, mental models of interaction (Kanthavy & Yuenyong, 2009). According to Norman, mental models provide the following: (a) a belief system, reflecting beliefs acquired through observation, instruction, or inference; (b) a mode of observation, providing correspondence between the mental model and the physical world; and (c) predictability, allowing a person to understand and anticipate the behavior of a physical system (Thomas, Pederson & Finson, 2001).

Pre-service teachers’ mental images of teaching are associated with their previous experiences in their school years as students. The main factors affecting to their self-images as science teachers are prior teaching-learning experiences and/or the limitations in the real situations (Kang, Shin, Cha, Han & Noh, 2007). These experiences are significant because they establish knowledge and shape teaching practices (Finson et al., 2006). Therefore, pre-service teachers’ mental models may determine their pedagogical understanding regarding what to teach about science, how to perform this teaching, and which activities to use while teaching. The examination of pre-service teachers’ mental models may reveal their action agenda or personal pedagogical system that can ultimately impact what science they teach and how they go about teaching it. Drawings allow one to consider the setting, the arrangement of objects in physical space, and implicit interactions. They represent vivid images of interior understandings that can be captured rather quickly (Minogue, 2010). Drawings and pictures are helpful instruments to evaluate teaching identities that are often unseen, influenced through by past and present stereotypes, and can be used to encourage pre-service teachers to explore their beliefs (Cullen, 2006; Markic, Elks & Valanides, 2008). According to Weber and Mitchell (1996), images are constructed to make sense of human experiences and communicate that sense to others. The role of images cannot be understood if they are not explored and examined (Uner, Akkuş & Turan, 2012).

An instrument was developed by Thomas and colleagues to determine pre-service teachers’ mental images of science teaching and predict what kind of a science teaching they are likely to present in the future. This instrument, DAST-C, was further modified to include characteristics of science classrooms and science teachers, and it was renamed as Draw-A-Science-Teacher Teaching Checklist (DASTT-C) by Thomas and Pedersen in 1998. This instrument was modified again by Thomas, Pedersen, and Finson in 2001. They expected to illuminate the knowledge and beliefs of pre-service elementary teachers prior to their coursework in
elementary science teaching methods. The main concept of DASTT-C is a listing of the teacher-centered and the student-centered attributes of an elementary science teacher, as opposed to a scientist (Yılmaz, Türkmen, Pedersen & Huyuğüzel Çavuş, 2007). The DASTT-C is one of the essential instruments for developing techniques and procedures that promote reflection and analysis of pre-service teachers’ thinking or mental models.

A brief review of the relevant literature shows that the DASTT-C test is employed by some studies as a measurement instrument for determining pre-service teachers’ mental images of science teaching (Whyte & Ellis, 2002-2003; Yılmaz et al., 2007; Markic et al., 2008; Yılmaz, Türkmen & Pedersen, 2008; Demirdögen & Elmas, 2009; Markic & Eliks, 2010; Markic & Eliks, 2010b; Tatar, Yıldız, Buldur & Akpınar, 2010; Al-Amoush, Markic, Abu-Hola & Eliks, 2011; Elmas, Demirdögen & Geban, 2011; Markic & Eliks, 2011; Uner et al., 2012; Markic & Eliks, 2012). On the other hand, in some of the studies, DASTT-C is used before and after a science teaching practice course to determine whether the course makes a change in pre-service teachers’ mental images of science teaching (Finson, 2001; Louca, Rigas & Valanides, 2003; Thomas & Pedersen, 2003; El-Deghaidy, 2006; Talsma, 2007; Minogue, 2010; Ambusaidi & Al-Balushi, 2012).

A reorganization of the elementary education programs in Turkey, based on the constructivist theory, has revealed the importance of training skilled teachers who are familiar with the constructivist theory and the educational programs. In this way, teachers can adapt to their new roles, learn how to guide students, and prepare the best learning environment. Since pre-service teachers are the ones who are going to implement the new programs, how pre-service teachers see themselves in their future classrooms has a great significance and value (Elmas et al., 2011). Thus teacher educators may utilize their reflections as a basis for reviewing and reflecting on the efficiency of science teaching method courses. An examination of their mental images of teaching can also provide opportunities for pre-service teachers to examine their beliefs, personal theories, and the personal knowledge they bring, as well as critically examine what images are reinforced during teacher education programs (Thomas et al., 2003; Thomas & Pedersen, 2003). Therefore, a determination of the pre-service science and technology teachers’ mental images of science teaching is assumed to provide great insight into pre-service teachers’ perceptions of the teaching profession and students for the teacher training institutions and teacher trainers. This research was performed with this objective in mind.

The purpose of this study is to determine the mental images of science teaching of the students of Department of Science and Technology Education of Education Faculty at the University of Mersin and to present the differences in their mental images in terms of certain variables. To this end, this study sought to answer to the following questions:

1. What mental images of science teaching do the students of the Department of Science and Technology Education like?
2. Do the mental images of science teaching of the students of the Department of Science and Technology Education exhibit significant differences in terms of their gender?

3. Do the mental images of science teaching of the students of the Department of Science and Technology Education exhibit significant differences in terms of year of study?

**Method**

**Sample**

This study is based on the descriptive methods, and the universe consists of students of Department of Science and Technology Education of Education Faculty at the University of Mersin in 2009-2010. There were 113 randomly selected students in this study.

**Research Instrument**

In this study, the DASTT-C was used as a data collection instrument. The students were instructed to draw a picture of themselves as a science teacher at work on a paper that was supplied to them. At the bottom of the page, the students were instructed to write a brief explanation, describing their drawings and specifically answering the questions "What is the teacher doing?" and "What are the students doing?" regarding their drawings. Although DASTT-C developers Thomas et al. (2001) reported the instrument's reliability to be KR-20 = 0.82, the instrument's reliability was found to be KR-20 = 0.72 in this research. This instrument was applied through the end of the fall semester.

The developers of the DASTT-C (Thomas et al., 2001) classified drawings of school practice along a continuum, with scores of 0-4 representative of the student-centered (exploratory) teaching style, 10-13 representative of the teacher-centered (explicit) teaching style, and 5-9 representative of neither the student-centered nor the teacher-centered (conceptual) teaching style. The characteristics of the three teaching styles are as follows (Minogue, 2010; Yılmaz et al, 2007; Firson et al, 2006; Whyte & Ellis, 2002-2003):

Explicit teaching: This is a didactic model for transmitting algorithmic or factual information. The teacher is the central image and the one who is predominantly a distributor of information, while students are relatively passive and often in desks arranged in rows. Student assignments may be written on the blackboard. Students may be looking at texts or working with pencil/pen and paper.

Conceptual teaching: This is a model that is didactic and at the same time constructivist. The tasks assigned to students are non-routine tasks that teach a concept central to an academic discipline. The teacher specifies the concept that is being taught through simultaneous, conceptually redundant activities. Tasks involve investigation, discovery, and open-ended problem-solving. In representations of conceptual teaching, typically, the students are carrying out hands-on, multiple-
media activities in interdependent small groups; student-to-student task-related talk may also be represented.

Exploratory teaching: This is a Maieutic model for teaching concepts. What makes exploratory teaching Maieutic is that the curricular content arises in response to students’ interests and decisions rather than occurring through specification of which disciplinary concepts will be taught. In representations of exploratory teaching, the teacher may be represented observing students who are working together or actively orchestrating students’ movements as students work individually, in pairs, or in small groups.

Data Analyses

The Draw-A-Science-Teacher-Test Checklist (DASTT-C) is one tool that can be used to measure pre-service teachers’ perceptions of teaching science. The DASTT-C score sheet (for the test administrator) has three sections, including teacher, students, and environment. Each section is scored in a dichotomous fashion with an indication of “present” or “not present” in the picture.

The “Teacher” section of the instrument is divided into two subsections that focus on the teacher’s activity (demonstrating, lecturing, using visual aids, etc.) and the teacher’s position (posture, and location with respect to students, such as at the head of the classroom). The “Students” section of the instrument is likewise divided into two subsections that focus on the activities of students (passively receiving information, responding to the teacher, etc.) and students’ positions (how they are seated within the classroom). The third section, “Environment,” consists of elements typically found inside the classrooms, such as desks arranged in rows, the symbols of teaching (e.g. chalkboards), and the symbols of science (e.g. science equipment). Each element in each section of the instrument is considered by the instrument’s developers to depict teacher-centered elements of teaching and classroom images. If a teacher-centered element appears in a subject’s drawing, the scorer simply marks that element on the checklist. Marks can later be added to derive both sub-scores for each section as well as an overall checklist score. Total checklist scores can range from 0 to 13 (the higher the score, the more teacher-centered the image). Given this score, students can place themselves on a continuum from the student-centered (0) to the more teacher-centered (13), as indicated by the DASTT-C measure (Thomas et al., 2001).

By using a predetermined coding system, the author and a field expert analyzed the drawings and descriptions, following what Patton (2002) refers to as analyst triangulation. First, each drawing was coded as male, female, or unidentified gender. Second, each drawing by pre-service teachers was coded with a number from 1 to 113. Third, since six papers did not have clear drawings, they were excluded from the sample. A total of 107 tests were examined and then scored according to DASTT-C. Then the author and the expert independently examined and scored the drawings. They discussed the issues on which there was “agreement” and “disagreement” in all of the scored drawings. For the reliability test of the study, the reliability formula
suggested by Miles and Huberman (1994) was used: Reliability = \[ \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}} \].

If reliability calculation is above 70%, this result is regarded as reliable for the research (Miles and Huberman, 1994). As a result of the calculation, the reliability of the research was found to be 90% for the drawings in the DASTT-C test. This result was regarded as reliable for the research. On the other hand, for the gender and year of study variables covered in the sub-problems of the research, t-test and one way analysis of variance were carried out by using SPSS-15.

**Results**

The DASTT-C test scores of the pre-service teachers involved in the study are shown in Table 1 based on their gender and year of study as intervals indicating learning styles preferences.

**Table 1.**

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Gender</th>
<th>0-4 score</th>
<th>5-9 score</th>
<th>10-13 score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td>Female</td>
<td>0</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>0</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td><strong>Second Year</strong></td>
<td>Female</td>
<td>1</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>1</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td>Female</td>
<td>3</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
<td>Female</td>
<td>6</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>3</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>14</td>
<td>67</td>
<td>26</td>
</tr>
</tbody>
</table>
The score intervals and frequencies in Table 1 are illustrated in Figure 1.

![Figure 1. Relation between frequency and scores](image)

As can be seen in Figure 1, according to the DASST-C test scores of the pre-service teachers, the first bar represents those students with 0-4 points (those having a student-centered teaching style-Exploratory), the second bar represents those students with 5-9 points (those having neither a student-centered nor a teacher-centered teaching style-Conceptual) and the third bar represents those students with 10-13 points (those having a teacher-centered teaching style-Explicit). The graphic shows that among the pre-service teachers, 13.08% had exploratory, 62.62% had conceptual, and 24.30% had explicit teaching styles.

Below, sample drawings are given as indicators of the mental images of the pre-service teachers with exploratory, conceptual, and explicit teaching styles. In order to obtain data about their mental images of science teaching, the behaviors of the teacher and students were stated by the pre-service teachers in writing, in addition to their visual presentation of student-teacher and learning environment.

A drawing by one of the pre-service teachers with an exploratory teaching style is given below as a sample (Figure 2). The pre-service teacher, who was determined to have student-centered teaching style with a score of 2 points, explained the drawing by stating “The teacher is making the students carry out independent experiments (student-centered education)” and “The students are performing a hands-on learning activity far from memorizing based on experiment and observation.”
A teacher whose drawing showed one of the teaching styles (with a score of 7 points) explained the drawing by saying, “At the end of the subject, the teacher is showing the students a crossword puzzle to be solved with relevant science vocabulary” and the pre-service teachers with conceptual teaching styles are given below as a sample (Figure 3). The pre-service teacher was determined to stand somewhere between student-centered and teacher-centered “students are answering one by one” and “the students are curious to solve the crossword puzzle”.

Figure 2. Exploratory DASTT-C picture and explanation
As an example, a drawing is shown in Figure 4 which was drawn by one of the pre-service teachers with an explicit teaching style. The pre-service teacher, who was determined to have a teacher-centered teaching style with a score of 11 points, explained the drawing by stating, “The teacher is telling students about the concept of velocity in a Science and Technology course by giving examples on the board”, and, “The students are taking notes about the subject first and then they are trying to solve the sample problems. One of the students is in front of the board answering a sample question”.
Based on the second sub-problem of the research, an independent t-test was conducted to evaluate any statistical differences between DASTT-C mean scores of pre-service students with regard to gender.

**Table 2. Gender Differences**

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>57</td>
<td>7,4737</td>
<td>2,82909</td>
<td>105</td>
<td>-1,522</td>
<td>0,131</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
<td>8,2000</td>
<td>2,08982</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\*p<0.05

As seen in Table 2, the results show no significant difference between females and males’ DASTT-C mean scores (t(105) = 1.52, p>0.05).
Intra-group multiple comparisons were performed based on the third sub-problem of the research, using one-way analysis of variance (ANOVA) to determine if the pre-service teachers’ mental images exhibit any differences in terms of year of study.

Table 3.
Results of the One Way Analysis of Variance Regarding Differences, According to Year of Study.

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>(X^2)</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>88,474</td>
<td>3</td>
<td>29,493</td>
<td>5,166</td>
<td>.002</td>
</tr>
<tr>
<td>Within groups</td>
<td>587,783</td>
<td>103</td>
<td>5,707</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in Table 3, the results show a significant difference between years of study and DASTT-C mean scores \([F_{(3,103)}=5.16, p<.01]\). Post-hoc correlation analysis was performed to identify the source group of the difference. First, the homogeneity of the variance was checked to determine which correlation technique to choose, and Tamhane’s test was then selected after concluding that variance wasn’t homogeneous \([L_{(3,102)}=7.906, p<.01]\).

Table 4
Result of the Post-hoc Test Among the Years of Study

<table>
<thead>
<tr>
<th>I</th>
<th>J</th>
<th>Mean difference (I-J)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>Fourth Year</td>
<td>2.50207*</td>
<td>.009</td>
</tr>
</tbody>
</table>

As can be seen in Table 4, there was a significant difference between the first and fourth year students. Indeed, it was found that the scores received by the fourth year students were significantly lower than those of the first year students. The higher the score according to the DASTT-C test, the more teacher-centered the mental image (Thomas et al., 2001). Therefore, the fourth year students had far more student-oriented results on the DASTT-C test.
Discussion and Conclusion

The aim of this research was to determine pre-service science and technology course teachers’ mental images of science teaching and to learn whether these images exhibited differences with regard to gender and year of study. As a result of this study, it was found that 13.08% of the pre-service teachers of science and technology courses had student-centered images (exploratory teaching style), 62.62% had mental images positioned between student-centered science teaching and traditional science teaching (conceptual teaching style), and 24.30% had traditional science teaching images (explicit teaching style). This finding suggests that a new trend has emerged with pre-service teachers, whose notions of the teaching process have become more student-centered in line with the constructivist changes to the elementary educational system.

These findings of the research are similar to the findings of studies by Demirdögen and Elmas (2009), who report that 42.9% of the pre-service teachers in their study had conceptual styles; this also matches the study of Elmas et al. (2011), who report that 39.4% of the pre-service teachers in their study had mental images connected with conceptual teaching style. In studies by Yılmaz et al. (2008), Ambusaidi and Al-Balushi (2012), and Uner et al. (2012), more than half of the respondents described a situation in-between a student-centered approach and traditional science teaching in their drawings about the learning environment in science and technology courses. On the other hand, Louca et al. (2003) and Yılmaz et al. (2007) state that nearly half of pre-service teacher possessed teacher-centered science teaching images. The results of the research of Kang et al. (2007) revealed that pre-service science teachers’ self-images as science teachers were more ‘teacher-centered’ than ‘student-centered’. According to the results of their study, Al-Amoush et al. (2011) state that pre-service and in-service teachers’ mental images were mostly teacher-centered. Markic and Eilks (2012) state that freshman biology and primary school student teachers expressed beliefs about their subjects which are more in line with modern educational theory, while conversely, physics and chemistry student teachers profess quite traditional beliefs about science teaching and learning. Markic et al. (2008), however, state that the mental images of pre-service teachers regarding science teaching were mostly student-centered.

Another finding of this research is that the pre-teachers’ mental images of science teaching did not exhibit any differences in terms of gender, which is similar to the findings of studies by Yılmaz et al. (2007) and Tatar et al. (2010). On the other hand, in a study by Elmas et al. (2011), a significant association was found between gender and instructional style. In that study, female pre-service teachers were more willing to use student-centered approaches than male pre-service teachers.

Finally, this research identified a difference in favor of senior students with regard to having student-centered science teaching images (exploratory teaching style) between the science teaching mental images of the students in their first year and those of students in their fourth year, which suggests that pre-service teachers have moved away from traditional science teaching (in which they were educated).
and towards the constructivist science teaching (in which the student is active). The difference between the first and fourth year students could be attributed to the educational courses taken by senior students due to their study for four years. During their education, pre-service teachers learn about the constructivist theory of teaching and become familiar with student-centered teaching applications. Finally, the “School experience” and “Teaching practice” courses, offered from the beginning of the second term of the third year, could have an impact on pre-service teachers’ mental images of science teaching. According to Anderson and Mitchener (1994), field experience in schools is an opportunity for students to experiment with who they are as professional educators and what they are learning in their courses (Yılmaz-Tuzun, 2008). This finding is similar to the finding of Tatar et al. (2010) that the higher the year of study, the greater the increase in pre-service teachers’ “exploratory” teaching style. The findings are also similar to the findings of Finson (2001), Louca et al. (2003), El-Deghaidy (2006), Talsma (2007), and Minogue (2010), that the pedagogical courses, which pre-service teachers have taken during their time as faculty, make changes in pre-service teachers’ mental images of science teaching.

There is a great emphasis on constructivist theory in the reform of the elementary school curriculum in Turkey. Nevertheless, there is also a need for the teacher education system to engage pre-service teachers with these new educational trends. This study has contributed to our understanding of current pre-service teachers’ assimilation of constructivist theories of education. According to the results of the current study, the researchers recommend the following:

- Teaching practices recommended by constructivist theory should be covered more in “courses on education” in order to increase pre-service teachers’ knowledge of student-centered science teaching.
- During the micro-teaching activities in Science Teaching Methods courses, pre-service teachers should be encouraged to create a constructivist education environment and to carry out student-centered teaching implementations.
- In practical courses such as “School experience” and “Teaching practice”, pre-service teachers should be provided with opportunities to conduct observations and teach.
- Academic staff should act as models by including student-centered activities in their faculty courses.

For future research:

- The “Science Teaching Efficacy Belief Instrument” (STEBI) or “Science Teaching Efficacy Belief Scale” (STEBS) can be use with the DASTT-C test.
- A mixed method can be use to determine pre-service or in-service teachers’ mental images of science teaching by using both the DASTT-C test and interviews.
References


Fen ve Teknoloji Öğretmen Adaylarının Fen Öğretimine Yönelik Zihinsel Imgeleri

Atıf:

(Özet)

Problem Durumu

Araştırmanın Amacı
Bu araştırmanın amacı, Mersin Üniversitesi Eğitim Fakültesi İlköğretim Bölümü Fen Bilgisi ABD öğretmenlerinin fen öğretimine yönelik zihinsel imgelerini belirlemek ve çeşitli deşijjenler açısından bu imgelerinde farklılık olup olmadığını ortaya çıkarmaktır. Bu amaç doğrultusunda şu sorulara yanıt aranmıştır:

1. Mersin Üniversitesi Eğitim Fakültesi İlköğretim Bölümü Fen Bilgisi ABD öğretmenlerinin fen öğretimine yönelik zihinsel imgeleri nasıldır?
2. Mersin Üniversitesi Eğitim Fakültesi İlköğretim Bölümü Fen Bilgisi ABD öğretmenlerinin fen öğretimine yönelik zihinsel imgeleri cinsiyetlerine göre anlamlı bir farklılık göstermektedir?
3. Mersin Üniversitesi Eğitim Fakültesi İlköğretim Bölümü Fen Bilgisi ABD öğretmenlerinin fen öğretimine yönelik zihinsel imgeleri sınıf düzeylerine göre anlamlı bir farklılık göstermektedir?
Araştırma\'ın Yöntemi


Araştırma\'ın Bulguları

Araştırma bulgularına göre, öğretmen adaylarının % 13,08’ inin öğrenci merkezli eğitim stiline sahip oldukları, % 62,6’ inin öğrenci merkezli eğitim stili ile öğretmen merkezli eğitim stilinin arasında kalkıları ve % 24,30’unun ise öğretmen merkezli eğitim stiline sahip oldukları ortaya çıkmıştır. Cinsiyet değişkenine göre,
kadan ve erkek öğretmen adayları arasında fen öğretimine yönelik zihinsel imgeler açısından anlamlı bir farklılık görülmemiştir. Sınıf düzeylerine göre öğretmen adaylarının fen öğretimine yönelik zihinsel imgeleri arasında farklılık olup olmadığını belirlemek için yapılan analizler sonunda, birinci sınıflar ile dördüncü sınıflar arasında bir farklı olduğu ortaya çıkmış ve dördüncü sınıftaki öğrencilerin puanlarının birinci sınıflara nazaran anlamda derecede düşük olduğu sonucuna ulaşılmıştır. Başka bir deyişle, öğrenci merkezli sınıf imgesi açısından elde edilen sonuç dördüncü sınıfların lehinedir.

Araştırmanın Sonuçları ve Önerileri

Araştırmanın sonuçunda örneklemdeki öğretmen adaylarının yarısından fazlasının öğrenci merkezli bir fen öğretimi anlayışı ile öğretmen merkezli bir anlayış arasında olduklarını, cinsiyetlere göre fen öğretimine yönelik zihinsel imgelerin farklılaşmadığı ve dördüncü sınıftaki öğrencilerin fen öğretimine yönelik zihinsel imgelerinin birinci sınıftakılere göre daha öğrenci merkezli olduğu görülmüştür. Bu sonuca dayanılarak, özel öğretim yöntemleri derslerinde öğretmen adaylarının mikro öğretim uygulamalarında yapılandırıcı ortam oluşturma konusunda yardımcı olunup ve onlara bu konuda fırsat sunulması önerilebilir. Öğretim elemanları da kendi derslerinde yapılandırıcı öğrenme ortamları düzenleyerek öğretmen adaylarına model olabilirler.

 Anahtar Sözcükler: Fen ve teknoloji öğretmen adayı, fen öğretimi, yapılandırıcı kuram, zihinsel imgen
Metaphors for the Internet Used by Nursing Students in Turkey: A Qualitative Research

Emine ŞENYUVA*  
Hülya KAYA**

Suggested Citation:

Abstract

Purpose of Study: This study was conducted within the scope of a qualitative and quantitative study pattern in order to determine nursing students' perceptions of the Internet through metaphors and the variables affecting such metaphors.

Method: The study sampling included all undergraduate students (575 individuals) attending a nursing school during the 2009-2010 spring semester. The entire population was targeted in the study; 500 students volunteered to participate, and 87.0% of the population was reached. The data were collected using an information form consisting of 9 questions identifying the socio-demographic attributes and Internet use habits of the students, and each student was asked to complete the sentence "Internet is like...........because................." in order to determine their perceptions relating to the concept of the Internet. The data were analysed using qualitative (content analysis) and quantitative (frequency, chi-square) data analysis methods.

Findings: It was found that 25.5% of the nursing students were freshmen, 24.9% were juniors, 26.5% were sophomores, and 23.1% were seniors; 85.7% were female and 14.3% were male; and their average age was 21.32±1.89. The nursing students produced 204 valid metaphors in relation to the concept of the Internet. The top 3 metaphors were library (n: 51, 10.2%), world (n: 32, 6.4%), and book (n: 17, 3.4%). The metaphors produced by the nursing students in relation to the concept of the Internet were collected under 10 conceptual categories in terms of their common

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properties. With regard to the perceptions of the nursing students relating to the concept of the Internet, the predominant categories were “the Internet as a source of information” (133 students, 51 metaphors), “the Internet as a harmful tool” (109 students, 44 metaphors), “the Internet both as useful and harmful” (74 students, 56 metaphors), and “the Internet as a comprehensive tool” (91 students, 50 metaphors). It was also found that the conceptual categories did not show any difference according to the grades of the nursing students, the secondary school they graduated from, their Internet use habits, their primary purpose of using the Internet, and the place from where they connected to the Internet (p > 0.05).

Conclusions and Recommendations: Results showed that a majority of the nursing students perceived the Internet as a source of information but stated that it should be used consciously. In line with these findings, metaphors can be used as a powerful study tool in determining, understanding, and explaining personal perceptions and mental images in relation with the Internet.

Keywords: Metaphor, perception, mental image, Internet, nursing student, nursing

In an information society, technological developments and advancements require nurses to follow up on developments, adapt to changes, need certain information, access the correct information needed, and use technology to reach such information. Much attention has been paid in the past decade to the use of technology in nursing education with many recent descriptions of Internet based learning experiences (Atack & Rankin, 2002; Özkul & Kaya, 2009; Wilkinson et al., 2004). This innovation in educational delivery methods overcomes traditional barriers to education and makes education more accessible for nursing students (Atack & Rankin, 2002).

Today, the Internet offers significant opportunities for accessing information in fields of life such as economics, politics, education, and health, as well as for producing, sharing, and storing information (Atack & Rankin, 2002; Çelik, 2008; Özkul & Kaya, 2009; Wilkinson et al., 2004). Thanks to improving Internet access speeds, increasing capacities in accessing, and distributing and storing scientific data, Internet use is becoming more widespread, and the facilities it provides are developing rapidly (Çelik, 2008; Estabrooks et al., 2003). One can only benefit from such facilities by using the Internet correctly, effectively, and efficiently. This is possible through identifying students’ perceptions and views concerning the Internet and their thoughts about the nature and potential of the Internet, and developing educational programs according to their needs (Çelik & Kahyaoglu, 2007; Estabrooks et al., 2003; Fırat & Kabakçı, 2010). The most powerful mental tools that can be used in identifying students’ perceptions and demonstrating how the structure of the Internet is understood are the metaphors created for the concept of the Internet. Metaphors are not only explanatory, but also give important clues about how the
The term metaphor comes from the Greek term metafora, meta meaning beyond, in excess of, and pherein meaning to carry, to bear (Balca, 2011; Öztürk, 2007). The Turkish Language Institution (TDK, 2011) defines metaphor as “simile; any word used outside its real meaning by means of association or analogy; or using a word or concept in a way to have meanings other than the accepted meaning of it” (http://tdkterim.gov.tr/bts/ , 02.05.2011). Metaphor, which is generally assumed to be used in literature, is a linguistic analogy frequently used by individuals in their daily life as well (Lakoff & Johnson, 2005 Retrieved: Saban, 2009). Although it is generally considered as a figure of speech enriching the discourse, it is far more important than that. Using metaphors is a form of thought and view that helps us to perceive the world in general. In this aspect, metaphors allow the individual to see a certain fact as another fact by directing the mind from a certain perception form to another (Morgan, 1980 Retrieved: Saban, 2009). In other words, metaphors not only influence thought processes, language, and science, but they also have a formative effect on the way an individual expresses himself (Balca, 2011; Saban, Koçbeker & Saban, 2006). While Gentner and Wolff (2000) defined metaphor as a “multi-dimensional image”, MacCormoc (1999) defined it as the “expression of similarities between the differences” and stated that metaphoric development had an important role in formal intelligence while creating and expressing an important element (Gentner & Wolff, 2000; MacCormoc, 1999 Retrieved: Güven & Güven, 2009). According to Lakoff and Johnson (2005), metaphor is one of the most powerful mental tools structuring, directing, and controlling our thoughts and how we develop and process events (Lakoff & Johnson, 2005 Retrieved: Saban 2006). Yob (2003) defined metaphor as “a powerful mental tool that an individual may use in understanding and explaining a highly abstract, complicated or theoretical fact”, Saban (2004) as “relating abstract concepts to concrete concepts” and Demirel (2005) as “borrowing the name of something which resembles what is tried to be understood.” The definitions suggest that metaphor is not a mere figure of speech used to enrich the language, but is used in our daily life as a powerful mental tool structuring, directing, and controlling our thoughts, and the concepts formed in the mind are explained through their association with other concepts (Cerit, 2008; Erdoğan & Gök, 2008; Firat & Kabakç, 2010; Saban, 2008; Saban, Koçbeker & Saban, 2006; Shuell, 1990). McNeil et al. (2003) suggested that health care delivery increasingly relies on information technologies for effective decision-making and care delivery. Computer use, and Internet and database use in particular, is of great importance in today’s
technological environment (Atack, 2003). Familiarity with using the Internet is necessary for many practical nursing applications. McCannon and O’Neal (2003) emphasized the most crucial aspects Internet use skills required by nurses.

Metaphor analysis, which is widely used in revealing the detailed views and experiences of professionals in regard to practices in nursing in foreign countries, is generally used in educational studies in our country, but there are no studies on this subject in the field of nursing (Cerit, 2008; Çelik & Kahyaoglu, 2007; Erdoğan & Gök, 2008; Fırat & Kahakçığ, 2010; Güven & Güven, 2009; Öztürk, 2007; Saban, 2004; Saban, Koçbeker & Saban, 2006; Shuell, 1990; Yob, 2003).

It is important to understand students’ perceptions regarding the Internet and configure educational programs in such a way as to develop this perception for the accurate, effective, and conscious use of the Internet. In light of this information, this study was planned to reveal the perceptions of the nursing students about the Internet by using metaphors and to determine certain variables affecting such metaphors; this was accomplished by conducting this study in a qualitative and quantitative pattern. With this purpose, answers to the following questions were sought:

1. What are the Internet-related metaphors used by the students?
2. Under what conceptual categories can the metaphors produced by the students be gathered in terms of their common characteristics?
3. Do the principal conceptual categories show any differences according to variables such as students’ age, sex, school of graduation, whether they use the Internet or not, the primary purposes of Internet use, and location of accessing the Internet?

Method

Study Design

The study uses descriptive-quantitative research practices in terms of determining certain identifying characteristics and Internet usage status of the students, and uses qualitative research practices in terms of analysing and interpreting the Internet-related metaphors.

Population and Sample

The sampling of the study consisted of all undergraduate students (575 students) attending a nursing school during the 2009-2010 spring term. The entire research group was targeted, and 87% (500 students) were reached.

The research was conducted at one of the oldest university schools of nursing in Turkey, founded in 1961. When the institute was evaluated for information sources, it was seen that there was a computer laboratory in the school. There are 28 computers available for student use in the school’s computer laboratory, and there is
an average of 20 students per computer. Nursing students have the opportunity to access to the Internet 8 hours a day.

Of these nursing students, there were 25.5% freshmen, 24.9% juniors, 26.5% sophomores, and 23.1% seniors; there were 85.7% females and 14.3% males. Their average age was 21.32±1.89. Of these students, 33.3% graduated from high school, 25.3% graduated from an Anatolian high school, and 13.5% graduated from a vocational health high school.

Development and Implementation of Data Collection Tool

The data in the study were collected by means of an information form consisting of 9 questions aiming to determine the socio-demographic characteristics and Internet usage status of the students and by asking the students to complete the sentence “Internet is like.....................because......................” to reveal the students’ perceptions about the concept of the Internet. In line with this purpose, the students were handed a blank paper with the above sentence at the top of the page and were asked to use this sentence to express their thoughts, focusing on a single metaphor. In metaphor studies, the term like is generally used to create a clearer association between the subject and origin of the metaphor. In this study, the participants were asked to produce a reason or logical foundation for their analogies. The nursing students were given unlimited time to develop their metaphoric images and were asked to write down their perceptions relating to the Internet. These compositions formed by students’ handwriting and their own expressions were the basic data sources of the study.

Data Analyses

Five hundred students participated in the study. Two of the students were not included in the study as they failed to provide a logical foundation for their metaphors, and the metaphors of 498 students were assessed.

The metaphors developed by the students were analysed and interpreted in 6 stages: (1) naming stage, (2) elimination stage, (3) re-organisation and compilation stage, (4) category development stage, (5) verification of validity and reliability stage, and (6) transferring the data into an SPSS package program for quantitative data analysis.

Stage 1. Naming: In this stage, a temporary list was created for the students’ metaphors and arranged in alphabetical order. In line with this purpose, it was assessed whether each student expressed a certain metaphor clearly. At this stage, the metaphor expressed in papers presented by each student was coded (e.g. world, sky, map, library, space, etc.).

Stage 2. Elimination: At this stage, each metaphor was resolved using “metaphor analysis” and “content analysis” techniques and was analysed in terms of similarities or common characteristics with other metaphors. For this, the metaphors produced by the students were reviewed individually, and each metaphor image was analysed in terms of the (a) subject of the metaphor, (b) origin of the metaphor, and (c) the relationship between the subject and origin of the metaphor. The students’ papers were sorted on the basis of 4 primary criteria.
1. Papers including only definitions without any origin of metaphor,
2. Papers including a certain metaphor without giving any reason for the metaphor,
3. Metaphors having characteristics of more than 1 category, and
4. Metaphors that were illogical or had no contribution to a better understanding of the concept of the Internet. There was no metaphor without any contribution to better understanding the concept of the Internet.

Stage 3. Reorganisation and compilation: After the elimination process, there were 205 valid metaphors in 498 papers. The metaphors generated at this stage were ordered alphabetically and coded again. Each metaphor was reviewed, and a sample metaphoric expression was selected from each of the compositions representing each metaphor, and a list of metaphors was prepared. If the metaphoric expressions selected were too long, the most important (or striking) pieces of the metaphor were conveyed, keeping the students’ own words and discourse. Ellipsis (...) was used in the metaphoric expressions to indicate the excluded words, sentences or paragraphs.

The information relating to the producer of the metaphoric image was coded within parentheses at the end of the related metaphor image. The codes have the following meanings: (1) The grades of the students were indicated as 1, 2, 3, 4; (2) Sex was indicated using M and F.; and (3) A19, A20, A21, etc. were used to indicate the age of the students.

Stage 4. Categorization: At this stage, the metaphors were gathered under 10 conceptual categories in terms of purposes-benefit-disadvantages of using the Internet on the basis of metaphoric expressions. In line with this purpose, the metaphors selected as samples were taken as the basis. Each metaphor was analysed in terms of purposes-benefits-disadvantages of using the Internet and coded with a specific code (e.g. information source, facilitator, guide, harmful, both beneficial and harmful, very comprehensive, etc.). Afterwards, these codes were expressed in terms of the purposes-benefits-disadvantages of using the Internet and turned into conceptual category headings.

Stage 5. Ensuring validity and reliability: Validity and reliability are the 2 most important criteria to confirm and increase the credibility of the study results. In this context, detailed reporting of the data collected and explanation of the ways in which the results were reached by the investigator are among the important criteria for validity in a qualitative study (Yıldırım & Şimşek, 2005). There were two important procedures in terms of validity of the study results in this study.

1. The data analysis process was explained in detail.
2. For each of the metaphors obtained in the study, a sample metaphor, assumed to represent it in the best way, was determined, and these were provided in the findings.

Two significant strategies were followed for the internal reliability of the study. As part of the first strategy, both investigators worked in harmony at every stage of
the study from start to end and tried to reach a consensus in case of any conflict. As part of the second strategy, expert opinion was taken to confirm whether the metaphors under 10 conceptual categories represented the said conceptual categories. In line with this purpose, the opinion of an academician in the same program was taken. The opinion of the expert was compared to the opinions of the investigators, and the number of consensuses and divergences was determined, and the internal reliability of the study was calculated using Miles and Huberman’s (1994, p. 64) formula (Reliability=Consensus/(Consensus+Divergence)). According to Miles and Huberman, if the concordance between the assessments of the expert and the investigators approximates to or exceeds 90%, the desired level of reliability is reached. There was 97.8% concordance (reliability) in the reliability of this study.

The expert academician associated the metaphor of ocean with the sixth conceptual category (the Internet as an indefinite concept) instead of the tenth conceptual category (the Internet as a very comprehensive tool), the metaphor of space with the sixth conceptual category (the Internet as an indefinite concept) instead of the tenth conceptual category (the Internet as a very comprehensive tool), the metaphor of Istanbul with the tenth conceptual category (the Internet as a very comprehensive tool) instead of the sixth (the Internet as an indefinite concept), the metaphor of black hole with the first conceptual category (the Internet as information provider/source) instead of the tenth conceptual category (the Internet as a very comprehensive tool), the metaphor of reading very much with the tenth conceptual category (the Internet as a very comprehensive tool) instead of the first conceptual category (the Internet as information provider/source), the metaphor of book with the sixth conceptual category (the Internet as an indefinite concept) instead of the tenth conceptual category (the Internet as a very comprehensive tool), the metaphor of devil’s triangle with the seventh conceptual category (the Internet as a harmful tool) instead of the ninth conceptual category (the Internet both as beneficial and harmful tool), the metaphor of trash with the third conceptual category (the Internet as a facilitator) instead of the ninth conceptual category (the Internet both as beneficial and harmful tool), the metaphor of physiological need with the tenth conceptual category (the Internet as a very comprehensive tool) instead of the fifth conceptual category (the Internet as a basic need), the metaphor of neighbour with the tenth conceptual category (the Internet as a very comprehensive tool) instead of the third conceptual category (the Internet as a facilitator), the metaphor of rubber with the ninth conceptual category (the Internet both as a beneficial and harmful tool) instead of the ninth conceptual category (the Internet as a very comprehensive tool). Given the data, reliability was 487/(487 + 11) = 97.8. These results show that the desired reliability level was reached.

Stage 6. Transferring the data into SPSS package program for quantitative data analysis: The data were analysed using qualitative (content analysis) and quantitative (frequency, chi-square) data analysis techniques. After the metaphors were defined and 10 conceptual categories consisting of these metaphors were developed, the data were transferred to the SPSS package program. The frequency and percentage of nursing students representing each metaphor and category were calculated.
Afterwards, in order to determine whether the categories differed according to students' age, sex, secondary school of graduation, Internet usage status, and the primary purpose of using the Internet, a Pearson chi-square test was used, and the results were analysed.

Ethical Considerations

The data were collected on voluntary basis after the written approval of the Nursing School Directorate was taken. In addition, the participants were informed verbally before data was collected, and they were asked to complete the papers after the necessary explanations were made.

Limitations of the Study

The results of the study are limited to the students attending a nursing school, and they cannot be generalised.

Results

In this section, the findings relating to the identifying characteristics and Internet-related metaphors of the students are analyzed as sub-sections according to the study questions and are presented in tables.

All the students were using the Internet (100%): 93.4% of them used it primarily to access information (education), 70.3% used it for chatting, 24.9% for playing games, 16.5% for meeting new people, 10.4% for following up on news and learning exam results, and 8.0% for shopping. 62.2% stated that they accessed the Internet through their personal computers, 60.4% used the computer room at the school, 36.3% used Internet cafes, and 26.9% used their friends’ computers.

1. What are the Internet-related metaphors used by the students?

The students developed 204 metaphors related to the Internet. 142 metaphors were represented by 1 student each. The remaining 62 metaphors were expressed by students whose number ranged between 2 and 51.

The top 10 metaphors were library (n: 51, 10.2%), world (n: 32, 6.4%), book (n: 17, 3.4%), drug (n: 15, 3.0%), water (n: 13, 2.6%), cigarette (n: 13, 2.6%), encyclopedia (n: 11, 2.2%), alcohol (n: 10, 2.0%), ocean (n: 10, 2.0%), spider’s web (n: 10, 2.0%), virus (n: 8, 1.6%), and sea (n: 7, 1.4%).

2. Under what conceptual categories can the metaphors produced by the students be gathered in terms of their common characteristics?

Table 1 shows the categorical distributions of the Internet-related metaphors. The metaphors developed by the participating students were collected under 10 conceptual categories according to their common characteristics.
Table 1. Distribution of the Internet-Related Metaphors of the Students

<table>
<thead>
<tr>
<th>Categorical Metaphors</th>
<th>Producing a metaphor Number of Students (%)</th>
<th>Number of metaphor (%)</th>
</tr>
</thead>
</table>
Table 1. continue...

<table>
<thead>
<tr>
<th>Categorical</th>
<th>Metaphors</th>
<th>Producing a metaphor Number of Students (%)</th>
<th>Number of metaphor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internet as a Facilitator</strong></td>
<td>At the bank, The Information store, Bicycle, Rendezvous, Bags, Garbage, Sea world, The mouse, Life, Light, Teleportation, Communication network, Communicates the media, Business area, Library, Store, letter, School meeting, Toys, Spider network, Windows, Comfort, Magic box, Telephone, Fly, Write text, Read, Result of a mental status</td>
<td>33 (%6,6)</td>
<td>29 (%14,2)</td>
</tr>
<tr>
<td><strong>Internet as an Indefinite Concept</strong></td>
<td>Sea, Bottomless Pit, A mouse, Whirlpool, Black hole, Bird, Ocean, Space</td>
<td>18 (%3,6)</td>
<td>8 (%3,9)</td>
</tr>
<tr>
<td><strong>Internet as a Basic Need</strong></td>
<td>Life, The existing Object in our lives, Water, Food</td>
<td>13 (%2,6)</td>
<td>4 (%2,0)</td>
</tr>
<tr>
<td><strong>Internet as Fun</strong></td>
<td>Dating, Entertainment, A communication tool, Kraathane, Toys, Telephone, Television</td>
<td>12 (%2,4)</td>
<td>7 (%3,4)</td>
</tr>
<tr>
<td><strong>Internet as a Changing-Developing Tool</strong></td>
<td>Morning, Wood, Moron, Current news, Human, Human life, Magic, Magic box</td>
<td>9 (%1,8)</td>
<td>8 (%3,9)</td>
</tr>
<tr>
<td><strong>Internet as a Guide</strong></td>
<td>World, Map, Compass, Auxiliary tools, Travel</td>
<td>6 (%1,2)</td>
<td>5 (%2,4)</td>
</tr>
</tbody>
</table>
Examples of students’ metaphorical expressions are given in the relevant category, and they include the exact sentences of the participants.

Conceptual Categories

Category 1: The Internet as an Information Source

When Conceptual Categories are examined (Tablo 2), it is seen that the category of “the Internet as an Information Source” consists of 51 metaphors (25.0%) produced by 133 students (26.7%). The most common metaphors of this category are library, book, encyclopedia, and tree.

“Internet is like a library. We can reach various information (correct or incorrect) by using less time and energy.” (I, F, A19)

“Internet is like an encyclopedia. Any information can be reached rapidly and easily (compact). It is under our fingertips.” (I, F, A18)

“Internet is like the world. I can obtain every type of information in the world. With a single click...” (3, F, A20)

Category 2: The Internet as a Harmful Tool

When Conceptual Categories are examined (Table 2), it is seen that the category of “the Internet as a Harmful Tool” consists of 44 metaphors (21.6%) produced by 109 students (21.9%). The most common metaphors used in this category are drug, cigarette, alcohol, virus, spider’s web, love, and addiction.

“Internet is like a drug. It causes addiction over time.” (1, F, A20)

“Internet is like a spider’s web. When you get caught, it is difficult to escape, and it is a system where you waste time for nothing.” (2, F, A22)

“Internet is like a drug. It gives you pleasure and joy when you first start it. With time, it becomes an indispensable part of your life. You think you need it because you want it. Then, the time you access the Internet starts to be insufficient, and you increase the time spent on the Internet. You want more and more. You think about it, when you are not on the Internet. You start to say I can access the Internet more instead of spending time outdoors, and withdrawal symptoms start. You can save yourself from this addiction if you are strong and aware.” (4, F, A24)

Category 3: The Internet as a Very Comprehensive Tool

When Conceptual Categories are examined (Table 2), it is seen that the category of “the Internet as a Very Comprehensive Tool” consists of 50 metaphors (24.5%) produced by 91 students (18.3%). The most common metaphors of this category are world, shopping centre, life, library, forest, and dictionary.

“Internet is like a forest. Just as various trees are together in a forest, the Internet also includes any type of information, games, friendship, etc.” (3, F, A21)
"Internet is like life. It includes everything, we can find any information we need, any person we want, chat with friends, make searches, have fun, follow up the agenda, read news.” (3, F, A20)

Category 4: The Internet Both as a Beneficial and Harmful Tool

When Conceptual Categories are examined (Tablo 2), it is seen that the category of “the Internet both as a Beneficial and Harmful Tool” consists of 56 metaphors (27.4%) produced by 74 students (14.8%). The most common metaphors of this category are water, world, life, drug, trash, and eating.

“Internet is like a candy. It is nice and gives pleasure, but excessive use is harmful.” (2, F, A20)

“Internet is like antibiotics. You don’t discuss its benefits and harms. Long-term used medications may have toxic effects, and similarly long and insufficient use of Internet may be harmful. But it facilitates your life if used effectively.” (3, F, A21)

“Internet is like gun. A gun may protect the country while defending it against the enemies, but it can also be a destructive tool because of internal conflicts of people. Internet is similar. Internet is a very beneficial tool, when used consciously, but it can be an addictive gun destroying one’s life, when used for chatting, playing games, etc.” (4, F, A21)

Category 5: The Internet as a Facilitator

When Conceptual Categories are examined (Tablo 2), it is seen that the category of “the Internet as a Facilitator” consists of 29 metaphors (14.2%) produced by 33 students (6.6%). The most common metaphors of this category are teleportation, library, store and telephone.

“Internet is like a library. I can find anything I look for. It is easy to use. It facilitates our life.” (1, F, A20)

“Internet is like teleportation. It is very fast. We reach the fastest way possible whenever we want. What makes Internet appealing is, I think, that it is fast and easily accessed.” (2, F, A20)

Category 6: The Internet as an Indefinite Concept

When Conceptual Categories are examined (Tablo 2), it is seen that the category of “the Internet as an Indefinite Concept” consists of 8 metaphors (3.9%) produced by 18 students (3.6%). The most common metaphors of this category are ocean and space.

“Internet is like the space. It has no limits, no definite borders.” (1, F, A20)

“Internet is like an ocean. Unique ocean with living things of indefinite variability, indefinite information, indefinite colours…” (4, F, A34)
Category 7: The Internet as a Basic Need

When Conceptual Categories are examined (Tabla 2), it is seen that the category of “the Internet as a Basic Need” consists of 4 metaphors (2.0%) produced by 13 students (2.6%). The most common metaphors of this category are water and eating.

“Internet is like water. It is essential for human[s].” (2, F, A23)

“Internet is like eating. I feel like hungry when I don’t access Internet. I think, this is enough to explain it.” (2, F, A23)

Category 8: The Internet as Fun

When Conceptual Categories are examined (Tabla 2), it is seen that the category of “the Internet as Fun” consists of 7 metaphors (3.4%) produced by 12 students (2.4%). The most common metaphors of this category are friend, fun, and toy.

“Internet is like a toy. It is perfect for playing games and spending time in your spare time, and you don’t understand how the time passes.” (1, F, A18)

“Internet is like a friend... It is with you whenever you need it, you spend hours with it without getting bored.” (3, F, A19)

Category 9: The Internet as a Changing-Developing Tool

When Conceptual Categories are examined (Tabla 2), it is seen that the category of “the Internet as a Changing-Developing Tool” consists of 8 metaphors (3.9%) produced by 9 students (1.8%). The most common metaphors of this category are tree, current news and magic box.

“Internet is like current news. It changes every day, and you become aware of different things each day...” (1, F, A20)

“Internet is like human life. New things start and end continuously.” (3, F, A22)

Category 10: The Internet as a Guide

When Conceptual Categories are examined (Tabla 2), it is seen that the category of “the Internet as a Guide” consists of 5 metaphors (2.4%) produced by 6 students (1.2%). The most common metaphors of this category are map, world and compass.

“Internet is like a map. It provides us paths and guidance allowing us to reach to things we want.” (3, F, A22)

“Internet is like a compass. It leads us to the place we want to reach. It guides us in everything we don’t know...” (4, F, A24)

3. Do the principal conceptual categories show any difference according to variables such as students’ age, sex, school of graduation, whether they use the Internet, the primary purposes of their Internet use, and the location of their Internet access?
It was also found that the conceptual categories did not show any difference according to the grades of the nursing students, the secondary school they graduated from, Internet use habits, their primary purpose of Internet use, and where they connected to the Internet (p>0.05).

Discussion and Conclusion

The findings of this study reveal the students’ perceptions about the Internet through metaphors which highlighted some important points. First of all, the nursing students produced many metaphors to explain the Internet (204). For example, the Internet concept it narrates, and although it provides a strong point of view for such concepts, it is usually less than the concept. To fill this gap, many metaphors are needed. Therefore, it is obvious that the Internet cannot be explained entirely with a single metaphor.

Secondly, in the metaphors produced by the nursing students about the Internet, the first conceptual category was “the Internet as an information source” and the second conceptual category was “the Internet as a harmful tool”. In relevant studies, it was shown that the primary purpose of the students in using the Internet was easy access to information and sharing and storing information (Adams & Timmis, 2006; Akkoçulu, Sağlam & Atav, 2004; Aksu & İrgil, 2003; Estabrooks et al., 2003; Gül, Gençtürk & Bozkurt, 2003; Koç, 2006; McCannon & O’Neal, 2003; Thompson et al., 2001). These results suggested that the Internet was primarily used by the students to get information. It is important in terms of updating students’ knowledge for students to perceive the Internet as an information source in an environment in which information changes.

The second conceptual category was “the Internet as a harmful tool.” The relevant studies suggested that problems such as in-family conflicts, economic losses such as phone bills and Internet café costs, and addiction and alienation from the society would be encountered. This suggested that the students were aware of the harm caused by the Internet (Adams & Timmis, 2006; Estabrooks et al., 2003; McCannon & O’Neal, 2003; Thompson et al., 2001). However, contrary to the belief that the Internet may alienate individuals from society, individuals can reach different social environments thanks to the Internet and carry their relationships to social media; thus it is obvious that the Internet has both positive and negative effects. This is positive for students who think that the Internet is harmful.

Another striking point was that the students defined the Internet as “a basic need”. The relevant studies show that the students engaged in many activities through the Internet, such as chatting with people in another part of the world, sending e-mails, talking to another person through a microphone, making video-conferences, obtaining information from thousands of databases, libraries, and news groups all around the world, getting current information about international
developments, listening to music or watching movies, playing games with other people, shopping from a wide range of product groups, etc.; therefore, the Internet played a great role in their lives (Akkoyunlu, Sağlam & Atav, 2004; Aksu & İrgil, 2003; Atack & Rankin, 2002; Ayhan & Balca, 2009; Dursun, 2004; Estabrooks et al., 2003; Şenyuva, 2007). This result is thought-provoking, considering that the Internet plays such an important role in the lives of the students. The Internet is defined as constituting important parts of students’ lives, and it is emphasized that they should gain computer and Internet skills suitable to their education.

In conclusion, a majority of the nursing students perceived the Internet as a source of information and believed that it should be used consciously. Although students think positively about the Internet, they also need training on how to use Internet properly. In the light of these results, it is suggested that further studies should be conducted in order to determine the perceptions of nursing students about the Internet. These kinds of studies will be important for constructing an Internet-based education and training program.

Acknowledgements

The authors would like to thank the nursing students who participated in the study.

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Türkiyede Hemsirelik Öğrencilerinin İnternete İlişkin Metaforları:
Kalitatif Bir Çalışma

Atıf:

(Özet)
Günümüzde bu nitelikler arasında bireyin, gereksinin duygusu biliyeye ulaşmadan önemli yollarдан biri olan Interneti doğru, etkin ve verimli kullanıma becerisine sahip olması önemlidir (Atack & Rankin, 2002; Özkul & Kaya, 2009; Wilkinson et al., 2004). İnternetin doğru, etkin ve verimli kullanılamasında ise hemsirelik öğrencilerinin İnternete ilişkin algılarının ve bazı açıların, İnterneti doğruluğuna ve potansiyeline ilişkin düşüncelerinin belirlenmesine de katkıdır (Atack & Rankin, 2002; Wilkinson et al., 2004). Öğrencilerin İnternete ilişkin algılarının belirlenmesinde, İnternetin yapısının nasıl anlaşılacağını ortaya koymada yararlanabilecek en güçlü zihinsel araçlar, öğrencilerin bu kavramla ilgili oluşturdukları metaforlardır (Cerit, 2008; Erdoğan & Gök, 2008; Frat & Kabakçı, 2010). Eğitimde de özellikle yeni bir öğrenme geliştirilmesinin öngörüü kolyaylaştırmak ve akılda kalmak için sıkıla eşdeğer öğelerin birbirleri yerine diğer bir deyisle metaforların kullanımları yoluyla başvurulur. Bu perspektiften bakıldığında hemsirelik öğrencilerinin “Internet” kavramına ilişkin algıları metaforlar aracılığıyla incelemek, anlamak ve açıklamak, metaforların bir araştırma aracı olarak kullanılabilirceğine dair önemli bir ipucu sağlamaktadır (Saban, 2008).
Araştırmaın Amacı
Bu araştırmada, öğrencilerin İnternete ilişkin algılarını metaforlar aracılığıyla ortaya çıkarmak ve bu metaforların etkileyen bazı değişkenleri belirlemek amacı ile nitel ve nicel araştırma deseni kapsamında gerçekleştirilmiştir.

 Yöntem
Araştırma evrenini ve örneklemiini, bir hemsirelik yüksekokulu’nda 2009-2010 öğretim yılı bahar döneminde öğrencileri gören tüm lisans öğrencileri (575 öğrenci) oluşturdu. Araştırmada evrenin tamamına ulaşılması hedeflenmiş, araştırmaya katılmayı kabul eden 500 öğrenci ile gerçekleştirilmiştir. Araştırmada evrenin %87’sine ulaşıldı. Araştırmada veriler, öğrencilerinin sosyodemografik özelliklerini ve Internet kullanım durumlarını belirlemeye yönelik 9 sorudan oluşan Bilgi Formu ve öğrencilerinin İnternet kavramına ilişkin algılarını ortaya çıkarmak amacıyla her bir öğrenciden İnternet ............. gibi bir çünkük .......... cümlesi tamamlanması istenerek toplandı. Veriler, nitel (açık analizi) ve nicel (rekans,ki-kare) veri çözümleme teknikleri kullanarak analiz edildi.

Bulgular
Araştırmada, öğrencilerin %25,5’inin birinci, %24,9’unun ikinci, %26,5’inin üçüncü, %23,1’inin dördüncü sıfırsı sırviyetin görüldüğü, %85,7’inin kız, %14,3’inin erkek, yaş ortalamalarının %21,32±1,89 olduğu belirlendi. Öğrenciler, İnternet kavramına ilişkin 204 adet geçerli metafor geliştirildi. İlk sıradan; kültüphan (n: 51, %10,2), dünya (n:32, %6,4), kitap (n:17, %3,4) metaforlarının yer aldığı belirlendi. Hemsirelik öğrencilerinin İnternet kavramına ilişkin geliştirildikleri metaforlar ortak özellikleri bakımından on kavramsal kategori altında toplandı. Hemsirelik öğrencilerinin, İnternet kavramına ilişkin algılardan, “Bilgi kaynağı olarak İnternet” (133 öğrenci, 51 metafor), “Zararlı bir araç olarak İnternet” (109 öğrenci, 44 metafor), “Hem zararlı hem zararlı olarak İnternet” (74 öğrenci, 56 metafor) ve “Çok kapsamlı olarak İnternet” (91 öğrenci, 50 metafor) kavramsal kategorilerinin ön çıktı olduğunu görüldü. Ayrıca, kavramsal kategorilerin, hemsirelik öğrencilerinin sırviyet, meşru olduğu ortaöğretim kurumumu, İnternet kullanıma karşımıza, İnterneti özellikle kullanma amacı ve İnternete bağlandığı yerler açısından farklılık göstermediği saptandi (p>0,05).

Tartışma

İkinci olarak, hemsirelik öğrencilerinin İnternete ilişkin metaforlardır, ilk sıradan “bilgi kaynağı olarak İnternet”, ikinci sıradan “zararlı bir araç olarak İnternet” kavramsal kategorisi yer almaktadır. İkinci Araştırmalarda, öğrencilerin İnterneti kullanım amaçları arasında bilgiyi paylaşma, saklama ve bilgiye kolay erişimini öne çıkığını görüldü (Adams & Timmis, 2006; Akköyünlu, Sağlam & Atav, 2004; Aksu &

İkinci sıradan yer alan “Zararlı bir araç olarak Internet” kavrumsal kategorisi öne çıkmaktadır. İlgili araştırmalarda, aile içi çatışmalar, yüksek telefon faturası ve İnternet kafeleri yapılan ödemeler nedeniyle ekonomik kayıplar ve bağışıklık yaratma, çevreden soytutanma gibi sorunlarla da karşılaşılabileceği vurgulamaktadır (Adams & Timmis, 2006; Estabrooks et al., 2003; McCannon & O’Neal, 2003; Thompson et al., 2003). Bu durum, öğrencilerin İnternetin zararları hakkında bilinci olduklarını göstermektedir. Ancak, İnternetin bireyi çevreden sağtotabileceği düşüncesinin akıside bireyin İnternet sayesinde farklı sosyal çevrelere daha rahat ulaşma olanağı bulduğu ve dolayısıyla bu yolla ilişkilerini sosyal alanına taşıdığı dikkate alındığında İnternetin beraberinde getirdiği olumu ve olumsuz durumların olabileceğini açıklar. Bu sonuç, öğrencilerin İnternetin zararları olabileceğini düşünmeleri açısından olumluudur. Ancak, öğrencilerin İnterneti doğru kullanmalara sağlayacak eğitiminin olduğunu düşündürmektedir.

Öğrenciler İnterneti “temel gerekşim olarak” tanımlamaları dikkate çeken bir diğer noktadır. İlgili araştırmalarda, öğrencilerin İnterneti kullanım amaçları arasında öncelikle dünyanın bir ucundaki insanlarla sohbet etmek, elektronik mail göndermek, bir mikrofon arabacılığıyla bilgisayarın diğer ucundaki bir insana konuşmak ve video konferanslar yapmak, dünya çapındaki binlerce veri tabanından, kütüphaneden ve haber gruplarından bilgi sağlamaktır, dünyada olan gelişmeler hakkında anında haber almak, müzik dinlemek veya film seyretmek, insanlarla karışıklıklar olarak oyunlar oynamak, sayısız türün yol.ALIGN-LEFT egzisinden alışıveriş yapmak vb. birçok etkinliği İnternet üzerinden yaptıkları dolaysıyla yaşamlarında büyük bir yer edindiği bulunuyor (Akkoyunlu, Sağlam & Atav, 2004; Aksu & İrgil, 2003; Attack & Rankin, 2002; Ayhan & Balci, 2009; Dursun, 2004; Estabrooks et al., 2003). Bu sonuç, öğrencilerin İnterneti yaşamlarında bu kadar önemli bir yere koymaları açısından oldukça düşündürücüdür. İnternetin öğrencilerin yaşamının önemli bir bölümü oluşturmaya, onların eğitiminin karşısında bilgisyaray ve İnternet teknolojilerini olumlu yönde kullanma becerilerini kazanarak yetiştirilmesi gerektiğini ortaya koymaktadır.

Sonuç ve Öneriler

Sonuç olarak, hemşirelik öğrencilerinin coğunuğu İnterneti bilgi kaynağı olarak algılamakta ancak bilinci olarak kullanmalara gerekliğini belirtmektedirler. Bu sonuçlar, öğrencilerin İnternet konusunda olumlu düşünceklere ancak olumlu yönde kullanmalara konusunda eğitme gereksinimleri olduğuna işaret etmektedir. Bu sonuçlar açısından hemşirelik öğrencilerinin, İnternete iliskin algılarının neler olduğunu ve onların İnternet hakkında düşüncelerini analiz eden çalışmaların yapılması önemlidir. Bu çalışmalar eğitim programlarının yapılırılmasına yönelik olumsuz etkisini açısından önemlidir.

Analiz Sözcüklər: Metafor, alıq, zihinsel imge, İnternet, hemşirelik öğrenci, hemşirelik
Nature of Interactions during Teacher-Student Writing Conferences, Revisiting the Potential Effects of Self-Efficacy Beliefs

Ayşegül BAYRAKTAR

Suggested Citation:

Abstract

Problem Statement: Within Language Arts instruction the use of teacher-student writing conferences is accepted as an effective strategy for teaching writing. The writing conference allows for an individual one-on-one teacher-student conversation about the students’ writing or writing process and provides the student an audience in terms of revising or sharing purposes (McAndrew & Reigstad, 2001; Newkirk, 1989; Sperling, 1991). Although there is more than one way to label writing conferences, their process and purpose is consistently defined. Teacher-student writing conferences have purpose, follow predictable structure, and put students in a position of being partners in collaboration (Anderson, 2000). Several studies purport that writing conferences make students better writers (Bell, 2002; Eickholdt, 2004; Haneda, 2000; Hewett, 2006; Koshik, 2002; Martone, 1992; Steward, 1991; Wong, Butler, Ficzere, & Kuperis, 1996), help them learn better and increase their achievement (Corden, 2007; Edgington, 2004; Flynn & King, 1993; King, 1993; Mabrito, 2006; Mitchell, 2004) and improve their habits and attitudes toward learning, independence, and authority (Martinez, 2001; McIver & Wolf, 1999; Young & Miller, 2004). Bandura (1989) introduced the concept of self-efficacy and argued its effects on motivation and school success. Self-efficacy is developed from the social cognitive theory suggesting that beliefs about self-efficacy can be changed or increased with the effects of personal and
environmental factors (Schunk, 2003). Self-efficacy is “an individual’s judgments of his or her capabilities to perform given actions” (Schunk, 1991, p. 207). Even though plenty of studies investigate the connection between the writing conferences and students’ writing skills, research on the relationships between writing conferences and self-efficacy has been ignored. The few studies that do relate writing conferences to self-efficacy tend to mention it as a desire to write more and share their writing proudly (Clippard, 1998) as well as the individual writer’s confidence (Clippard, 1998; Tobin, 1998). These studies claimed that writing conferences had a positive impact on students’ perceived self-efficacy beliefs toward writing, yet none of the research studies mentioned the features of interaction between the teacher and the student that might affect their perceptions of self-efficacy. Overall, it is clear that more work needs to be done on how students (with high self-efficacy vs. low self-efficacy) and teachers behave during teacher-student writing conferences to determine, and examine whether students’ level of perceived self-efficacy toward writing affects the nature of their scheduled teacher-student writing conferences. The intend of this qualitative research design with multiple case studies is to investigate the nature of the interaction during scheduled teacher-student writing conferences and explore relationship between students’ level of perceived self-efficacy beliefs and their participation style during writing conferences.

Purpose of the Study: The purpose of this study was two-fold, first, the nature of teacher-student writing conferences were examined to determine if they were balanced, student-centered, or teacher-centered. Second, whether students’ levels of perceived self-efficacy could inform the nature of their writing conferences were determined. The quality of teacher-student writing conferences are not easily determined, so this study aimed to highlight the common patterns that occurred during the conferences with students who had low and high levels of perceived self-efficacy toward writing.

Methods: A qualitative study design with multiple case studies was used to observe and analyze scheduled teacher-student writing conferences over a period of 10 weeks. The participants of the study were fifth-graders from a public primary school in the Southeastern United States. Data were collected using the Writing Self-Efficacy Scale (Pajares, Miller, & Johnson, 1999) as adapted from Shell, Murphy, & Bruning (1989), as well as audio and video-taped teacher-student writing conferences, audio-taped interviews with the teacher and students, and field observations. Collected evidence was described and interpreted using qualitative methods.

Results: None of the scheduled teacher-student writing conferences were coded as completely teacher-centered. The classroom teacher was good at conducting conferences having balanced and student-centered features. Also, nature of writing conferences changed among students with
different self-efficacy levels in terms of focus, ownership, conference agenda, turn taking, frequency of talk, numbers and functions of the questions asked, numbers of praise statements provided by the teacher, and amount of outside interruptions occurred during conferences.

Discussion and Conclusion: The analyses of teacher-student writing conferences yielded that conference interaction changed from student to student. While the teacher was successful at conducting student-centered writing conferences in many aspects of the conferences still there were parts she was ineffective on making her students more active participants. The study argues the help of using rubrics to analyze the conference interaction and provides suggestions for practitioners and researchers to better conduct and investigate teacher-student writing conferences.

Keywords: Teacher-student writing conferences, self-efficacy beliefs, writing education, primary school students

Within Language Arts instruction, the use of teacher-student writing conferences for problem students, have been accepted as effective strategies for teaching writing where the writer can share his/ her writing with an audience in terms of revising or sharing purposes (Anderson, 2000; Bell, 2002; Hewett, 2006; Wong, Butler, Ficzere, & Kuperis, 1996). Teacher-student writing conferences are individual, one-on-one teacher-student conversations about the student’s writing or writing process. Murray (1985) called these conversations “professional discussion between writers” on what works and what does not work in students’ writings (p. 140). Over the decades, writing conferences have been investigated under different names reflecting their multiple functions including: response sessions (Hansen, 1987); assisted performance (Vygotsky, 1978); face-to-face interaction (Harris, 1986); one-to-one teaching (Calkins, 1994; Graves, 1983); one-to-one interaction (North, 1995; Sperling, 1991); private communication/ conversations (Sperling, 1991); interactive dialogues (Wong, Butler, Ficzere, and Kuperis, 1997); dialectic encounter (Newkirk, 1989); and meaningful contact (Lerner, 2005).

Although there is more than one way to label writing conferences, their process and purpose is consistently defined by researchers. For example, all of them have a purpose, follow predictable structure, and put students in the position of being partners for collaboration (Anderson, 2000). During the writing conferences, teachers’ roles are helping children to expand their thinking by asking questions, making comments, or introducing different ideas that encourage and force students to think more and create diverse ideas (Keebler, 1995).

The value of writing conferences has been highlighted as providing an avenue that allows the writer an audience for face-to-face discussion about their written work. Several studies purport that writing conferences make students better writers (Bell, 2002; Eickholdt, 2004; Haneda, 2000; Hewett, 2006; Koshik, 2002; Martone, 1992; Steward, 1991; and Wong, Butler, Ficzere, & Kuperis, 1996), help them learn better
and increase their achievement (Corden, 2007; Edgington, 2004; Flynn & King, 1993; King, 1993; Mabrito, 2006; Mitchell, 2004) and improve their habits and attitudes toward learning, independence, and authority (Martinez, 2001; McIver & Wolf, 1999; Young & Miller, 2004).

Self-efficacy is developed from the social cognitive theory suggesting that beliefs about self-efficacy can be changed or increased with the effects of personal and environmental factors (Schunk, 2003). Bandura (1989) introduced the concept of self-efficacy and argued its effects on motivation and school success. Self-efficacy is “an individual’s judgments of his or her capabilities to perform given actions” (Bandura, 1991, p. 207). It is a belief that someone has power to reach a certain goal (Ormrod, 2003). Self-efficacy is different from self-concept and self-esteem. Comparing to self-efficacy beliefs, self-concept judgments are more general, stable and enduring (Hudges, Galbraith, & White, 2011) and self-esteem is related to self-worth (McTigue & Liew, 2011) and refers to emotional reactions to previous achievements (Troia, Shankland, & Wolbers, 2012).

Determining and increasing students level of self-efficacy is essential because students with high self-efficacy work hard (Bandura, 1993; Pajares, 2003; Walker, 2003), persist (Bandura, 1993; Bottomley, Henk, & Melnick, 1998; Liew, McTigue, Barrois, & Hughes, 2008; Ormrod, 2003; Schunk, 2003; Walker, 2003), seek help when completing challenging tasks (McTigue, Liew, & Wasburn, 2009; Walker, 2003), feel less apprehensive when faced with writing problems (Bandura, 1993; Pajares, 2003; Pajares & Valiante, 1997), approach difficult tasks as challenges instead of ignoring or avoiding them to save face (Bandura, 1989), set more challenging goals, believe that they will achieve their goals, take risks, engage in related activities, and are confident with the awareness of their potential (Bandura, 1993). Students with low self-efficacy, on the other hand, shy away from difficult tasks, have low aspirations, have weak commitment to the goals they choose to pursue, dwell on their personal deficiencies, give up quickly, and fall easy victim to stress and depression (Bandura, 1993; Vrugt, Oort, & Waardenburg, 2009). Additionally they believe that no matter what they do, they cannot learn or improve their skills (Bottomley, Henk, & Melnick, 1998) and they are reluctant to seek help (Linnenbrink & Pintrich, 2003; Nelson & Ketelhut, 2008).

The few studies that do relate writing conferences to self-efficacy tend to mention it as desire to write more and share their writing proudly (Clippard, 1998), positive judgments (Wong, Butler, Ficzere, & Kuperis, 1996), and confidence (Wong, Butler, Ficzere, & Kuperis, 1996; Clippard, 1998; Tobin, 1998).

The intend of this qualitative research design with multiple case studies is to investigate the nature of the interaction during scheduled teacher-student writing conferences and explore relationship between students’ level of perceived self-efficacy beliefs and their participation style during writing conferences. Therefore, the research questions of this study are:
1. What is the nature of scheduled teacher-student conferences between a teacher and four fifth-grade students?

2. Can teacher-student writing conferences be informed by students’ perceived self-efficacy?

Method

Participants

Initially, a convenience sampling method was chosen to select the teacher and her students for the study. However, one female primary school teacher was purposefully chosen because of her willingness to be a study participant and her interest in improving her teaching strategies. Her classroom was identified as having met all the criteria cited by Henk, Marinak, & Moore (2003) for refining and validating writing instruction. By focusing on purposive sampling and case studies, the researcher believed that this group of participants would provide the variability necessary for examining the study questions. The primary school teacher chosen had followed current research in language arts education, had attended several conferences on the topic, had finished a Summer Invitational Institute on the National Writing Project prior to this study, and had been conferring with her fifth graders during the prior fourth grade year.

The participants for this study were from a public primary school in the Southeastern United States and included one female primary school teacher that instructed Language Arts in elementary grades three to five and was also enrolled in a graduate degree program in Reading and Language Arts. The students that were selected from the study teacher’s fifth grade classroom totaled 22 (11 male and 11 female) and averaged an age of 10.5 years old. The classroom diversity was two African-American, two Asian-American, two Mexican-American, and the remaining 18 were European-American. No students were reported to have learning disabilities. The selection of the four case study students was based on their scores from an administered Writing Self-Efficacy Scale. As a result, two groups of students those with higher self-efficacy versus those with lower self-efficacy were determined. In order to control for gender effect, one male and one female student were placed in each group.

Measures

The Writing-Self-Efficacy Scale that was used in this research was a survey with nine items designed to measure students’ confidence when judging their composition, grammar, usage, and mechanical skills appropriate to academic level. The items in the survey asked students how confident they were that they could perform specific writing skills on a scale from 0 (no chance) to 100 (completely certain). Each item of the scale was read by the researcher to prevent any misreading or misunderstanding of the items.
The Writing Self-Efficacy Scale: The Writing Self-Efficacy Scale was adapted from Pajares, Miller, & Johnson (1999) who originally used the scale created by Shell, Murphy, & Bruning (1989). Shell, Murphy, & Bruning (1989) created a writing self-efficacy scale with eight items, each measuring students' confidence on communicating their ideas effectively in their writing. Reliability of these eight items, which were calculated with Cronbach's alpha, was .95.

Later, Shell, Colvin, and Bruning (1995) used the same scale with 364 fourth, seventh, and tenth-grade students. The coefficient alpha reliability estimate for the self-efficacy scale for writing skill was .76. Finally, four years later, Pajares, Miller, & Johnson (1999) used the same scale with 363 third, fourth, and fifth-grade students with a scale from zero (no chance) to 100 (completely certain). The authors added one item into the original survey. They obtained a Cronbach's alpha coefficient of .85.

Interviews: After the Self-Efficacy Scale was implemented, the students were asked nine open-ended questions encouraging them to reflect whether they enjoy writing, their strengths and weaknesses in writing and how they define and evaluate writing conferences.

Rubric for Categorizing and Determining the Nature of Writing Conferences: Analysis of each teacher-student writing conference interaction was guided by use of the rubric organized into eight categories: focus, conference agenda, ownership/building on student's strengths, reflected questions, encouraged turn taking, frequency of talk, number of praise statements, and amount of interruptions. Rubric categories were further divided into three sections; teacher-centered, balanced, and finally student-centered. Conference interactions were assigned a score of 1, 2, or 3 points for each of the eight categories. With 1 point being considered as a teacher-centered conference, 2 points a balanced conference, and 3 points a student-centered conference.

Observations: The research setting was visited by the researcher five times a week for 75 minutes daily. The scheduled writing conferences were set up and audio-video recorded in the natural setting as a part of the curriculum. The purpose of observation was relayed to students but they were not informed about how these conferences would be analyzed. Neither the teacher nor the students knew who case study students were and what observations focused on during conferences. The conference talk was transcribed and analyzed in order to determine the nature --- balanced, student-centered, or teacher-centered --- of individual teacher-student writing conferences.

Results

Data obtained through the writing self-efficacy scale, student interviews, and writing conference observations were thoroughly analyzed and synthesized. In order for the researcher to get a complete and unbiased understanding and be sure the researcher reflected what was going on in the classrooms, collected data and its analyses were shared by the classroom teachers -- member checking -- to have data triangulation.
In analyzing the nature of writing conferences, a total of 32 writing conferences were repeatedly reviewed, coded and analyzed separately by the researcher and the second reader/coder who was experienced in teaching writing and not affiliated with the data collection. The nature of scheduled teacher-student writing conferences were analyzed based on the rubric with eight categories: focus, conference agenda, ownership, reflected questions, turn taking, frequency of talk, number of received praise comments and amount of interruption. Inter-rater reliability was calculated using Intraclass Correlation Coefficients (ICC) and the initial inter-rater agreement was .93. After four follow-up rater-reliability meetings, with analyses of each case, the two raters reached 100% agreement.

In terms of focus, it was encouraging to see that 72% of the conferences were coded as student-centered. Two out of thirty-two conferences were coded as balanced, while 16% of the conferences were coded as teacher-centered since the teacher mentioned more than three issues that needed to be fixed.

In terms of determining the conference agenda, each turns were coded individually. If the teacher leaded the conversation that turn was coded as teacher-centered and if the student leaded the turn that turn was coded as student-centered. Overall, the classroom teacher was good at allowing students to determine the conference agenda and shift topics freely. Thus, in only one conference the teacher kept the power and control of the topics to be discussed. In twelve conferences (38%) both teacher and student leaded the discussion and answered the inquiries. These conferences were coded as balanced conferences. Again, it was promising to see that 59% of the conferences were coded as student-centered where the teacher gave the students opportunities to determine and lead the conference discussion.

The third category was ownership/building on student's strengths paid attention to whether the suggestions for improvement came from the teacher or the student. In contrast to the first two categories, for this category it was found that the teacher kept the control in terms of providing suggestions and recommendations to improve the quality of the written text. Thus, 34% of the conferences were coded as teacher-centered. In 44% of the conferences both the teacher and the students provided similar numbers of recommendations that leaded these conferences to be coded as balanced. In only one conference, the student provided more suggestions than the teacher did and it was the only conference coded as student-centered.

The fourth category, reflected questions investigated total numbers and functions of questions asked in each conference. If the teacher asked more than 2/3 of the questions the conference was coded as teacher-centered. If both parties produced almost equal numbers of questions the conference was coded as balanced. When the student produced most of the questions the conference was coded as student-centered. The analyses of the conference interaction showed that the teacher outnumbered students with her numerous questions. She asked total of 464 questions while four students altogether asked total of 76 questions. Thus, only two
conferences were coded as student-centered and another two conferences were coded as balanced while the remaining 28 conferences were coded as teacher-centered.

Encouraged turn taking was the fifth category and investigated which partner used most of the turns in the conference discussion. Only 9% of the conferences were coded as teacher-centered and the remaining 91% of the conferences were balanced where both the teacher and the student took almost equal numbers of turns which allowed students to be also involved in the conversation about his/her text.

Frequency of talk was the sixth category and similar to turn taking it also counted utterances of each party. It was surprising to see that even though in the majority of the conferences both parties had almost equal numbers of turns, when it comes to the total numbers of words produced by both parties, it has seen that the teacher outnumbered the students in 62% of the conferences. In 16% of the conferences both the teacher and the student talked almost equally during the discussion and they exchanged roles as senders and receivers of the messages. Thus, these conferences coded as balanced. In 22% of the conferences, the teacher gave opportunities to the students to produce more than 50% of the talk and acted as a sender of the messages during the conference dialogue and these conferences were coded as student-centered.

Number of praise comments received was the seventh category and investigated the amount and the nature of praise statements. The conferences where the majority of the general praise statements were used to show active listening were coded as teacher-centered. The conferences where the teacher still used general praise statements for highlighting the quality of the student’s text were coded as balanced. Finally, the conferences where the teacher provided specific praise statements were coded as student-centered writing conferences. The percentage of teacher-centered writing conferences was 19% and it was 37% for balanced and 25% for the student-centered conferences.

The last category was amount of interruption occurred. The total time of interruption was calculated in each conference and if that time took more than 15% of the total conference time that conference was coded as teacher-centered. When the interruption time was less than 15% of the total conference time, that conference was coded as balanced because the teacher returned to the discussion as soon as she could. The conferences where there was no interruption occurred were coded as student-centered since the teacher did not allow others to interrupt their conversation and gave the message that conferring was a serious act. Even though, the teacher warned students several times not to interrupt still 22% of the conferences were interrupted and the total time for the interruptions took longer than 15% of the total conference time. The length of interruptions were less than 15% in 44% of the conferences that lead these conferences to be coded as balanced and 34% of the conferences were coded as student-centered since there was no interruptions occurred. Below, the nature of interactions during teacher-student writing conferences with four case study students are presented.
Table 1.
Overview of the Conferences with Student 1 (Male) Across the Indicators

<table>
<thead>
<tr>
<th>Conferences</th>
<th>C. 1</th>
<th>C. 2</th>
<th>C. 3</th>
<th>C. 4</th>
<th>C. 5</th>
<th>C. 6</th>
<th>C. 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>3</td>
<td>3</td>
<td>N/A</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agenda</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ownership/Strengths</td>
<td>2</td>
<td>2</td>
<td>N/A</td>
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<td>1</td>
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</table>

1=Teacher-centered   2=Balanced    3=Student-centered

Table 2.
Overview of the Conferences with Student 2 (Female) Across the Indicators

<table>
<thead>
<tr>
<th>Conferences</th>
<th>C. 1</th>
<th>C. 2</th>
<th>C. 3</th>
<th>C. 4</th>
<th>C. 5</th>
<th>C. 6</th>
<th>C. 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
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<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
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<td>3</td>
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<tr>
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<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ownership/Strengths</td>
<td>2</td>
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<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
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<tr>
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<td>1</td>
<td>1</td>
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<tr>
<td>Turn taking</td>
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<td>2</td>
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</table>

1=Teacher-centered   2=Balanced    3=Student-centered

Table 3.
Overview of the Conferences with Student 3 (Male) Across the Indicators

<table>
<thead>
<tr>
<th>Conferences</th>
<th>C. 1</th>
<th>C. 2</th>
<th>C. 3</th>
<th>C. 4</th>
<th>C. 5</th>
<th>C. 6</th>
<th>C. 7</th>
<th>C. 8</th>
<th>C. 9</th>
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<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>Ownership/Strengths</td>
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<td>N/A</td>
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<td>2</td>
<td>N/A</td>
<td>N/A</td>
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<td>Reflected Questions</td>
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<tr>
<td>Turn taking</td>
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</tr>
<tr>
<td>Frequency of talk</td>
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</tr>
<tr>
<td>Praises</td>
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<td>2</td>
<td>1</td>
<td>3</td>
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</tr>
<tr>
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<td>2</td>
<td>1</td>
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</tr>
</tbody>
</table>

1=Teacher-centered   2=Balanced    3=Student-centered
Table 4.

Overview of the Conferences with Student 4 (female) across the Indicators

<table>
<thead>
<tr>
<th>Conferences</th>
<th>C. 1</th>
<th>C. 2</th>
<th>C. 3</th>
<th>C. 4</th>
<th>C. 5</th>
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</tr>
<tr>
<td>Ownership/Strengths</td>
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<td>1</td>
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<td>Reflected Questions</td>
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<td>Frequency of talk</td>
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<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Praises</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<td>2</td>
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<tr>
<td>Interruption</td>
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<td>3</td>
<td>1</td>
<td>2</td>
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<td>2</td>
</tr>
</tbody>
</table>

1=Teacher-centered  2=Balanced  3=Student-centered

The analyses of 32 teacher-student writing conferences revealed that the research study teacher was successful at keeping the conferences focused and allowed students to determine the conference agenda. However, there were conferences in which students did not share content from their papers or their writing processes. This led these conferences to be excluded from the analyses in terms of conference agenda, ownership, and praise statements. Even though the classroom teacher did allow students to have almost 50% of turn-taking, she still produced higher number of words and suggestions and/or recommendations for students to implement into their writing which lead to her maintaining the power and control in terms of ownership and frequency of talk. Another surprising finding was seeing that even though the teacher warned students to be quiet and not to interrupt while she was conferring, the teacher had total of 40 interruptions and almost half of these were initiated by her for classroom control, giving directions, and answering her phone.

Another important part of this analysis was to analyze whether teacher-student writing conferences were thoroughly viewed and transcripts of conference talks were read repeatedly. Students' level of perceived self-efficacy toward writing was measured at the beginning of the study with the Self-Efficacy Survey. Based on the scores gained from that survey, four case study students were selected. In order to highlight the observed behavioral differences in students with higher and lower self-efficacy, the case study students are described.

Student 1 (male) – the Confident Male Student

Student 1 was a highly confident writer. Sharing his writing with the researcher and with others was always easy for him and he even enjoyed the sharing process. Students frequently went to him for suggestions while the classroom teacher was conferring with other students. Besides being a good responder to classmates, student 1 was also a fluent writer who enjoyed conferences and his favorite part was gaining ideas and advice from his teacher.

The duration of writing conferences with student 1 ranged from 53 seconds to 7 minutes and 38 seconds. During seven conferences he wrote texts for diverse genres.
He was first assigned to write a historical fiction which was the focus of the first four conferences. The fifth conference was held after he wrote an expository text regarding his Christmas holiday memories. The last two conferences occurred during the process of writing a persuasive essay.

Student 2 (female) – the Confident Female Student

Student 2 always had lots of ideas and was also a fluent writer. She was also eager to share her writing with others and several times during the study she asked me or the interns to read what she had written. While talking to the researcher, during the interview, she seemed very comfortable and the dialogue with her lasted longer than with any other student in her classroom. The student told that since she had a powerful imagination she was confident in her writing. She also believed she was good at indenting new paragraphs, using strong verbs, juicy color words, and action verbs.

Her favorite part in conferences was where she gained more details for improving her paragraphs. She considered conferencing similar to having a check-up. She stated that sometimes she requested meeting with the teacher to discuss her composition even though a writing conference was not scheduled. Throughout the study, she had seven writing conferences.

Student 3 (male) – the Less Confident Male Student

Student 3 stated that he was not a confident writer. He rarely allowed others to read his writing. He was a shy student and never volunteered to read his text to others. Student 3 seemed sad and concerned, did not talk much, and stayed at his desk for most of the time while other students were collaborating on their stories. He seemed uncomfortable sharing his ideas and feelings about writing in the interview. His writing was slow with several long pauses. Even after several weeks following the first recorded teacher-student writing conference, most of his peers had finished composing their stories, yet he continued to lag behind.

During the study, student 3 had ten conferences which ranged from 7 seconds to 10 minutes and 33 seconds depending on the draft stage and the type of conference. Overall looking at his conference interactions it was observed that he had difficulty sticking to a chosen composition topic.

Student 4 (female) – the Less Confident Female Student

Student 4 used most of her writing time for giggling and talking with peers and also exhibited low self-efficacy toward writing. Once she was focused on her writing she was fluent, however, it was not always easy for her to be focused. Never volunteering to read her text to others and when approached she did her best to avoid talking about her writing. In the interview, Student 4 stated that her writing was not good because she did not know how to start or end a story. She described conferences as where the teacher talks to them, reads some part of their stories, tells what needs to be improved, what to add, and, based on the conference, what the student needs to fix in their paper. During the study, student 4 had eight writing conferences.
According to the literature on the theory of self-efficacy (Bandura, 1993; Liew, McTigue, Barроis, & Hughes, 2008; McTigue, Liew, & Wasburn, 2009; Pajares & Valiante, 1997; Schunk, 2003; Walker, 2003), the researcher supposed that students will experience diverse conferences related to their confidence level. It was assumed that students with higher self-efficacy would be more active in determining the conference agenda thus keeping authority and ownership. Since they would be actively participating in the conference talk they would have equal turns, similar number of questions asked, and produce as much speech as their teacher. It was also expected that more confident students’ conferences would be longer, with less interruptions, and with more praise statements when the teacher focused on only one or two issues in students’ writing keeping the conferences more focused.

Interviews and field notes revealed differences between these two groups. For instance, students with higher self-efficacy viewed writing conferences as dialogues not short mini-lessons, enjoyed sharing their writing with the teacher and other students, were persistent and fluent in writing, highlighted content-related concerns to improve the quality of texts, and more importantly saw themselves as good writers. Students with lower self-efficacy, on the other hand, seemed uncomfortable to talk about their writing, frequently had writers block, were resistant to share their writing, showed lower levels of commitment to writing, and highlighted mainly the surface-related concerns to improve the quality of texts. Table 5 summarizes the different patterns that were observed in these two groups of students’ writing conferences.

Table 5.

<table>
<thead>
<tr>
<th>Students with Higher Self-Efficacy</th>
<th>Students with Lower Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Had mainly student-centered conferences</td>
<td>- Had mainly balanced-conferences</td>
</tr>
<tr>
<td>- Had longer conferences with less interruption</td>
<td>- Had shorter conferences with more interruptions</td>
</tr>
<tr>
<td>- Received more teacher praise</td>
<td>- Received less teacher praise</td>
</tr>
<tr>
<td>- Engaged in more social talk</td>
<td>- Engaged in less social talk</td>
</tr>
<tr>
<td>- Frequently initiated conference talk</td>
<td>- Seldom initiated conference talk</td>
</tr>
<tr>
<td>- Were more active participants during conferences</td>
<td>- Were less active participants during Conferences</td>
</tr>
</tbody>
</table>

When the conference interactions of two groups were compared with each other, as seen in Table 5, it was found that the majority of the assumptions were proved. For instance, each student with lower self-efficacy received positive feedback a total of three times, while the total number of positive feedback statements was twenty-
one for students with higher self-efficacy. Even though these students had longer conferences, they had less number of interruptions while conferring with their teacher. The total number of outside interruptions was sixteen for students with higher self-efficacy and twenty-four for students with lower self-efficacy. Students with higher self-efficacy were willing to confer and frequently initiated the conference talk. In contrast, the students with lower self-efficacy initiated the conferences only twice and on other occasions both of them mentioned that they had writer’s block and were not willing to share their writing.

Differences between these students with higher and lower self-efficacy were observed during this study and their behavior was seen to play a role in both how they approached assigned writing tasks and how they interacted with the teacher during scheduled teacher-student writing conferences. Three important observations of students’ writing behavior during this research showed that the more confident students worked harder, were not hesitant to seek assistance when needed, and persistently stayed on task until their assigned task was achieved. Consequently, the two confident case study students were first to complete their story assignments. Even though they finished their work much earlier than several other students they were still seen engaging in related writing activities. To summarize, the confident students seemed to be more self-disciplined and when responding to the self-efficacy survey and the interview they reflected positively on their strengths and potential as writers.

In contrast, observations of less confident students showed that they were quick to give up on their task, often blamed themselves for their failure, and appeared to be frustrated when working towards their goal. During the writing process the lower self-efficacy students avoided drafting, revising, and sharing. Throughout the writing process, these students wrote in a linear manner, seemed concerned and nervous, and were reluctant to revise or share their stories. While conferring, they also had difficulty speaking with the teacher about their texts. They also exhibited low aspiration. Not surprisingly, they also showed weaker commitment to their goals. Among the entire class these two students were part of the final four students to complete their writing assignment. In summary, the less confident students appeared to be less committed to accomplishing their goals, were less self-disciplined than more confident students, and responded negatively about their writing abilities in the self-efficacy survey and the interview.

Conclusion and Discussion

In discussing the nature of teacher-student writing conferences it was a goal to understand if writing conferences were balanced, student-centered, or teacher-centered. It was determined that the research study teacher and the students had all forms of conferences; balanced, student-centered, and teacher-centered. Based on characteristics of effective writing conferences identified in the literature (Atwell, 1987; Calkins, 1994; Graves, 1983; Harris & Silva, 1993; McAndrew & Reigstad, 2001; Murphy, 2000; Straub, 2001; Wilcox, 1997) research observations uncovered several
ways in which the research study teacher’s conferencing approach could be characterized as student-centered. Several writing conference strategies she utilized were, for example, she played the role of advocate by creating a conference environment in which both parties shared power and were treated equally (Boynton, 2003; Graves, 1983). A specific table for conducting conferences was designated and the research teacher always sat next to the student, not across from them. She also encouraged students to lead off the conference talk and were also able to speak up at any time allowing the teacher’s role to be more of a coach instead of the all-knowing dictator which is discussed in (Boynton, 2003; Graves, 1983; McAndrew & Reigstad, 2001; Reigstad & McAndrew, 1984) as an important conferencing strategy. These led students to more freely explain their texts and/or ideas because the teacher often prompted them with open-ended questions which were also advocated as an effective conferencing approach by Smith (2005). By keeping the conferences concise and focused the teacher allowed students to have multiple conferences over the period of the writing process which concurred with Atwell (1987), Boynton (2003), and Graves (1983). During these conferences the research teacher remained attentive by listening carefully to students’ ideas, questions, and responses. Her conscientious behavior encouraged students to be more open and share their topics and concerns which is a sign of a more student-centered conference (Kaufman, 1998).

The research teacher effectively provided students opportunities for turn-taking by using pauses as their cue to generate a response (Graves, 1994). Additionally, she used longer pauses with less confident students for them to formulate a response to unforeseen questions or comments. The students were also given both general and specific praise statements to learn more about their strengths (Wachholz & Etheridge, 1996).

Along all these promising practices, there were times the research study teacher also was less effective and conferred in a more teacher-centered approach. Allowing students to speak frequently aids the teacher in better understanding students’ needs and can lead to more effective decisions regarding topics and strategies of instruction for individual students (Murphy, 2000). When attention was paid to the frequency of talk between the teacher and her students, she dominated the conference talk by using a higher number of words.

It is important to communicate the intentions of the text before addressing any of the editing concerns (Oye, 1993; Ulrichy & Watson-Gegeo, 1989; Wilson-Power, 1999). Throughout the period of observed conferences sometimes the teacher ignored where the student writer was in his/her drafting stage. During one of her earlier conferences, Student 4 unhappily showed her paper all in red ink showing her grammar mistakes pointed out by the teacher. Additionally, the failure to provide a substantial amount of specific praise statements was another drawback in the teacher’s conferencing style. This is important because, as highlighted, by Hansen (1987) and Wachholz & Etheridge (1996) the teachers’ use of praise statements can bolster a student’s confidence and feedback gained from the teacher is a persuasive tool for students to determine their level of perceived self-efficacy (Cho, Schunn, & Charney, 2006; Duijnhouwer, Prins, & Stokking, 2011) and encourage them to
continue working on their goal (McTigue & Liew, 2011). Moreover, by gaining feedback students learn keeping a purpose and audience in their mind while writing their texts (Calkins, 1994; Karsbaek, 2011).

The findings of this research support that students’ conference interactions differed according to their level of self-efficacy and these beliefs led them to play different roles as participants while conferring with their teacher (Glasswell, Parr, & McNaughton, 2003; Mitchell, 1990; Patthey-Chavez & Ferris, 1997). Like Takaku and Williams’s study (2011), in this present study it was found that there was not a significant difference between male and female students in terms of help seeking behaviors. However, similar to McTigue and Liew (2011) stated, the students with higher level of perceived self-efficacy showed proactive help-seeking behavior. The present study showed that it was not the teacher alone who contributed to the conference but students were also there and the way students behaved during conferences shaped the nature of interaction between two groups of conference participants. Thus, the study highlighted the fact that differences in conferencing patterns might be caused not only because teachers are less patient or have low expectations while working with less achieving students (Glasswell, Parr, & McNaughton, 2003; Patthey-Chavez & Ferris, 1997) but because these students still see the teacher as an authority figure and limit their participation with accepting the teacher suggestions.

While analyzing conference interaction, attention needs to be paid to both parties’ input rather than focusing solely to the teacher or to the student. As Murphy (2000) highlighted, “we cannot make sense of an interaction if we only hear one half of the conversation” (p. 89).

Analyzing a conference from multiple perspectives established through the conference rubric allowed the researcher to not over generalize the rules of effective conferencing. For instance, during conference analysis 72% of the writing conferences were coded as focused because one or two writing concerns were mentioned, yet closer attention to overall conference interaction showed that there was in fact limited discussion about the content of the student’s paper. The brief mention about the development and motivation behind the students’ texts did not lead to the teacher or the student asking content related questions, offering suggestions, or making recommendations. As a result, these interactions although focused in some respect actually failed to allow the student to truly develop ownership and/or determine the conference agenda.

Educators should go beyond the evaluations of teachers and students’ responses in terms of assessing the effectiveness of a conference. Students’ and teachers’ feelings and attitudes toward the writing conferences are, of course, valuable information for the field. Still, while determining the effectiveness of a particular writing conference, researchers should also pay attention to a) what is happening in a conference by considering both parties’ input in making and negotiating meaning, b) relationships between what happens in a conference and its effects on the student’s
revision activities and attitudes toward writing, and c) the nature of the conference discourse and its effects on students’ perceived self-efficacy toward writing.

Recommendations:

This study uncovers several rules of thumb for practitioners to keep in mind when conferring with their students. First, the teacher needs to be patient while conferring with their students. Because providing a quick solution is not necessarily the best way to assist students in developing new skills (Graves, 1994). Second, when conferring teachers can empower students by giving them ownership regarding the development of their writing skills rather than dominating the conversation through frequent questions, explanations, and lectures like they often do during mini-lessons (Anderson, 2000). Third, teachers should provide models for their students to improve their writing and help students better understand the writing process (Schunk & Zimmerman, 2007). Fourth, while students are judging their capabilities they need to hear positive feedback from their teachers and tutors in order to better realize their strengths and be motivated to write (Karsbaek, 2011). Fifth, since students can misjudge their level of self-efficacy, an appropriate strategy or evaluation instrument should be used to aid in informing students about their potential. Later teachers can utilize this information to further develop their curriculum and writing activities in order to better accommodate each child’s needs and feelings. Determining students’ level of perceived self-efficacy is important for teachers as self-efficacy belief promotes self-regulated learning and achievement (McTigue & Liew, 2011; Pajares, 2003).

Investigating students’ levels of perceived self-efficacy is important for educators. Knowing our students’ levels of self-efficacy can provide a head start in better understanding and helping students (Pajares, Miller, & Johnson, 1999). Also important to remember is that students behave parallel to how they feel about their skills (Bandura, 1984, 1993; Pajares & Valiante, 1999). It has been observed that researchers have given significant attention to self-efficacy and how people judge their skills. Less attention though has been paid to how self-efficacy affects learning, especially the relationships between self-efficacy and learning to write. In addition, because little attention has been focused on studies of younger students it is critical for researchers to more exhaustively investigate self-efficacy at these grade levels.

Another recommendation is that this study might be replicated with co-researchers/ research partners, so that writing conferences in several classrooms and schools could be recorded simultaneously and then investigated for occurrences of common patterns across teachers and/or students in a larger range of conferences. Additional studies with larger sample sizes may also uncover subtle changes in students’ writing skills and lead to statistical testing with more generalizable measures.
References


Theoretical and empirical considerations. Reading & Writing Quarterly: Overcoming Learning Difficulties, 28(1), 5-28.


Öğrencinin Yazılıları Hakkında Öğretmeniyle Konuşmalarının Niteliğinin ve Öz-Yeterlik Duygusunun Bu Görüşmelerin Doğası Üzerindeki Potansiyel Etkilerinin İncelenmesi

Atıf:

(Özet)


yaptığı gözlem ve tuttuğu notlar yoluya toplanmıştır. Elde edilen veriler nitel çalışma yöntemyle kodlanmış ve yorumlanmıştır.

**Bulgular:** Özyeterlik duygusu farklı olan öğrencilerin, öğretmenleriyle olan etkileşimlerinin de yapıs farklılıklar göstermiştir. Nitel veriler özyeterlik duygusu yüksek olan öğrencilerin ikili görüşmelerinin özyeterlik duyguları düşük olan öğrencilerin görüşmelerinden a) görüşmenin odağı; b) kendi yazı çalışmalarını sahiplennme düzeyleri; c) görüşmenin gündemi; d) söz alma skılgı; e) konuşma miktari; f) sorulan soruların sayıları ve fonksiyonları; g) öğretmen tarafından verilen övgülerin sayısı ve h) görüşmelerinin kesintiye uğramasının sayısı konularında farklılıklar göstermiştir.

**Tartışma ve Öneriler:** Yapılan analizler, öğretmen-öğrenci görüşmelerinin yapısının öğrenciden öğrenceye farklılık gösterいただけるını göstermiştir. Sınıf öğretmeni birçok alanda, öğrenci merkezli görüşmeler yapmasına rağmen görüşmelerin önemli bir kısmında kendisi aktif rol üstlenerek öğrencilerini pasif kahımcılar durumunda bırakmıştır. Çalışma bu tür ikili görüşmelerin karmaşık yapılarından ötürü detaylandırılmış puanlama anahatlarıyla analiz edilmesinin gerekliğini savunmakta görüşmelerin etkili olabilmeleri için eğitim ve araştırmacılar için öneriler sunmaktadır.

**Anahtar Sözcüklər:** Öğretmen-öğrencinin yüz yüze görüşmeleri, öz yetenilik, yazı eğitimi, ilköğretim öğrencileri
Higher Officials' Training Needs on Managerial Competencies in Spanish Universities: Preliminary Findings

Jesús Rodríguez Pomeda* 
Fernando Casani **

Suggested Citation:

Abstract

Problem Statement. What are the self-perceptions of higher officials in Spanish universities about the main competencies required in their daily tasks?

Purpose of Study. To analyze what the main competencies are in the professional behaviour of higher officials at Spanish universities. The improvement of their competencies through a systematic educative framework would be based on what gaps are found to exist in their competencies.

Methods. Principal component analysis: After dealing with sample size, we have analyzed the Kaiser-Meyer-Olkin (KMO) statistic of sampling adequacy and the Bartlett’s Test of Sphericity. After that, we ran the component extraction and the interpretation of the components based on oblique rotation. The last task was to check the reliability of the scale used.

Findings and Results. Spanish universities' higher officials consider that four competencies have paramount relevance now: organizational transformation (command of change management models, total quality management, and Higher education finance models); strategic management (strategic planning, general and team management); leadership (self-confidence, impact and influence on others); theoretical reflection previous to action (command of achievement orientation, conceptual thinking, information seeking, and directiveness/ assertiveness).

Conclusions and Recommendations. Context is a key issue of leader effectiveness in order to develop an attuned scheme of competencies, that...
is, a set of competencies aligned with stakeholders’ perceptions about what effective leadership is. In the past, academic leaders exerted their role by applying routine behaviours based on command-and-control schemes within the limits established by the principal stakeholder surveillance. However, the literature increasingly recognizes that single prescriptions for leadership excellence no longer work.

When the winds of change blow harder, leaders must be equipped with a broad and complex array of knowledge and skills, that is, a brand-new portfolio of leadership competencies. This must be the goal for any formal training program.

**Keywords:** Spanish universities, higher education, leadership competencies.

An academic leader is a person in a position to make a difference...in the quality of the institution; in the lives of the faculty, staff, and students; and in the community served by the university, as well as in other constituents (Diamond, ed., 2002). She or he must be committed to this change process, which requires inspiration, motivation, aspiration, relationship building, and creative capabilities (Brown, 2001). This commitment requires a dynamic relationship between individual, social, and organizational spheres (Bolden, Petrov, & Gosling, 2008) where a number of competencies will be required.

Brownell (2006) considers that several “common competencies” combined with “distinctive competencies” define the leadership role within higher education (HE) environments. This indicates that fundamental knowledge and skills are combined with key personal characteristics present in every HEL (Higher Education Leader). Common and distinct competencies can be built to attain the distinctive features of leadership effectiveness in HE (Bryman, 2007a). The expectations among university employees define what effective leadership represents. For Kraljevic (2010), to promote an “active citizenry” approach among students should be a main purpose of higher education institutions. Tierney (1989) considers that symbolism plays a central role. If HELs must manage the symbolic organizational aspects, then it would be useful to know what characteristics leaders perceive themselves to need and what activities are involved to realize university constituents’ perceptions. We advocate for this argument in our research by using a survey administered to HELs on their perceptions about competencies.

**The Literature on Academic Leaders’ Competencies**

In order to understand the job of HELs, we first reviewed definitions of “leader” to clarify what an academic leader is. Then, we offered an overview of the study of leadership in higher education institutions. This first section of the literature review ends with a reference to leadership typologies. In the second, we offer a summary of key findings related to the content of HE leadership focused on required competencies.
The Job of HELs: Leading Colleges and Universities

Leadership is exceptionally complex and multifaceted (Chafee, 1989; Richards, 2008) in the specific HE environment. The primary roles of HELs are creating vision, communicating policy, and deploying strategy throughout the institution (Davies, Hides, & Casey, 2001). One of the salient characteristics of specific environments in HE is a strong resistance to leadership (Birnbaum, Bensimon, & Neumann 1989) related to the existence of dual control systems, conflicts between academic and administrative authority, and goals that are not well defined. Mech (1997) underlines the ambiguity of the HE academic management process. Neumann and Bensimon (1990) rationalize about the blurred borders of desired university leadership. If college and university constituencies do not agree on what sound leadership must be (Pounder, 2001), then different versions of the presidential role will be developed. A possible way to analyze these different versions consists of revising the general purposes of leadership typologies relevant to HE environments.

There are diverse approaches to this issue in the literature. Bess and Goldman (2001) offer a comprehensive framework to explain leadership behaviour throughout the entire educational sector. Their scheme comprises five leadership theories (situational, charismatic, transformational, path-goal, and leader-member exchange). Some of them are found also in other papers. One of the more pervasive is the transformational model of leadership. Its main characteristics are idealised influence or charisma; inspirational motivation; individual consideration; intellectual stimulation; behavioural integrity; status quo challenging (risk taking, encouraging other’s ideas, fostering experimentation, and accepting mistakes as opportunities to learn); and acts of caring directed toward subordinates (Pounder, 2001). Smith and Wolverton (2010) develop a higher-education leadership model with five components (leadership competencies): analytical, communication, student affairs, behavioural, and external relations. Some interesting leadership typologies that can be developed in HE environments are summarized here in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Typology</th>
<th>Conceptualization</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational</td>
<td>Charisma, inspirational motivation, individual consideration, intellectual stimulation, behavioural integrity.</td>
<td>Pounder, 2001</td>
</tr>
<tr>
<td>Transactional</td>
<td>To highlight the positive features of transformational leadership.</td>
<td>Pounder, 2001</td>
</tr>
<tr>
<td>Adaptive</td>
<td>Adaptive challenge is complex, answers are not known, implementation requires learning.</td>
<td>Glover, Friedman, &amp; Jones, 2002; Hefetz, Kania, &amp; Kramer, 2004</td>
</tr>
<tr>
<td>Distributed</td>
<td>Development of leadership talent at all organizational levels is related to</td>
<td>Gregory, 1996; Petrov, Bolden, &amp; Gosling, 2006</td>
</tr>
</tbody>
</table>
organizational culture and context, control and autonomy, and organizational structures.

**Blended**
An effective kind of leadership in higher education guided by a mix of individual and collective leadership.
Collinson & Collinson, 2007; Bolden, Petrov, & Gosling, 2008

**Dynamic**
The result of a leader’s work is focused on people and process.
Brown, 2001

**Servant**
An inclusive type of leadership involving everyone on the campus.
Kezar, 2001

Is it possible to offer an integrated vision of leadership in HE? An advisable answer is to look for that model showing the best fit with HE environments. It is clear that these environments have very distinct characteristics worldwide. Thus, it can be argued that leadership is contingent to specific environments. However, these models must be capable of generalization (Chafee, 1989; Birnbaum, Bensimon, & Newman, 1989). For instance, faculty expects that leaders do not restrict their autonomy (Gazi, Silman, & Birol, 2008). Autonomy allows academicians to devote their time and efforts to research, as well as to instruction in order to complement it (Odabası, Kurt, Kabakçı Yurdakul, Fırat, & İzmirli, 2012). Perhaps leadership integration could be based on the consideration of the intensity of the expectations among university employees and constituencies (Bryman, 2007a). Different expectations of the leadership role are held at different levels of a university’s organizational hierarchy. At the academic leadership level, people agree on the importance of the visionary aspects of the role, but faculty and staff are prone to a leadership style that respects their autonomy. Then, as Kerr and Jermier (1978) suggest, certain aspects of the individual or the organization reduce the importance of formal leadership by “neutralizing” the effects of the tasks of relationship-oriented leadership behaviours. Other situational variables not only neutralize those behaviours but also have a direct impact of their own on criteria variables through their influence over subordinates’ attitudes, behaviours, and perceptions (Howell, 1997; Podsakoff & MacKenzie, 1997).

In summary, expectations about what the leadership role must be differ within the university, as do the perceptions of its realization. Faculty and staff show resistance to highly directive leadership models. Then, combinations of transformational, distributed, and “substitutes for leadership” are adopted in a dynamic path influenced by the environmental turbulence level. For Pounder (2001, 288), more-stable university environments are related to transformational leadership, and those that are less stable are linked to transactional leadership. In any case,
Mumford and his colleagues advocate for a “skills-based model of leader performance.” Within this model, skills are seen as developing as a function of the interaction between traits and the experience accumulated passing through several environments (Mumford et al., 2000). The key to the model is creative problem-solving skills, and leaders must command these in order to identify significant organizational problems and formulate solutions to those problems (Mumford, Zaccaro, Connelly, & Marks, 2000).

The Content of HE Academic Leadership

A set of competency models has been applied, or specifically developed, within the HE realm. Before we discuss them, two issues must be addressed. First, what a competency is, and second, if it is recommended to use competency models to study leadership roles. Within the vast literature on the concept of competencies, Shippmann et al. (2000) offer a useful starting point. They consider that “competencies” today is a term “... [T]hat has no meaning apart from the particular definition with whom one is speaking.” (p. 706). The lack of a proper definition could be overcome by confronting some of the more generally used definitions. Thus, it is possible to gather the following descriptions for the term “competencies”:

- A combination of knowledge, skills, abilities, motivation, beliefs, values, and interest (Fleishman, Wetrogan, Uhlman, & Marshall-Mies, 1995). Knowledge, skill, ability, and other characteristics (the so-called KSAOs) associated with high performance on a job (Mirabile, 1997).

- A mixture of motives, traits, self-concepts, attitudes or values, content knowledge, or cognitive behaviour skills; any individual characteristic that can be reliably measured or counted and that can be shown to differentiate superior from average performers (Spencer, McClelland, & Spencer, 1994), and

- A written description of measurable work habits and personal skills to achieve work objectives (Green, 1999).

We deal now with the plausibility of using those models to study leadership roles. Hollenbeck, McCall, and Silzer (2006) offer an interesting set of pros and cons about the use of those models. When competency models are accepted uncritically and are used to build around the “great person with great results” idea, avoiding the particular circumstances of the organization (Yammarino, 2000), a specific part of the equation that represents leadership effectiveness is obliterated. In summary, competency models have proved extremely useful in describing effective action within unstable environments (Mumford et al., 2000). Leadership depends on an interactive package of complex skills (Mumford, Zaccaro, Connelly, & Marks, 2000) that must be studied while taking into account the additional competencies demanded by university leadership, a requisite not widely considered (Spendlove, 2007). Some relevant HE competency models’ main issues are displayed in Table 2.
Table 2: Competency Models Useful for Higher Education Institutions

<table>
<thead>
<tr>
<th>Reference (Author, year)</th>
<th>Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown, 2001</td>
<td>Effective leaders show both managerial and leadership behaviours and qualities.</td>
</tr>
<tr>
<td>Blancero, Boroski, &amp; Dyer, 1996</td>
<td>Competency model composed of three parts: core competencies, leverage competencies, and role-specific competencies (in a much larger number)</td>
</tr>
<tr>
<td>Bryman, 2007a</td>
<td>11 Facets of Leadership (direction, trustworthiness, role model, participation, communication, representation, values instillation, protecting autonomy, integrity, support-structures creation, collaboration)</td>
</tr>
<tr>
<td>Bryman, 2007b</td>
<td>List of behaviours associated with leadership effectiveness at departmental level (adds to the 11 facets the following: advancement of the department's cause with respect to internal and external constituencies, resource provision for adjusting workloads to stimulate scholarship and research, and department's reputation enhancement)</td>
</tr>
<tr>
<td>Holland, Chait, &amp; Taylor, 1989</td>
<td>Board of trustees competency model (understand institutional context, build capacity for learning, board development, complexities recognition, guard the governance process, shape institutional direction)</td>
</tr>
<tr>
<td>Martinez, 2008</td>
<td>25 competencies for HE policy analyst (comprising qualitative and quantitative analytical, team working, communication, negotiation, project management, budget, awareness of public concerns, knowledge of HE environment, and networking skills)</td>
</tr>
<tr>
<td>McDaniel, 2002</td>
<td>Four competency categories: leadership context, leadership content, leadership processes, and leadership communication competencies</td>
</tr>
<tr>
<td>Ruben, 2006a</td>
<td>Leadership Competencies Scorecard Inventory (LCSI) comprised of analytic, personal, communication, organizational, and positional competencies</td>
</tr>
<tr>
<td>Ruben, 2006b</td>
<td>Leadership Style Inventory (LSI) for leaders self-assessment (questions about providing vision and direction, communication and collaboration, asking for feedback, group work, challenging ideas, confidence and self-assurance, ethics)</td>
</tr>
<tr>
<td>Spencer &amp; Spencer, 1993</td>
<td>A Generic Competency Model of Managers (13 competencies: impact and influence, achievement orientation, teamwork and cooperation, analytical thinking, initiative, developing others, self-confidence, directiveness/assertiveness, information seeking, team leadership, conceptual thinking, organizational awareness and relationship building, expertise/specialized knowledge)</td>
</tr>
</tbody>
</table>
We have used some ideas gleaned from the main investigation trends to design our research, and, specifically, the quantitative scale. Three research trends can be observed in the vast quantity of literature related to leaders' competencies (Martinez, 2008). First, some studies follow the seminal work by Hemphill (1960), which asks an expert group to devise a list of competencies. Other researchers combine literature reviews with experts' opinions. And, lastly, some use an empirical approach based on exploratory factor analysis. The advantages of this kind of analysis are listed by Martinez (2008) as follows:

- Research designs are focused on specific groups of professionals, with some unknown aspects in their work.
- These researches do not try to test some hypothesized model but rather seek to know more about the ill-defined issues. So, it is not advised to employ confirmatory factor analysis.
- The main benefit of exploratory factor analysis is to gather competencies. Then, when groupings emerge from the data, researchers can propose ways of classifying the models.

Therefore, Martinez uses exploratory factor analysis because it is employed by most of the peer-reviewed literature on the topic. In his research on competencies of HE policy analysts, he started from a Delphi method with an advisory group of five. Their responses allowed Martinez to devise a list of 25 competencies, and then to develop a questionnaire according to a 5-point scale. With 135 responses, he obtained an effective response rate of 20.1% and ran an exploratory factor analysis. As a consequence, certain competencies were “grouped” together in a four-factor solution. Following Kachigan’s (1991) advice about the interpretation of factor loadings on the researcher’s subject-matter knowledge, Martinez (2008) considers four factors (external-technical, internal-technical, internal-interpersonal, and external-technical/interpersonal).

This article aims to investigate the following research question:

1. What are the self-perceptions of higher officials (Planning and Quality Vice Presidents and General Managers) in Spanish universities concerning the main competencies present in their daily tasks?
2. Any effort to improve their skills with a systematic educative framework requires knowing what those competencies are.

**Method**

**Participants**

A sample of 400 university higher officials representing all 50 Spanish public universities was randomly selected. We have obtained 80 valid responses to the questionnaire. The overall response rate was 20%. 
Instruments

The base for the instrument development was twofold: a literature review and discussion groups with HELs. The project was initiated in April 2008 and ended in October 2010. Discussion groups held preliminary sessions in order to analyze the first draft of the questionnaire. Following their work, a 1-to-5, Likert-based scale was prepared, where 1 means “this competency/skill is alien to my behaviour,” and 5 means “I always use this competency/skill in my behaviour.”

Procedure

The survey was administered online, and the data was analyzed and discussed with the experts up until October 2010. Then, the suitability of the data for factor analysis was examined. The first issue in this stage was to study sample size adequacy. Then the analysis was done using SPSS 19 for Windows® to decide how many factors to retain and, lastly, to pick up item loads on factors. Following the usual considerations, those items with loadings less than 0.4 were eliminated in the output. To determine the number of components, we have applied the usual criterion of selecting those components with eigenvalues exceeding 1. The accumulated variability explained by the four components selected rose to 68.51%. To facilitate the interpretation of the results and taking into account that some of the factors might correlate, an oblique rotation (direct oblimin) was employed. Thus, it is possible to verify the independence between factors analyzing the pattern matrix and the structure matrix obtained from the splitting of the factor matrix as well as the component correlation matrix (Table 3). With these data, it is not possible to assume independence between factors, so it is advisable to apply the obliquely rotated solution. Our procedure has an exploratory character, derived from the adopted methodology, and also from the size of our data set. So, the results can suggest future research avenues, and we must be cautious about direct applications of them on real institutions.

Table 3
Component Correlation Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.000</td>
<td>-.268</td>
<td>.073</td>
<td>.493</td>
</tr>
<tr>
<td>2</td>
<td>-.268</td>
<td>1.000</td>
<td>-.078</td>
<td>-.269</td>
</tr>
<tr>
<td>3</td>
<td>.073</td>
<td>-.078</td>
<td>1.000</td>
<td>.277</td>
</tr>
<tr>
<td>4</td>
<td>.493</td>
<td>-.269</td>
<td>.277</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis
Rotation Method: Oblimin with Kaiser Normalization
Results

The twenty variables that constitute the scale were analyzed through principal component analysis. Following Field (2006), we have eliminated those variables for which the majority of the significance values are greater than .05. So, we have retained twelve variables. The first issue to study is sample size. In the factor analysis literature, it is easy to find a “rule of thumb” about sample size based on the idea that the researcher has at least ten participants per variable. However, several authors offer a quite different view. Arrindell and van der Ende (1985) consider that changes in the participant-to-variable ratio have little impact on the stability of factor solutions. Guadagnoli and Velicer (1988) underline that the absolute magnitude of factor loadings has a relevant impact in determining reliable factor solutions; that is, if a factor has four or more loadings greater than .6, then results are reliable regardless of sample size. MacCallum, Widaman, Zhang, and Hong (1999) conclude that when communalities become lower, a higher sample size is needed. With all communalities above .6, small samples (less than 100) may be perfectly adequate. Hogarty et al. (2005) agree and show that there is not a minimum sample size to attain an acceptable quality in factor analysis, although they suggest examining multiple indices of the quality of factor solutions. MacCallum, Widaman, Preacher, and Hong (2001) consider that, when communalities are high, the recovery of population factors in sample data is usually very good for almost any sample size, level of over-determination of the factors, or the presence of model error. They say that researchers can be confident when using samples with a size that is smaller than that traditionally recommended if communalities are high. Mundfrom, Shaw, and Ke (2005) think that there is little empirical evidence for the traditional “rule of thumb,” so trying to offer an absolute minimum necessary sample size is probably unrealistic. They show that with high communalities and a “variable-to-factors” ratio of 7, samples with a size of n = 55 allow researchers to attain good results. In summary, taking into account that variables in our data register a mean of communalities slightly below .7, we can consider that a sample size of n = 80 is adequate to the component analysis.

Then we must examine the Kaiser-Meyer-Olkin (KMO) statistic of sampling adequacy, the diagonal elements of the anti-image correlation matrix, and the Bartlett’s Test of Sphericity. Following the usual criteria, our KMO statistic can be labelled as “good.” In the anti-image correlation matrix, all the diagonal elements are above .5, thus we cannot consider excluding any variable from the analysis. Lastly, the Bartlett’s Test of Sphericity examines the null hypothesis that the original correlation matrix is an identity one. Our Bartlett’s result is highly significant (p < .001), and therefore there are some relationships between variables that we can analyze.
Table 4

KMO and Bartlett’s Test of Sphericity

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin measure of sampling adequacy</th>
<th>.753</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett’s Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approximate $\chi^2$</td>
<td>331.839</td>
</tr>
<tr>
<td>Df</td>
<td>66</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

The following step in the analysis is component extraction. We decided to retain all those with eigenvalues greater than 1, applying the Kaiser’s criterion. This one is accurate when the number of variables is less than 30, and the resulting communalities are all greater than .7 (Field, 2006). In our data, seven communalities are below that cutoff point of .7. However, the same author also suggests calculating the average of communalities before the application of Kaiser’s criterion. In our data, this average attains .685, that is, slightly below .7. Consequently, we accept cautiously the extraction of four components from our data. In order to validate this decision, we have also checked the percentage of non-redundant residuals with absolute values above .05. Following Kaiser, this percentage should be less than 50%. Our result is 47%, with 31 residuals above the .05 limit.

Then we worked with the interpretation of the components. To facilitate this task, we ran the component rotation. Thus, the variable loadings clarify the structure of the model. The method most commonly used is orthogonal rotation, since it tends to be easier to interpret its results. In factor analysis, orthogonal rotation allows the rotation of factors, keeping them independent. Before rotation, all factors do not correlate at all, and with orthogonal rotation they are still independent, but with oblique rotation the factors are allowed to correlate.

We have selected the oblique rotation alternative because the theoretical discussion in section 2 shows that factors might correlate due to their interrelationships. As a consequence, we have found four factors. When oblique rotation is done, the factor identification can be based on the results showed in the pattern matrix, as well as in the structure matrix. For each variable, we have observed the component for which the variable has the highest loading; also, for each component, we have seen the variables that load highly onto it (that is, loadings above .4 in absolute value). The results appear in Table 5. The items in each component, along with their means, standard deviations, item total values, component and oblimin factor load, are shown in Table 6.
### Table 5
**Results of The Factor Analysis: Total Variance Explained**

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial eigenvalues</th>
<th>Extraction sums of squared loadings</th>
<th>Rotation sums of squared loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.069</td>
<td>33.912</td>
<td>33.912</td>
</tr>
<tr>
<td>2</td>
<td>1.606</td>
<td>13.382</td>
<td>47.294</td>
</tr>
<tr>
<td>3</td>
<td>1.469</td>
<td>12.243</td>
<td>59.537</td>
</tr>
<tr>
<td>4</td>
<td>1.077</td>
<td>8.973</td>
<td>68.510</td>
</tr>
<tr>
<td>5</td>
<td>.874</td>
<td>7.283</td>
<td>75.793</td>
</tr>
<tr>
<td>6</td>
<td>.587</td>
<td>4.890</td>
<td>80.684</td>
</tr>
<tr>
<td>7</td>
<td>.526</td>
<td>4.381</td>
<td>85.065</td>
</tr>
<tr>
<td>8</td>
<td>.469</td>
<td>3.905</td>
<td>88.969</td>
</tr>
<tr>
<td>9</td>
<td>.442</td>
<td>3.687</td>
<td>92.656</td>
</tr>
<tr>
<td>10</td>
<td>.398</td>
<td>3.316</td>
<td>95.972</td>
</tr>
<tr>
<td>11</td>
<td>.336</td>
<td>2.797</td>
<td>98.769</td>
</tr>
<tr>
<td>12</td>
<td>.148</td>
<td>1.231</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Extraction method: Principal component analysis
<table>
<thead>
<tr>
<th>Factors and Items</th>
<th>M</th>
<th>SD</th>
<th>Item total</th>
<th>Component factor load</th>
<th>Oblimin factor load</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Organizational transformation (α = .835)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Change management model skills</td>
<td>3.86</td>
<td>.93</td>
<td>.252</td>
<td>.693</td>
<td>.650</td>
</tr>
<tr>
<td>17 Total quality management skills</td>
<td>3.94</td>
<td>1.07</td>
<td>.376</td>
<td>.750</td>
<td>.974</td>
</tr>
<tr>
<td>14 HE finance models</td>
<td>4.06</td>
<td>1.02</td>
<td>.324</td>
<td>.768</td>
<td>.867</td>
</tr>
<tr>
<td><strong>Factor 2: Strategic management (α = .617)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Strategic planning</td>
<td>4.03</td>
<td>.90</td>
<td>-.367</td>
<td>-.578</td>
<td>-.586</td>
</tr>
<tr>
<td>13 General management capabilities</td>
<td>3.84</td>
<td>.89</td>
<td>-.332</td>
<td>.416</td>
<td>-.527</td>
</tr>
<tr>
<td>15 Team management skills</td>
<td>3.85</td>
<td>1.11</td>
<td>-.544</td>
<td>-.878</td>
<td>-.894</td>
</tr>
<tr>
<td><strong>Factor 3: Leadership (α = .622)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Self confidence</td>
<td>4.10</td>
<td>.83</td>
<td>.379</td>
<td>.456</td>
<td>.674</td>
</tr>
<tr>
<td>8 Impact and influence capability</td>
<td>4.14</td>
<td>.86</td>
<td>.453</td>
<td>.774</td>
<td>.760</td>
</tr>
<tr>
<td><strong>Factor 4: Theoretical reflection previous to action (α = .677)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Total quality management skills</td>
<td>3.91</td>
<td>.87</td>
<td>.312</td>
<td>.677</td>
<td>.744</td>
</tr>
<tr>
<td>10 Achievement orientation capability</td>
<td>3.75</td>
<td>.90</td>
<td>.347</td>
<td>.781</td>
<td>.838</td>
</tr>
<tr>
<td>11 Conceptual thinking capability</td>
<td>3.76</td>
<td>.83</td>
<td>.287</td>
<td>.736</td>
<td>.687</td>
</tr>
<tr>
<td>12 Information-seeking capability</td>
<td>3.86</td>
<td>.89</td>
<td>.309</td>
<td>.473</td>
<td>.699</td>
</tr>
</tbody>
</table>
Finally, we must check the reliability of the scale used. If our questionnaire is reliable, then any one item will not affect the overall reliability significantly. The results show that any item causes a great decrease in Cronbach’s Alpha if it is deleted.

Discussion and Conclusions

We have tried to avoid the error of focusing on only the traits and capabilities of individual leaders, instead of considering the significance of the context for leadership, in line with Bolden, Petrov, and Gosling (2008). Context is a key ingredient of leaders’ effectiveness through cursus honorum, that is, a collection of jobs probably chained, similar to the “presidential career ladder” concept coined by Wessel and Keim (1994). Leaders’ self-perceptions must be aligned with stakeholders’ perceptions about what the right amount of top-down teleological leadership is. These perceptions are related to the culture mix present in the university. When the collegial culture dominates, to foster mutual supportiveness and to maintain autonomy are generally perceived as the main desiderata for HE leaders. Developmental culture calls for the creation of an environment for faculty and staff to fulfil their potential and interest in their work (Bryman, 2007a).

We have found four main competencies present in the professional behaviours of HE officials at Spanish universities. To know them is a prerequisite to designing an integrated education program. However, further research is needed to determine what the necessities are, that is, what the differences between competencies exerted and competencies needed nowadays are. It is also important to know if the self-perceptions correspond with the competencies shown in office.

The first factor, organizational transformation, explains 33.9% of the total variance of the whole questionnaire. According to Spencer and Spencer (1993), items included are the skills on change management models, Higher education finance models, and total quality management. All of these items must be considered in a fragmented and hostile environment characterized by powerful forces trying to change the status quo. A new culture designed to face the need for change must be developed to transform the collegial culture (Bergquist & Pawlak, 2008), which is the traditional and most pervasive culture in academia.

The second factor, strategic management, gathers competencies and skills on general management, team management, and strategic planning, and explains 13.4% of the total variance of the whole questionnaire. These items are clearly related to the managerial culture (Bergquist & Pawlak, 2008). Historical and environment-related reasons could explain this result (the fast pace of Spanish universities towards a growing internationalization, the wide impact in the last decades of the New Public Management, and a narrow theoretical vision of higher officials implicitly based on a
mechanistic organization model). Thus, they think that their daily work is developed with a traditional-tools array applied from a top-down perspective.

The third factor, leadership, is comprised of skills and competencies on self-confidence, impact and influence, and explains almost all of the 12.2% of the total variance of the whole questionnaire. As a matter of fact, competencies linked to motivation focused on people’s commitment to a vibrant vision, as well as on people’s growth within large teams based on working long hours, are seen as key success factors.

The fourth factor, theoretical reflection previous to action, is composed of competencies on achievement orientation, directiveness/assertiveness, conceptual thinking, and information-seeking. It explains 8.9% of the total variance of the whole questionnaire. Here rest some competencies linked to long-term management, as long-standing influence over subordinates, initiative, self-confidence, and result orientation.

While this study provides a survey instrument that the researchers could use in studying higher education leaders, the strength of this instrument should be considered in light of this study’s limitations. The return rate was low and, as a result, the statistical analyses were conducted with a small sample size. Future research could replicate this study with a larger sample and test to see if the structure of the questionnaire holds the same.

In summary, we have presented the self-perceptions of higher officials in Spanish universities of the main competencies used in their work. Their improvement through a systematic educative framework could be based on these results. Furthermore, additional comparative research could be done on the lessons derived from other higher education systems.

Acknowledgements: We would like to thank the Spanish Ministry of Education (Grant EA.2007-0244) for its financial support of the gathering of empirical data for our research.

We are also greatly indebted to Dr. Çınlar (EJER Editor), Dr. Poyrazli (EJER Co-editor), and EJER anonymous referees for their insightful comments.
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Belgian and Turkish Pre-service Primary School Teachers’ Metaphoric Expressions about Mathematics

Çiğdem KILIC* Tugba YANPAR YELKEN**

Suggested Citation:

Abstract

Problem Statement: Recent studies in education have focused on how to handle metaphors as research and evaluation tools. Metaphors have many advantages for researchers, educators and learners with the most important being that they can help educators understand pre-service teachers’ thinking and belief systems of mathematics. A study of previous literature in this area has shown that metaphors are used as explicit explorations of teachers’ personal views of mathematics and their understanding of new images within mathematics, which can contribute to their own personal mathematical views. In this respect, comparing the metaphors used by teachers in different countries can yield many advantages.

Purpose of Study: This study aims to investigate Belgian and Turkish pre-service primary school teachers’ metaphoric expressions about mathematics. Particularly, the focus is on what types of metaphors are used to express mathematics and whether differences exist between the two countries.

Methods: A written questionnaire was presented to 79 pre-service primary school teachers (37 Belgian and 42 Turkish). This questionnaire asked the pre-service teachers to provide a sentence explaining their own metaphor about mathematics and then draw an illustration to accompany the statement. Next, they were asked to explain the reasons for their written metaphors. The data-analysis process consisted of five sequential phases.

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(listing, coding-reorganizing, categorizing, labelling and calculating inter-rater reliability). The inter-rater reliability was found to be 98%.

Findings and Results: In this study, four different categories of metaphors emerged (gesture, animate, inanimate and emotion). In addition, differences were discovered to exist between the Turkish and Belgian participants’ metaphors. The range of metaphoric expressions produced by the participants was extensive. The Turkish participants mostly wrote gesture and emotion metaphors, while the Belgian participants preferred animate metaphors for expressing mathematics.

Conclusions and Recommendations: The wide range of metaphoric expressions gathered could be explained by the pre-service teachers’ experiences with mathematics; the way that mathematics is taught based upon geographic location; geographic and cultural differences at the national and international level and background experiences in regard to family, social and educational areas of interest. After further examining the information collected, the results showed that the major reason for the differences was the pre-service teachers’ background experiences in education and culture.

Keywords: Metaphor, mathematics, mathematics education, pre-service primary school teacher

In order to develop effective teacher training, the belief system of pre-service teachers needs to be investigated. Previous studies have shown that the metaphor is a cognitive tool by which to understand pre-service teachers’ thinking and belief systems in regard to mathematics. To this end, it is important to answer the following questions: What is a metaphor, and what does it mean to the individual using it? Previous studies have provided several definitions of the term metaphor, each slightly different from the last. However, one point has remained consistent: the components of the word. As indicated in Presmeg’s article (1998), metaphor is derived from the Greek, metaphor, defined metaphor as an implicit form of an analogy. On the other hand, metaphor was defined by Leavy, McSorley and Bote (2007) as:

Metaphors have a coherence and internal consistency, which provide insights into ideas that are not explicit or consciously held. They can also be evocative, stimulating both self and others to tease out connections, which might not be made use of by direct questions (p. 1220).

Metaphors are not just figures of speech, but instead constitute an essential mechanism of the mind (Martinez, Sauleda, & Huber, 2001) pervasive in everyday life, not just in language but in thought and action as well (Lakoff & Johnson, 2003). Reasoning with metaphors is considered a fundamental method of human thinking and communication, as can be seen in our everyday use of abstract concepts, such as time and change (English, 1997). Metaphors are a type of mapping between target and source domains. They also introduce new elements into a target domain. For
example, the concept of love is known to be a partnership, which is a type of metaphor. This metaphor creates a mapping between love and partnership (Lakoff & Nunez, 2000). Demirtaş (2011) asserted that metaphor is a powerful mental tool for understanding and explaining a highly abstract, complex or conceptual phenomenon.

It can be assumed that a metaphor is employed when one wants to explore and understand something esoteric, abstract, novel or highly speculative. As a general rule, the more abstract or speculative a concept is, the greater the variety of metaphors needed to grapple with it (Yob, 2003). Our conceptual system—the terms in which we think and act—is fundamentally metaphorical in nature (Lakoff & Johnson, 2000). If our conceptual system is structured by metaphorical relationships, then it is logical that we should also understand our belief and thinking systems by means of metaphors. Saban (2004) asserted that the metaphors that we use not only represent the way that we perceive the world and reality but also shape our professional ideas, attitudes and practices. Metaphors, long thought to be figures of speech, have recently been shown to be the central process in everyday thought. They are not embellishments but are the basic means by which abstract thought is made possible (Lakoff & Nunez, 2000).

Metaphors have many advantages for learners, researchers and educators. For example, they help researchers to understand pre-service teachers’ beliefs in regard to interpreting their professional world and personal lives (Mahlios & Maxson, 1998); play a central role in conceptualizing and reflecting upon the nature of teaching and learning; make connections between personal beliefs and educational theories (Leavy, McSorley, & Bote, 2007); invite researchers to explore comparisons, notice similarities and use a situation as an image of another; act as a lens, screen or filter through which a subject is (re)viewed; and become a mental model for thinking about something in light of another (Saban, Kocbeker, & Saban, 2007). As such, metaphors can be used to help teachers become aware of the questions, assumptions and values that they bring to teaching; promote a reflective approach (Michael & Katerina, 2009); exert powerful influences on the processes of analyzing and planning in education; profoundly affect teachers’ thinking about teaching and learning (Martinez, Sauleda, & Huber, 2001); and show relationships between teachers and mathematics (Sterenberg, 2008).

Metaphors are forms of comparison that directly compare two unlike items. “Mathematics is a company” can be given as example of that definition (Reeder, Utley, & Cassel, 2009). In this metaphor, mathematics as a phenomenon is being explained by means of a company, which is unlike and has no prior relationship to mathematics. As summarized in a study conducted by Saban (2004), the characteristics of a metaphor are like a mirror of one’s reality, a mechanism of the mind, a sense-making tool, a medium of reflection, an instructional tool, and a tool for evaluation.

Previous literature has created general metaphorical images of pre-service teachers or teachers about a concept—such as that of a student (Saban, 2009; Inbar,
or teacher (Inbar, 1996; Gillis & Johnson, 2002; Saban, Kocbekar, & Saban, 2007; Cerit, 2008; Seferoğlu, Korkmazgil, & Ölcü, 2009) and specific content beliefs, such as mathematics (Lim, 1999; Noyes, 2004; Sterenberg, 2008; Reeder, Utley, & Cassel, 2009) and other disciplines (Güven & Güven, 2009). Several classifications of metaphors exist that are used to express mathematics. Reeder, Utley and Cassel (2009) coded metaphors as production, journey and growth. In Sterenberg’s (2008) study of elementary school teachers’ metaphors about mathematics, metaphors were coded as a battle, mountain, bridge and language. In a study conducted by Noyes (2004), metaphorical statements used by students were coded as language, toolkit, structure and journey. In Lim’s (1999) study, they were coded as journey, skill, game and puzzle. Therefore, it can be concluded that metaphors can be used to examine preservice teachers’ content beliefs in order to better understand their mathematical belief system and compare different countries’ preservice teachers’ metaphorical thinking as taught by their educational systems.

In Belgium, the primary teacher training program is a three-year program. No entrance exam exists for this program. Instead, at the end of each year, the students must take and pass an exam to advance to the next year. Within this program, mathematics is taught every year and pedagogical skills are taught in the second and third years (www.katho.be/reno/documents/Primary.pdf, 2010). In Turkey, high school students enter the university depending on their scores on the university entrance examination test (UEE), administered by the Student Selection and Placement Centre (ÖSYM). The education program is a four-year program taught based on a standardized curriculum signed into law by the Higher Education Council (YÖK, 2007). In the first term, the students take the Basic Mathematics I course. In the second term, they take the Basic Mathematics II course. In the fifth term, they take the Mathematics Teaching I course, and in the sixth term, they take the Mathematics Teaching II course. While the number of years of training is different between the countries, the mathematics courses seem similar.

The purpose of this study was to compare Belgian and Turkish pre-service primary school teachers’ metaphorical thinking about specific content in mathematics. Comparing the teachers’ metaphorical thinking is a good means by which to understand the differences and similarities between two countries’ teacher education programs and how they affect the students’ metaphorical thinking skills. The main questions presented in the study are as follows: “What types of mathematical metaphors are used by Belgian and Turkish teachers, and do any differences exist in regard to the metaphors used within each country?”

Method

Data collection

As indicated in a study conducted by Reeder, Utley and Cassel (2009), metaphors are often used as a tool by which to gain insight into pre-service teachers’ conceptualizations of mathematics. For this study, data were collected in March 2010 in Belgium and, one week later, in Turkey. In this study, the data was collected via
written and visual expressions of mathematical expressions. Opinions of field experts were taken using an open-ended questionnaire, whether the answers were understandable or not.

Before beginning the data collection phase, the researchers decided that the questionnaire should contain an explanation of a metaphor, but not a definition of mathematics, in order to keep from biasing the data. Prior to giving each participant a questionnaire, metaphor examples were discussed. Then, the one-question, open-ended questionnaire was distributed. On the questionnaire, each participant was asked to construct a metaphor about mathematics in their own words and then explain their reasoning for using this metaphor. Participants were given 30 minutes to answer this questionnaire. In the questionnaire, participants were asked to construct their metaphors for mathematics and draw a picture of the metaphor that they constructed.

Participants
In this study, 79 (37 Belgian and 42 Turkish) pre-service primary school teachers were selected. Each of these participants was enrolled in mathematics methods and basic mathematics courses in their countries. These courses were chosen because we felt the participants within them could best and most easily reflect on their metaphorical thinking about mathematics.

Data analysis
The data for this study were analyzed using a methodology of metaphor analysis. Metaphors can be used to reduce the complexity of qualitative research into clearly structured patterns (Schmitt, 2005). The metaphor analysis is based on the written and drawn discourses of participants. The data analysis process consisted of five sequential phases as shown in Figure 1. In the first phase of the data analysis, the metaphors constructed by participants are listed. Then, an initial code list is prepared by the researchers based on the participants’ answers. The metaphors are reorganized under the same category. In the second phase, the metaphors are coded by the researchers separately. In the third phase, the metaphors are categorized under the same codes. In the fourth phase, the metaphors are labelled. In fifth phase, the inter-rater reliability is calculated. For the data in this study, the inter-rater reliability was found to be 98% based on the formula presented by Miles and Huberman (1994). In this study, four dominant metaphors emerged (gesture, animate, inanimate and emotion). If the produced metaphors were related to action and game they were coded under gesture; if the metaphors contained vitality, they were coded under animate, and if not, they were coded under inanimate. If the content of produced metaphors was related to feelings of the participants, it was coded under the emotion category. The metaphors produced by the participants are presented based on their categories and subcategories in the below tables.
Results

In the study, four dominant metaphors emerged for expressing mathematics from the data obtained in research. These are as follows: gesture, animate, inanimate and emotion. The metaphors produced by participants are given based on categories and subcategories separately in Tables. In Table 1, Belgian and Turkish participants produced metaphors for mathematics, which were organized under categories and sub-categories.
Table 1

<table>
<thead>
<tr>
<th>Country</th>
<th>Gesture</th>
<th>Animate</th>
<th>Inanimate</th>
<th>Emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Action</td>
<td>Animal</td>
<td>Human</td>
<td>Place</td>
</tr>
<tr>
<td>Belgium</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Turkey</td>
<td>8</td>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

As seen in Table 1, metaphors that fell into the action and game category are coded under the gesture category. The metaphors containing animals, humans or plants were categorized under the animate category. The metaphors containing places and objects were categorized under the inanimate category, and those metaphors containing abstract and concrete ideas were categorized under the emotion category. Two participants of both countries did not construct any metaphors related to mathematics.

Gesture

Within the gesture category, game and action were found to be sub-categories. The following examples are for the game sub-categories: game, maze and puzzle. In the gesture category, the Belgian participants expressed two action and five game metaphors. The maze metaphor was the dominant metaphor among the Belgian students. The results show that the game metaphors were more often used among the Belgian students than the action metaphors. The Turkish students produced eight action and six game metaphors. The students provided an equal number of game, puzzle and maze metaphors. However, action metaphors were used mostly among Turkish students under the gesture category. Table 2 shows the Belgian participants’ metaphors for mathematics under the gesture category. Table 3 shows the same information for the Turkish participants.
### Table 2

Belgian Participants’ Metaphors for Mathematics and Reasoning under the Gesture Category.

<table>
<thead>
<tr>
<th>Gesture</th>
<th>Mathematics is like .....</th>
<th>Because.....</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>a chemical experiment.</td>
<td>you don’t always find the right combination of things to solve a problem. It takes a little while to find the right way to solve it.</td>
</tr>
<tr>
<td></td>
<td>learning how to walk.</td>
<td>you have to learn step-by-step.</td>
</tr>
<tr>
<td></td>
<td>a maze.</td>
<td>you find the right way in a maze.</td>
</tr>
<tr>
<td></td>
<td>a maze.</td>
<td>sometimes it is hard to begin, but once you know the way, it is easy.</td>
</tr>
<tr>
<td></td>
<td>a maze.</td>
<td>it is difficult to learn, at least in the beginning, but once you learn it, you understand the way to work it, and it becomes easy. After a while, you will find your way.</td>
</tr>
<tr>
<td>Game</td>
<td>a puzzle.</td>
<td>it is difficult to understand all of the parts and make them fit, but when you get it or understand it, you are happy and can make new exercises</td>
</tr>
<tr>
<td></td>
<td>the game of uno.</td>
<td>you have to think a lot. For example, you have to throw the right card in. You have to do a lot of exercises.</td>
</tr>
</tbody>
</table>

As seen from Table 2, Belgian participants produced action and game metaphors under the gesture category.
### Table 3

**Turkish Participants’ Metaphors for Mathematics and Reasoning under the Gesture Category.**

<table>
<thead>
<tr>
<th>Gesture</th>
<th>Mathematics is like .....</th>
<th>Because .....</th>
</tr>
</thead>
<tbody>
<tr>
<td>making a decoration.</td>
<td>every part of is connected and fits together.</td>
<td></td>
</tr>
<tr>
<td>playing a game.</td>
<td>mathematics is the most funny lesson. You play numbers. Addition, subtraction, multiplication and division are the phases of the game.</td>
<td></td>
</tr>
<tr>
<td>recognizing life.</td>
<td>mathematics is a necessity. In order to adapt to life and society, we must use mathematics.</td>
<td></td>
</tr>
<tr>
<td>suffocating in an ocean.</td>
<td>mathematics is large and difficult. When faced with a difficult problem, learners can feel as if they are suffocating in an ocean.</td>
<td></td>
</tr>
<tr>
<td>climbing an orthogonal mountain.</td>
<td>when we encounter problems in real life, we benefit from mathematics. We calculate, collect data, compare and apply mathematical operations.</td>
<td></td>
</tr>
<tr>
<td>walking on a pebbly road that, at the end, leads to entertainment.</td>
<td>the way is long and complicated, but when you finally figure it out, it becomes fun.</td>
<td></td>
</tr>
<tr>
<td>knowing an unknown in a space.</td>
<td>it is a well-known point in a lost order.</td>
<td></td>
</tr>
<tr>
<td>making an embroidery</td>
<td>everything is connected with each other.</td>
<td></td>
</tr>
<tr>
<td>a game.</td>
<td>you play the numbers and discover a new world.</td>
<td></td>
</tr>
<tr>
<td>a game.</td>
<td>mathematics is an instrument. When you play with it, it becomes fun.</td>
<td></td>
</tr>
<tr>
<td>a maze.</td>
<td>every part is connected. When you find a maze, you find another maze, and it becomes an endless maze.</td>
<td></td>
</tr>
<tr>
<td>a maze.</td>
<td>mathematical topics are connected. You cannot grasp a concept before you grasp another concept. Either you reach for the next concept or you lose your way.</td>
<td></td>
</tr>
<tr>
<td>a puzzle.</td>
<td>once you solve one problem, you will want to solve more.</td>
<td></td>
</tr>
<tr>
<td>a puzzle.</td>
<td>when you solve it, it becomes a total like mathematics.</td>
<td></td>
</tr>
</tbody>
</table>
As seen in Tables 2 and 3, differences exist in the ways by which the teachers expressed their metaphors. For example, although the Turkish participants expressed eight action metaphors, the Belgian participants only produced two action metaphors. In the game sub-category, game and maze emerged for both groups, but the Belgian students expressed five, while the Turkish students expressed six metaphors.

Animate

Within the animate category, three sub-categories emerged: animal, human and plant. Table 4 presents the Belgian participants’ metaphors for mathematics under the animate category and the participants’ reasoning. Table 5 presents the same information for the Turkish participants.

<table>
<thead>
<tr>
<th>Animate</th>
<th>Mathematics is like ...</th>
<th>Because...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal</td>
<td>all the different fishes in the sea.</td>
<td>all fishes are different, but we can find some groups of fishes who have the same habits. In mathematics, we also have problems that we can solve the same way.</td>
</tr>
<tr>
<td>Human</td>
<td>someone who is washing the dishes.</td>
<td>it is fun to watch, but it is not fun to do.</td>
</tr>
<tr>
<td></td>
<td>all the different people in the world.</td>
<td>every person is different, just like every number is different in mathematics. When people come together, you have a new relationship just like when numbers come together for different exercises.</td>
</tr>
<tr>
<td></td>
<td>a human.</td>
<td>everyday you learn something new and your knowledge grows everyday. A human also grows everyday.</td>
</tr>
<tr>
<td></td>
<td>your hair.</td>
<td>it grows everyday.</td>
</tr>
<tr>
<td>Plant</td>
<td>a tree.</td>
<td>you start with a small, basic sampling, and you make it grow.</td>
</tr>
<tr>
<td></td>
<td>a piece of a tree</td>
<td>It is difficult to go to a leaf from thr bottom of a tree [RAA1].</td>
</tr>
<tr>
<td></td>
<td>a tree.</td>
<td>there are a lot of branches that you have to learn in order to understand it.</td>
</tr>
<tr>
<td></td>
<td>a tree.</td>
<td>you can always use different ways to solve mathematical problems. We learn to solve problems one way, and we can use shorter ways to solve the same problems.</td>
</tr>
<tr>
<td></td>
<td>a forest.</td>
<td>it is very difficult to understand and use structure to make exercises.</td>
</tr>
<tr>
<td></td>
<td>a tree.</td>
<td>it is very difficult. It is complicated.</td>
</tr>
</tbody>
</table>
The Belgian students produced animal, human and plant metaphors within the animate category. In the animal sub-category, they produced one metaphor; in the human sub-category, they produced four metaphors; in the plant sub-category, they produced six metaphors; within the plant sub-category, the Belgian pre-service primary school teachers expressed mathematics as tree, forest and piece of a tree. Therefore, the tree metaphor was the dominant metaphor. In the animate category, the plant sub-category was used the most. The Turkish participants produced only one plant sub-category and three metaphors within the animate category.

Table 5.

*Turkish Participants’ Metaphors for Mathematics and Reasoning under the Animate Category.*

<table>
<thead>
<tr>
<th>Animate</th>
<th>Mathematics is like...</th>
<th>Because...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant</td>
<td>a complicated creeper.</td>
<td>it is firmly interwoven.</td>
</tr>
<tr>
<td></td>
<td>a flower.</td>
<td>mathematics needs nurture like a flower. In order to develop your knowledge, it is necessary to think deeply.</td>
</tr>
<tr>
<td></td>
<td>a leaf of the golden daisy.</td>
<td>it consists of leaves that come together.</td>
</tr>
</tbody>
</table>

In the animal sub-category, Turkish participants produced three metaphors. As seen in Tables 5 and 6, differences exist between the Belgian and Turkish participants’ metaphoric expressions in the animate category. Although the Belgian participants used the animal, human, plant and object sub-categories, the Turkish pre-service primary school teachers did not construct any metaphors about animals and humans.

Inanimate

In this category, place and object sub-categories emerged. In the place sub-category for the Belgian teachers, three metaphors were produced, while in the object sub-category, six metaphors were produced. In the place category, house, desert and country metaphors emerged. Within the object sub-category, a box of chocolates, a clock, a shuttle, a web and an alphabet emerged. Among these metaphors, shuttle was the dominant metaphor. The Belgian students produced more object metaphors than place metaphors. Table 6 presents the Belgian participants’ metaphors for mathematics and reasoning under the inanimate category, while Table 7 presents the Turkish participants’ results.
Table 6.
Belgian Participants' Metaphors for Mathematics and Reasoning under the Inanimate Category.

<table>
<thead>
<tr>
<th>Inanimate</th>
<th>Mathematics is like ...</th>
<th>Because ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>a house.</td>
<td>a house is built with a lot of stones. It is built stone-by-stone, step-by-step. It is the same with mathematics. You start with the fundamentals and build up from there. Mathematics is also large, and every stone is another part of another mathematical concept.</td>
</tr>
<tr>
<td></td>
<td>a desert.</td>
<td>there is no end.</td>
</tr>
<tr>
<td></td>
<td>a country.</td>
<td>there is so much to talk about. It is big.</td>
</tr>
<tr>
<td>Object</td>
<td>an alphabet.</td>
<td>once you know it and understand it, it is easy.</td>
</tr>
<tr>
<td></td>
<td>a clock.</td>
<td>it keeps going on just like time that does not have an end.</td>
</tr>
<tr>
<td></td>
<td>a web.</td>
<td>sometimes it is complicated.</td>
</tr>
<tr>
<td></td>
<td>a space shuttle.</td>
<td>it is difficult.</td>
</tr>
<tr>
<td></td>
<td>a shuttle.</td>
<td>you must know the basics; then you can learn more mathematics.</td>
</tr>
<tr>
<td></td>
<td>a box of chocolates.</td>
<td>there are different tastes. One you like, and one you dislike. One part you like to do and find it easy; one you won't understand and may dislike.</td>
</tr>
</tbody>
</table>

Table 7.
Turkish Participants' Metaphors for Mathematics and Reasoning under the Inanimate Category.

<table>
<thead>
<tr>
<th>Inanimate</th>
<th>Mathematics is like ...</th>
<th>Because ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>a world.</td>
<td>the more you enter it, the more you discover.</td>
</tr>
<tr>
<td></td>
<td>a paradise-hell cave.</td>
<td>the important thing is to find the solution of the problem like finding the exit of a cave.</td>
</tr>
<tr>
<td></td>
<td>a mountain</td>
<td>it has a lot of roads on it.</td>
</tr>
<tr>
<td>Object</td>
<td>a lamp.</td>
<td>when you switch it on, it becomes lighter and lighter. As in mathematics, when you learn more, it becomes brighter.</td>
</tr>
<tr>
<td></td>
<td>color.</td>
<td>you see it everywhere, and without it, life would be boring.</td>
</tr>
<tr>
<td></td>
<td>furniture that you use everywhere.</td>
<td>you see the it everywhere like mathematics.</td>
</tr>
<tr>
<td></td>
<td>an empty plate.</td>
<td>when you learn mathematics, you make the empty plate a full plate.</td>
</tr>
</tbody>
</table>
The Turkish participants only had three metaphors for place within the inanimate sub-category but four for the object sub-category. Therefore, they produced more object metaphors than place metaphors. The following emerged in the place category: world, paradise-hell cave and mountain. In the object category, the following emerged: lamp, colour, furniture and plate.

As seen from Tables 6 and 7, the place and object sub-categories were used by both the Belgian and Turkish participants. The Belgian participants produced more metaphors related to the object sub-category than did the Turkish participants.

Emotion

In the emotion category, abstract and concrete sub-categories emerged and were produced by both groups. Table 8 presents the Belgian participants’ metaphors for mathematics and reasoning under the emotion category, while Table 9 presents the Turkish results.

**Table 8.**

**Belgian Participants’ Metaphors for Mathematics and Reasoning under the Emotion Category.**

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Mathematics is like ...</th>
<th>Because...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>a UFO.</td>
<td>it is a very difficult word; it sounds like something outside the atmosphere.</td>
</tr>
<tr>
<td></td>
<td>a treasure.</td>
<td>if you have the key, you can solve the exercise. Sometimes, people can discover a lot with mathematics, but you need the key.</td>
</tr>
<tr>
<td></td>
<td>space.</td>
<td>the stars are part of math. For example, one star means limit, another star means logic, another star means logaritma. Space is unending like mathematics.</td>
</tr>
<tr>
<td></td>
<td>medicine.</td>
<td>it solves pain or trouble. When you do mathematics, you have to solve problems too.</td>
</tr>
<tr>
<td>Concrete</td>
<td>a circle.</td>
<td>even when you think you know all about it, there are always new things to learn.</td>
</tr>
<tr>
<td></td>
<td>a human brain.</td>
<td>it is difficult, but somewhere there is logic.</td>
</tr>
<tr>
<td></td>
<td>the universe.</td>
<td>it is endless. You can calculate stuff into infinity. It is amazing what you can do when calculating.</td>
</tr>
<tr>
<td></td>
<td>A sea.</td>
<td>it is full of wonders. Just when you think you know everything, you learn something new.</td>
</tr>
<tr>
<td></td>
<td>A light</td>
<td>you have to think straight and bright. It can be very difficult if you are tired.</td>
</tr>
</tbody>
</table>

As seen from Table 8 in the abstract sub-category, medicine, space, treasure and UFO metaphors were found. In the concrete sub-category, five metaphors were produced (circle, human brain, light, sea and the universe) by Belgian participants.
Table 9.
Turkish Participants’ Metaphors for Mathematics and Reasoning under the Emotion Category.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Mathematics is like ...</th>
<th>Because ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>a long journey.</td>
<td>an endless path and separation.</td>
<td>everybody chooses his own way.</td>
</tr>
<tr>
<td>an endless road.</td>
<td>as in other disciplines, there is always more knowledge to learn.</td>
<td></td>
</tr>
<tr>
<td>an extreme way of thinking.</td>
<td>it is not the movement of numbers. It requires us to think about our thinking abilities.</td>
<td></td>
</tr>
<tr>
<td>Philosophy.</td>
<td>it requires you to look at things in new and meaningful ways.</td>
<td></td>
</tr>
<tr>
<td>A poem.</td>
<td>a poem includes many different emotions, thoughts and messages that are connected to each other.</td>
<td></td>
</tr>
<tr>
<td>A map.</td>
<td>every subject is sub-divided but connected to everything else. If a part of the map is missing, then it is much harder to get where we want to go.</td>
<td></td>
</tr>
<tr>
<td>A novel.</td>
<td>a novel is complete. It consists of an introduction, middle and conclusion.</td>
<td></td>
</tr>
<tr>
<td>A river.</td>
<td>when you look at a river from a distance, it seems fuzzy, but when you get close, you realize that it is not fuzzy. If you do not spend time with math, you feel you are suffocating in math, but when you understand math or spend time with math, you understand that it is funny and enjoyable.</td>
<td></td>
</tr>
<tr>
<td>a snowslide which raises human awareness.</td>
<td>being aware of humans in society is a basic foundation for world society.</td>
<td></td>
</tr>
<tr>
<td>air.</td>
<td>just as we need air, we need mathematics in every moment of our lives. We need mathematics from the beginning of our lives to the end of our lives.</td>
<td></td>
</tr>
<tr>
<td>a life.</td>
<td>in order to achieve things in life, sometimes you need mathematics.</td>
<td></td>
</tr>
<tr>
<td>a life.</td>
<td>what we see in nature is connected to mathematics.</td>
<td></td>
</tr>
<tr>
<td>Concrete</td>
<td>a life.</td>
<td>there are always problems. You solve a problem, but then another problem occurs. As in life, problems are never completely finished.</td>
</tr>
<tr>
<td>water dew.</td>
<td>the droplets come together to form a pool. In mathematics, small parts come together, and meaningful events happen.</td>
<td></td>
</tr>
<tr>
<td>an appetizer.</td>
<td>mathematics is pleasant, like an appetizer. When you get bored if you occupy mathematics, and at the end, when you get the solution, it is the same as the appetizer.</td>
<td></td>
</tr>
</tbody>
</table>
In the abstract sub-category, the Turkish participants created six metaphors, while they created ten metaphors in the concrete sub-category. The following metaphors were found in the abstract sub-category: long journey, road, path, philosophy, poem and extreme way of thinking. In the concrete sub-category, the following metaphors were created: map, novel, river, snowslide, air, life, water dew and appetizer. Belgian participants produced nearly the same number of abstract and concrete metaphors for expressing mathematics. As seen in Tables 8 and 9, the Belgian and Turkish students created different metaphors within this category. The Turkish participants expressed more concrete metaphors than abstract metaphors.

Conclusion and Recommendations

Metaphors are powerful research and cognitive tools that can be used to gain insight into pre-service teachers’ metaphoric expressions and provide opportunities to educators to evaluate them. In this study, we investigated Turkish and Belgian pre-service primary school teachers’ metaphors relevant to mathematics. The data obtained from the study revealed four metaphor categories: gesture, animate, inanimate and emotion. As indicated by other studies (Reeder, Utley, & Cassel, 2009; Sterenberg, 2009; Noyes, 2004; Lim, 1999), the metaphors used varied greatly. Our findings are parallel to those presented by Lim (1999), Noyes (2004) and Sterenberg (2009).

Even though the Belgian and Turkish participants all took similar mathematics and methods courses, the metaphors that they produced varied. The metaphors that participants produced varied in terms of number and content. In fact, the range of the metaphoric expressions produced was extensive. The Turkish participants mostly created action and emotion metaphors, whereas the Belgian participants preferred animate metaphors. However, some of the participants (both Belgian and Turkish) used similar metaphors, especially in the game sub-category with metaphors about mazes, puzzles and games.

Among the four metaphor categories, emotion was used predominantly by the participants. This result occurred, because, according to Lakoff and Nunez (2000), participants often explain abstract concepts like mathematics by using feelings. One of the principal results in cognitive science is that abstract concepts are typically understood via metaphors of more concrete concepts.

The wide range of metaphoric expressions produced could be explained via pre-service teachers’ previous experiences with mathematics (Schinck et al., 2008). As indicated in a study conducted by Noyes (2004), the way that mathematics is taught varies depending upon location, both geographically and culturally at the international and national levels (cited in Stigler & Hiebert, 1999). Noyes (2004) indicated that children have different experiences growing up, in school, and in learning mathematics. Soto-Andrade (2007) asserted that the diversity of metaphors depends upon the participant’s previous background on the subject. It can be concluded that the differences in the metaphors created by the pre-service primary school teachers stem from their cultural and educational backgrounds.
In addition to a specific concept, like a student (Saban, 2009; Inbar, 1996), teacher (Kocbeker, & Saban, 2007; Inbar, 1996) or specific content belief, like mathematics (Reeder, Utley, & Cassel, 2009; Sterenberg, 2009; Noyes, 2004; Lim, 1999) and other discipline (Güven & Güven 2009), the processes used in learning and teaching mathematics can be studied, and comparative studies can be completed on extensive samples from a number of countries. Different data collection methods, such as interviews, could be implemented in order to better understand the pre-service teachers’ metaphorical thinking in different countries. Furthermore, the content of the courses that participants take can be investigated.

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Appendix

Metaphor examples are given as category and sub-categories

Metaphors for mathematics under gesture category

"Knowing an unknown in a space" (action)

“A maze” (game)

“Chemical experiment” (action)

“A maze” (game)

Metaphors for mathematics under animate category
Metaphors for mathematics under immanent category

“Your hair” (object)

Metaphors for mathematics under emotion category

“An endless path separation” (abstract)
Belçikalı ve Türk Sınıf Öğretmeni Adaylarının Matematik ile İlgili Metфорik Anlatımları

Atilf:

(Özet)

Problem Durumu


Araştırmanın amacı
Öğretmenlerin inançlarının sınıf etkinliklerini şekillendirdiği göz önüne alındığında, öğretmen adaylarının düşüncelerini öğrenmek önem taşımaktadır. Araştırmalarda da vurgulandığı gibi metaforlar güçlü araştırma araçlandır. Bu araştırmanın amacı
farklı iki ülkedeki (Belçika ve Türkiye) sınıf öğretmeni adaylarının matematikle ilgili metaforik anlatıların belirlemektedir. Belçika ve TürkİYEdeki sınıf öğretmeni adaylarının matematikle ilgili metaforik anlatılarına bakmak iki ülkenin öğretmen yetiştirmedeki benzerlik ve farklılıklarını ve bunun metaforik düşünme becerilerine etkisine bakmaya yardımcı olacağı düşünülmüştür. Bu amaçla aşağıdaki şu soruya yanıt aranmıştır:

Belçikalı ve Türk öğretmen adayları matematikle ilgili ne tür metaforik anlatılar kullanmaktadır? İki ülkedeki katılımcıların kullandıkları metaforlar farklılık göstermekte midir?

Araştırmanın yöntemi


Araştırmanın bulguları

Matematik gibi soylu bir olguyu açıklarken katılcılar hem soylu, hem de somut duygulu metaforlardan yararlanırlar, ağırlıklı olarak somut duygulu metaforlardan faydalanmışlardır.

**Araştırmaların sonuçları ve öneriler**

Metaforlar eğitmcilere ve araştırmacılara özellikle öğretmen adayları ile ilgili bilgileri sunan güçlü ve yararlı araştırma ve bilisel araçlardır. Türk ve Belçikalı sınıf öğretmen adaylarının matematikle ilgili metaforik anlatımlarını araştırıldığı bu araştırmının sonuçlarına bakıldığında, dört farklı metafor kullanıldığı görülmektedir. Yapılan araştırmalarla da benzer sonuçlar çıkmıştır. Her iki grupta yer alan katılımcılar matematik ve matematik öğretmeni derslerini almalarına rağmen matematik anlatmak için kullandıkları metaforlarda farklılıklar görülmektedir. Belçikalı katılımcıların canlı metaforları daha çok kullanılarak, Türk katılımcılar ise eylem ve duygulu metaforları kullanmışlardır. Öğretmen adaylarına Matematik... gibi, Çünkü... biçiminde sorulduğundan ve bu durum seçmekte dayalı olduğu için katılımcıların metaforları birbirinden farklı olmuştur.


**Anahtar sözcükler:** Metafor, matematik, matematik eğitimi, sınıf öğretmeni adayı
20th Century British Colonialism in Cyprus through Education* 

İçim Özenli ÖZMAYLATLI** 
Ali Efdal ÖZKUL***

Suggested Citation:

Abstract
Problem Statement: The island of Cyprus, due to its strategic location, was under the influence of many conquerors throughout the centuries. Cultural traces of these captors have survived to the present day. This long, turbulent history has had a profound effect on the Cypriot educational system, with the most recent influence being the impact of the British Administration during the 19th and 20th centuries.

Purpose of Study: This article attempts to reveal the influence and consequences of British Colonial policies on education, focussing on curriculum and its aims in the 20th century. The emphasis is more on the opinion of the recipients of education concerning their experience with the education system and their perception of its success or failure rather than on the aims and goals as set by the administrators and educators.

Methods: This study encompasses a qualitative research approach to gain in-depth data based on interviews of Turkish-Cypriots and Greek-Cypriots of different backgrounds who were students during the colonial times. The data regarding issues of primary and secondary school curriculum and its aims, nationalism and religion at schools, identity, and ties between the two communities, and their “motherlands” was recorded, analysed thematically, and presented in detail.

* This article is a summary of a chapter in the book called British Colonial Influence on Cypriot Education written by İçim Özenli Özmaylatli and published by Lap Lambert Academic Publishing.
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With thanks to Eftychia Kourempana for her help with the Greek-speaking portion of the research.

1
Findings and Results: By implementing sometimes extreme measures, the British followed the tactic of “Divide and Rule” which led the two communities to ethnic division. The authors discern the trends of the British Colonial policies towards the establishment of a more British society, which was accomplished by influencing the educational and socio-political aspects of life on the island.

Conclusions: The British educational policies helped both Turkish and Greek Cypriots to create ethno-nationalism, which inspired the subsequent resistance of both communities. Although it is apparent that Cypriots placed a high value on education, this development was confined only within the context of being Greek or Turkish. Indeed, it would appear that within a curricula context, for the most part, this served as a forum in which all parties sought to construct national identities. The cost remains to be seen.

Keywords: British colonialism in Cyprus, educational administration, curriculum, identity

With the arrival of the British in Cyprus in 1878, the relatively poor and neglected dominion of the Ottoman Empire was promptly assimilated into British administrative structures; systems were overturned, constitutive challenges were introduced to the political and religious authorities, and the process of colonization began; this was a process that would deeply imprint on the diverse and multifarious tapestry of Cypriot life to the present day. Certainly, the Cyprus conflict is bound up in fractious socio-political issues of ethnic conflict, religious and national identities, and Western dominance, as well as modern processes of secularization and modernization, all of which will now be examined.

Cyprus was initially colonized by the ancient Greeks and subsequently conquered by every ruling empire in the surrounding area up to 1571, when the Ottoman Turks gained control. Since then, the Cypriot conflict has been an identity-based conflict that sits in the center of the binary divide between east and west. Put simply, Cyprus was a unity, and the inhabitants, who had no real classification of identity, were subjects, not citizens (Byrant, 2004, p.21). Dependence on the British, imposed upon the Turkish community, was used to check Greek antagonism and Hellenic nationalism as well as to guarantee the continuation of the Turkish Cypriot support for the maintenance of colonial rule (Gaziegil, 1997, p.13; Reddaway, 1986, p.14-15). The central issue here is that the ethnic division and system of governance created by the British colonial administration ultimately coerced individuals to choose between certain aspects of their identity in order to adhere to the “official” definition of their prescribed ethnicity, whether they truly identified with it or not.

One field that the British government would never entirely control was education. Opposition was strong, especially because education in both communities was a sacred rather than a secular practice (Byrant, 2004, p.124). Indeed, the British could initially do very little in educational terms without consulting the archbishop.
and the mufti in charge of the priests and imams who were also teachers of Cypriot village schools, at least in the first few years of British administration. While British policy maintained and undoubtedly encouraged the religious division within education, the divide became increasingly linked to ethnic nationalism. Furthermore, the discourse of colonial Britain in dividing, ordering, and classifying the schools actually helped create ethno-religious boundaries that “assisted and in turn was supported by the emerging Greek and Turkish ethno-nationalisms and their reifications and violence on the ground” (Constantineou, 2007, p.250). In other words, the British occupation and the educational policies implemented actually served to empower means of resistance from both bi-ethnic groups.

In an educational context, both Greek and Turkish Cypriots maintained that schools were essential for their nationalist futures, not because the schools taught nationalist histories but due to the way those histories were directed towards the future of a patriotic life (Bryant, 2004, p.158). The role of policy and curricula in Cyprus, particularly towards the end of the 19th and the beginning of the 20th centuries, fuelled both groups’ nationalistic desires (Philippou, 2009, p.202). While the British continually attempted to quell national feeling through limiting national symbols and celebrations, particularly during the 1930s, the curriculum became “a key forum wherein all parties (the colonial administration, Greek-Cypriot and Turkish-Cypriot educational authorities) sought to construct national identities” (Philippou, 2009, p.203). In 1935, aiming to suppress the rising nationalism, the British government tried to set intercommunal standards concerning education. In addition, Cypriot schools had to adapt to the British system, and world histories and European literatures replaced Cypriot regional and nationalist histories and literatures (Bryant, 2004, p.161).

The expansion of the west has inevitably resulted in the modernization of non-western societies (Said, 1978, p.205), but what is more important is the reaction of the leaders of these societies, in particular the Islamic east. When Ataturk inaugurated his revolutionary efforts to modernize the new Turkey, he created a society that was “Muslim in its religion, heritage and customs but with a ruling elite determined to make it modern, western and one with the west” (Huntington, 1996, p.74). Such divisions in identity were a continual process and problem in Cyprus. According to Berger (1969, p.130), when secularizing mechanisms take hold, there tends to be an institutional separation of church and state. By instigating this crisis of modernity and identity in Cyprus, the British occupation helped create deeper divisions and educational segregation... not only within the Greek and Turkish-Cypriot ethnic groups but within factions of each community, too.

While it is clear to see that education in general was highly regarded by Cypriots, Bryant (2004, p.127) claims that the ethnic experience of education was directly linked to ethnic identity. More specifically, “becoming a ‘true’ Greek or a ‘true’ Ottoman (and later a ‘true’ Turk) was something achieved through education”. Thus, while education was seen as important and vital to one’s growth and development, it was limited only to the extent that this growth was understood in terms of being specifically Greek or Turkish. Education keeps identities separate, and there is a
severe lack of a united Cypriot identity present in any historical or even current educational syllabi (Byrant, 2004, p.206). Local context appears to be completely absent: as was the case with the strategic interests of the colonial power during the British occupation, the rights and opportunities of the Cypriot people appear to have been administered and relegated to the limiting scope of international and regional politics (Mallinson, 2005, p.3).

The fact that even today Cypriot identity continues to be inextricably entwined with being either Greek or Turkish-Cypriot is not encouraging in the sense of any development towards facilitating communication or unification between the two groups. What is fundamentally needed is the very element that has been severely absent since the British occupation of Cyprus: the Cypriot voice. Philippou (2009, p.217) argues that the curricula could be used to really examine not only what it means to be European but what it means to be Cypriot. Furthermore, she would like to see the ambiguities and complexities of the Cyprus conflict be used as a didactic tool to promote discussion in the classroom and even to envision solutions.

As we have seen, Cypriot identity is not only absent but inextricably and abstrusely entwined with national, religious, and global identities. As Fisher (2001) correctly points out, the Cyprus conflict continues to be on the schedule of the international community with no resolution. The field of education should examine new, progressive forms of identities that have or still are developing in post-colonial and post-modern Cyprus.

**Methodology**

**Sample**

The participants in the study comprised 10 Turkish-Cypriots and 10 Greek-Cypriots. The researchers used the maximum variation as a sampling strategy. As Patton (1987) suggests, this method enabled the researchers to work with Greek and Turkish-Cypriot participants with different demographic characteristics such as their gender, the village they lived in, and the schools they attended during their primary and secondary education.

The Turkish-Cypriot sample interviewed for the purpose of this article ranged between the ages of 71 and 93 years. Slightly more than half (60%) were born in villages, and 40% were born in the urban areas of the time. The overwhelming majority attended their local primary school, but they continued on to attend the Victoria Girls’ School in Larnaca, The American Academy for Boys in Iskele/Larnaca, and The English School.

The Greek-Cypriot sample interviewed for the purpose of this article ranged between the ages of 64 and 83 years. The vast majority of them (80%) were born in villages, and only 20% were born in the urban areas of the time. Half of the interviewees who went on to secondary school attended the Greek Gymnasia, 40% attended either the English School or the American Academy, and 10% attended a private Commercial-Vocational College.
Data collection and analysis procedures

Two types of human sources were used in this study, namely Turkish and Greek-Cypriots who were randomly chosen as participants depending on their willingness to be interviewed. The researchers primarily collected data through semi-structured interviews to allow the interviewees to focus on the issues under investigation. The semi-structured interviews took from 20 minutes to 1 hour and 8 minutes, depending on how much each participant remembered. The researchers tried to elicit information about the participants’ experiences and perspectives on their primary and secondary education by asking open-ended questions without imposing a certain framework and thus threatening validity.

The qualitative method was used in this study. The researchers used interviews and written sources to collect data, which served to increase reliability. The greatest emphasis for data collection was placed in the interview data; this was collected through 10 main interview questions and their sub-questions. The researchers recorded the interviews and quoted ideas verbatim where relevant to highlight the nature of the participants’ primary and secondary education.

Findings

Turkish-Cypriots

As far as nationalism in school is concerned, only 10% of the interviewees said that their school was nationalistic since it was located in a Turkish-only area. The remaining 90% stated that there was no nationalism in their school; more particularly, they mentioned that they were just children doing their studies. In secondary school, all interviewees stated that they were not allowed to display any national or nationalistic tendencies. The English or American Head Teachers implemented measures that did not allow any national emblems such as flags, pictures, or maps of the “motherlands”, i.e. Greece and Turkey. Also, the British administration had forbidden school textbooks to be imported from the motherlands in an effort to curb nationalistic feelings in the student population. Finally, students were not allowed to sing the national anthems of the motherlands. On the contrary, they were encouraged to sing the British National Anthem, “God Save the King/Queen”. However, during the last years of British Colonial times in Cyprus, nationalistic feelings between the Greek-Cypriots and the Turkish-Cypriots began to manifest in tension within the school environment, usually through nasty teasing.

When asked about the main subjects at primary and secondary school, slightly different responses from the interviewees were elicited, mainly due to their age and their hazy memories. However, all these fragments of memory can form a picture of the curriculum at that time. The main subjects as remembered by the participants were the following:

a. Turkish language lessons: reading, writing, grammar, calligraphy
b. Mathematics
c. History and Geography of Cyprus  
d. Physical Education  
e. Science  
f. English

The secondary education of all the interviewees included all the subjects found in Primary education. Finally, in the first year of the Lycee, the students of one community were obligated to learn the basics of the language of the other community. All subjects were compulsory both in primary and secondary schools but students could select their GCSEs.

The Cypriot educational system greatly emphasised English under the British administration. The language was not generally taught at the primary level, with the exception of the 5th and 6th year classes in large schools in the urban areas. However, at the secondary level, the lessons ranged from 2 hours per week to daily periods of instruction. Half of the sample population responded that this emphasis was justified because “the young students wanted to secure a well-paid job after their graduation and more specifically to enter the civil sector of the British administration”. Furthermore, 20% of the interviewees mentioned that the instruction of the English language also benefitted the British agenda to adapt the Cypriot population to British culture and nationalistic ideas. Finally, the remaining 30% of the respondents mentioned the hours of instruction but not the reasons behind this.

Overall, as far as the central aim of the curriculum is concerned, the majority of Cypriots wanted to receive a good education to be prepared for their future life, and the goal of 70% was to acquire the knowledge that would lead to a well-paid job, ideally in the British administration sector. A further 20% stated that the aim of the curriculum was actually to “divide the Cypriots, and they succeeded as they had done in other countries they had conquered. You learnt to look upon the British as rulers and you believed that they were smarter and stronger than you”. However, a very modest 10% stated that the curriculum was not at all politically influenced by the Administration, and “it was not designed to make you British.” Finally, 60% of the sample population claimed that the aim of the curriculum was successful in what it set out to do, even in its nationalistic direction.

Each community had different roots and sought to maintain ties with their motherland culture. As previously mentioned, the British administration did not allow any manifestations of nationalism in the schools. Therefore, 70% of the participants responded that “there were no celebrations connected with Turkey”, which is not at all surprising. 30% of the respondents, however, mentioned that there were some holidays from Turkey, such as Youth Day, which they were allowed to celebrate at their schools. Half of the sample population stated that the school children would celebrate British national days, such as the Sovereign’s birthday and Victoria Day, and they would sing the British National Anthem. As one participant said, “We didn’t mind, it was something we took for granted. We were children and we liked the celebrations because that way we would miss lessons”. Finally, 10% of the respondents
mentioned that there was punishment if they failed to observe the rules regarding abstinence from Turkish celebrations and participation in the British ones.

Religious studies represented religion in primary education. Half of the respondents in the interview mentioned this particular subject, where the students were taught the basic principles of the Muslim faith and some prayers but, in their words, “there was no conservatism, no pressure.” However, religion in the secondary school was differentiated. 20% of the respondents mentioned that they had religious studies lessons at the secondary level as well. Some of them mentioned that the lessons aimed to make the students good citizens with ethics and principles. Some others were more religious in their outlook, and they mentioned both lessons at school ended with an end-of-the-year exam. In some schools, the subject of religious studies was stopped but was substituted with weekly visits to the mosque. For some schools, this was obligatory, with punishment threatened. Others were more relaxed, and they accepted the students’ sporadic attendance.

Regarding their identity, half of the participants stated that they feel they are Turkish-Cypriots, whereas 20% claim that they are Cypriots. Only 10% emphatically stated that they are Turkish and they consider Turkey their motherland. 10% did not respond to this part of the questionnaire, while a further 10% discounted the identity label “Cypriot”, maintaining that “it is your background which influences who you are and how you see life”.

Having shared living space for hundreds of years, the two communities had formed ties and had learned to live together harmoniously. Therefore, it is not surprising that 80% of the participants stated that they had friendly relations with the Greek-Cypriot community both as children and as young adults. For instance, male participants mentioned the football matches in the streets which both Greek-Cypriot and Turkish-Cypriot children enjoyed, and female participants mentioned visits to homes and invitations to weddings. Only 20% of the respondents claimed that they did not have close relations with the Greek-Cypriot community, either because they had grown up in a Turkish-only village or “for no reason at all, it just happened.”

The period after the British Administration appears to be greatly changed. Only 20% of the interviewees maintained good relations with the Greek-Cypriot community due to distance or personal choice. A further 50% of the participants expressed bitter feelings towards the Greek-Cypriot community as they blame them for the friction and violent episodes towards the Turkish-Cypriot community. Among these, there are some respondents who also blame the British, claiming that they “poisoned the relations between the two communities and achieved the division”. Finally, 30% either lost contact with the Greek-Cypriots due to the exchange of populations, or they did not provide an answer to this part of the question.

Upon reflection, 60% of the respondents stated that the education system during the British Administration was good and that they were happy with it and its results. In their own words, “We were happy with the system the way it was”, and, “It was a perfect system [...] the British education system is the best in the world”, mentioning that there was discipline in the school and respect towards the teachers. 20% stated that
the system was “OK”, and it was adequate for the needs of the students preparing for employment in the British Administration. However, a further 20% stated that the British education system was a bad one for various reasons. First, certain respondents believed that there were hidden agendas in the curriculum, considering the measures taken by the British Administration. Also, other respondents mentioned that the British did not give enough importance to education, and the “Cypriots started learning when the British left.”

Unanimously, the sample population of this survey responded negatively when asked about the solution to the Cypriot problem. Replies such as “no light at the end of the tunnel”, “not confident”, “not optimistic”, “nobody can answer”, and “don’t know, only God knows” were the norm. The reasons behind these answers varied greatly. 40% of the respondents blamed the Greek-Cypriot community, whose greater numbers would turn the Turkish-Cypriot community into a minority. A further 30% accused the foreign powers of Greece, the EU, or the USA, who created this difficult situation and perpetuated it for their own interests. Finally, 40% put forward the negative emotions which currently exist between the two communities. More specifically, the respondents stated that due to the past bitter experiences and violence which erupted on the island, the two communities fear and mistrust each other so much so that if they were put together into one country again, they would begin fighting. Finally, 20% maintained that only by creating two separate states with good relations and close co-operation would Cyprus be able to solve this thorny issue.

Greek-Cypriots

The vast majority (82%) of the participants said that there were no nationalistic feelings in school. 45.5% of them emphasized this lack especially in the Primary level, since the students were very young, and they were only interested in learning their “letters and doing well at school”. Those same participants, though, mentioned that there were some nationalistic tendencies in the secondary level, with the majority of them stating that it was due to those politically difficult times. Troubles in the 1950s influenced the education system greatly; the British shut down the schools, as many students participated in the fights against the Colonial powers. 30% stated that “there was a certain nationalistic feeling mainly against the British since the Colonial regime did not allow national identity emblems either through rules or by force”. Also, some respondents mentioned the Union with Greece Movement which gave schools a nationalistic feeling. There was also mention of passive nationalism, where an English-speaking school emphasized preparation for studies in the UK or the USA and in that way directed students towards the Western culture and viewpoint.

The Greek-Cypriot respondents gave various answers to question about the main subjects at school, as they are of advanced age and their memories do not provide great detail. Similarly to the Turkish-Cypriot sample, the Greek-Cypriot remembered the following main subjects:

- Greek language: reading, writing, grammar, calligraphy
- Mathematics
c. History and Geography of Cyprus, Greece, and the East Mediterranean

d. Religious Studies

e. Phytology (Study of the Flora)
f. English

According to the interviewees, all the subjects were set by the Teachers’ Association, and they were compulsory.

The secondary level of education in the Greek-Cypriot community was divided into two categories. Students could choose to attend the Greek Gymnasium, where the medium of instruction was the Greek language. The respondents also stated that the subjects were compulsory but the students were able to choose the direction they would take in their studies, either Practical – Sciences and Mathematics – or Classical – Languages and Literature. The second category is that of the English-speaking schools where the language medium was English, while the native languages were taught for only a few hours per week.

English was an important addition to the curriculum of schools in Cyprus. Although small primary schools in rural areas did not teach the language, the larger ones did so in year five and six for two to three hours per week. In addition, the Greek Gymnasia offered between three and five hours of English, whereas the English-speaking schools utilized a basic form of Content Language Integrated Learning (CLIL) where the students were taught various subjects with English as the language medium. As a result, not only did the students learn the subject but also improved their English language skills to a great extent. The reasons given by the respondents behind such emphatic instruction are varied. Slightly more than half (55%) claimed that “it was necessary for those who wanted to secure a job by entering the civil service immediately after graduating Secondary Education”. A further 35% were more abstract in their viewpoint, saying, “English was an international language that was used by many people around the world and it would be useful to learn it so that you could communicate and not be isolated”. Only 10% mentioned that learning English was useful only for those who wanted to study abroad.

Overall, as far as the central aim of the curriculum is concerned, the participants’ answers varied greatly. The largest percentage of the respondents (30%) replied that the central aim of the curriculum and their schooling was simply to “learn their letters” and become educated people, which was largely successful. Another 25% stated that since they were a British Colony; they were taught in such a way that it would help them “later to get a job in the British Administration or learn how to communicate and co-operate with the British Authorities”. They also mentioned that the curriculum and the schooling aimed to make them good, conscientious citizens. A further 20% stated that the aim was to prepare the students to study in universities abroad, which was also a success. Moreover, 10% claimed that due to the ban enforced by the British Authorities immediately after the Mutiny of 1931 on books imported from the “motherland countries”, the schooling was not particularly successful. What is more, 10% stated that the emphasis of the curriculum in the
Greek secondary level was on Greek, and especially Ancient Greek, but it did not have a specific agenda; it was more along the lines of emphasizing the Greek identity. Finally, 5% mentioned that they had very good impressions of their English-speaking schools, and these schools enabled them to be successful later in life.

The strong ties with the two “motherland countries”, Greece and Turkey, influenced the island’s population and culture. As a result, a strong majority of respondents (70%) replied that their schools, both at the primary and secondary level, celebrated national Greek holidays. However, 10% of the interviewees stated that they were allowed to celebrate National Days in the local Greek primary but not at the English-speaking secondary. In addition, another 10% mentioned that the British Administration did not allow Greek National Days celebrations before 1940, but changed their policies during WWII and afterwards to appease the Greek-Cypriot population who had joined the war. Finally, a further 10% mentioned that they only remember the celebration that took place during the coronation of Queen Elizabeth II in 1953 as it was something out of the ordinary, and there were presents given to the students in the schools.

In the Greek-Cypriot educational system, religious studies is a compulsory subject taught both at the primary and the secondary levels. The respondents stated that religious studies was not influenced by the British Administration but was actually at the discretion of the Head Teacher of each school. It is for this reason that we see 20% claiming that religion in primary school was not important, a further 40% stating that its importance was medium, with the subject mostly being taught in class and a few visits to the church on holy days, and a final 40% mentioning that religion was very important in primary school, and any absence from church services would be punished severely. A mention of a Head Teacher instructing the students to spit on their “truant” colleague was made. At the secondary level, the situation was more relaxed. The 50% of the respondents who specifically mentioned their secondary education religious practices said that they were not important, and they were not forced to attend church.

Regarding their identity, the majority of the respondents (50%) stated that they were Cypriots, with 10% of them clarifying that they were Greek-speaking Cypriots. A further 25% stated that they felt Greek-Cypriot, having been influenced by the “motherland country” at some point in their lives, while another 25% emphasised their religion in their identity by stating that they were Christian Orthodox Greek-Cypriots.

A vast majority, 90%, stated that the relations between the two communities during the British Colonial times were very good. Most lived in mixed villages or attended mixed schools, and the interviewees stated that they attended weddings, bayrams or religious celebrations, family dinners, or barbecues at Turkish-Cypriot homes. Out of these respondents, 33% maintained that their opinion of the Turkish-Cypriot community had not changed, and some of them still got together regularly with their families “to catch up on each other’s news”. However, another 33% stated that their relationships had changed since there had been so many violent events and also due to the island’s division limited access to the other community. The
remaining 22% did not make any mention of changes in the relationship between the Greek-Cypriots and Turkish-Cypriots after the British had left. Finally, only 11% mentioned that due to living in a Greek-only village, they had had no contact with the Turkish-Cypriots.

Regarding their overall opinion on the education system, the responses were equally divided. Half of the respondents replied that the education system of their time was good, and it did not require improvements. Their answers ranged from “excellent”, “very good overall, just some teachers I did not care for”, “I was happy with it and I have some good memories from those times”, and “better than it is today”. On the other hand, the other half of the interviewees stated that the education system of their time could have been improved. For instance, the best school at the time, the English School, although academically sound, was reported to be very strict in its regime; 10% of the participants who had been students there mentioned aloof and distant teachers. A further 10% reported that their education system actually had needed more instruction in English and more textbooks for the other subjects as well as the use of modern teaching methods. Another 10% complained that the schooling in the Greek Gymnasia was inferior to that of their English-speaking counterparts. Finally, another 10% stated that the education system had the ultimate goal of directing the students to Greece if they wanted to do something better in their lives and discouraged them to stay in Cyprus.

Similarly to the Turkish-Cypriots, the Greek-Cypriots were unanimous in their responses: they do not see a solution to the Cypriot problem. They all believe that the outside powers – Greece, Turkey, Britain, and America – were the ones who created this problem and who continue to support this division of the island. They especially lay the blame with the Greeks, who betrayed them politically in the early 1970s, and with the British, who enforced a “Divide and Rule” policy on the island; this was done to keep the population under control by turning one community against the other. Also, they believe that Turkey influenced the Turkish-Cypriot population in a negative way during the peace talks and that this is an extra factor that explains why a solution has not been achieved before and may not be achieved in the future either. A minority of the respondents (20%) mentioned that they had been more hopeful during the Annan 2004 proposal, but they lost hope again when it did not succeed. They all maintain that the Greek-Cypriots and the Turkish-Cypriots can if they are left alone to work together without outside influences.

Results: Comparison of the Findings

During the interview process, the authors were able to have access to willing individuals from both communities of the island of Cyprus; however, the Turkish-Cypriot sample was of a more advanced age compared to the sample of the Greek-Cypriot population. Furthermore, while the sample was almost equally divided between the villages and the urban areas of the time, the Greek-Cypriots were mostly born and raised in village settings. Finally, the Turkish-Cypriots almost exclusively attended English-speaking schools during their secondary education, whereas the Greek-Cypriots were divided between Greek Gymnasia, English-speaking schools,
and Commercial-Technical schools. On the other hand, both samples were populated by individuals who had attended their local primary schools and who all continued to attend secondary level education.

All the participants did not recall any nationalistic feelings during their primary level education, which they all attributed to their young age that excluded preoccupation with matters outside their immediate environment of family, village, and school. However, in the secondary level, the respondents identified several nuances of nationalism either on the side of the Greek-Cypriots, the Turkish-Cypriots, or the British Administration. Both Greek-Cypriot and Turkish-Cypriot interviewees pointed out the nationalistic tendencies of the British, who imposed barriers regarding the “motherland” countries and thus controlled the formation of a national identity in the populations of the island. On the other hand, the Greek-Cypriot secondary schools exhibited nationalistic tendencies due to the Movement of Union with Greece that manifested in the 1950s. As a result, an atmosphere of tension was created between the young people of the two communities.

All the participants are senior citizens, which explains why their memories of their primary education (mostly) and their secondary education (to a lesser degree) were fragmented. Both communities mentioned the following among others:

- Lessons on their own language for several hours a week, including reading, writing, grammar, and calligraphy;
- History and geography lessons centring on the island of Cyprus, the East Mediterranean region, Europe, and the World;
- Mathematics;
- Religious studies;
- English for the year 5 and year 6 students of urban area schools with larger populations and a larger staff;
- All subjects were compulsory in the primary education level.

In the secondary education level, the subjects were approximately the same as those of the primary education level; however, some differences are apparent. The Turkish-Cypriot sample consisted of individuals who attended English-speaking schools where, though the subjects were compulsory, the students had the freedom to choose their GCSEs. The Greek-Cypriot students had the freedom to choose the direction their studies would take by opting for a classical or a practical secondary school if they continued in a Greek Gymnasium.

Both the Turkish-Cypriot and the Greek-Cypriot interviewees recalled that rural primary schools did not teach the English language, whereas their urban counterparts did so in the fifth and sixth year for two to three hours a week. In the secondary education, the Greek-Cypriots who continued in the Greek Gymnasium attended English language lessons for three to five hours per week. On the other hand, the Greek-Cypriot and Turkish-Cypriot students who continued on to the English-speaking schools were instructed in the language intensively. Both communities pointed out the fact that knowledge of the English language was imperative if they wanted to obtain a post in the British Administration; this guaranteed a good salary, and thus a comfortable living and a certain status in the
community. Some individuals of the Greek-Cypriot sample also mentioned that instruction of the English language was justified since it was, and is, an international language and necessary for those who wanted to study abroad. However, some individuals of the Turkish-Cypriot sample mentioned that teaching English to the Cypriots was actually part of the British political colonial agenda.

Overall, the majority of the Turkish-Cypriot sample stated that the curriculum was designed to prepare the students to find a well-paid job, as opposed to 30% of the Greek-Cypriot sample who identified this as the central aim. The majority of the Greek-Cypriots stated that the main aim of the curriculum was to “teach children their letters” and “to make them good citizens”, and they found it to be partly successful in that endeavour. On the other hand, the Turkish-Cypriots identified the division of the two communities as another aim of the curriculum, and they considered it successful in this aim.

Neither the Turkish-Cypriots nor the Greek-Cypriots were allowed to celebrate national days of the “motherland” countries by the British Administration. However, the Turkish-Cypriots recall celebrating some innocuous Turkish National Days which did not have any nationalistic nuances, such as Youth Day and so on. The Greek-Cypriot, nevertheless, state that during the Second World War and afterwards they were granted permission to celebrate the National Days of Greece as a reward for participating in the war effort on the side of the Allied Forces. As a result, this explains why the Turkish-Cypriots mostly remember British National Days and the consequences if they did not celebrate them, while the Greek-Cypriots remember Greek National celebrations.

In the primary level of education, both communities had religious studies in their curriculum, but the importance of that subject and other manifestations of religious life were different in the two populations. Nearly half of the Turkish-Cypriot maintained that they did not feel pressure in that area, whereas only 20% of the Greek-Cypriot stated the same. The majority of the Greek-Cypriot stated that they felt medium to great pressure to conform to Christian Orthodox practices. However, in the secondary level of education, both the Turkish-Cypriot and the Greek-Cypriot described varied approaches based on their head teacher’s relationship with religion.

Half of the Turkish-Cypriot sample consider themselves to be Turkish-Cypriots, whereas nearly half of the Greek-Cypriots identify themselves as Cypriots only. A much smaller percentage of the Turkish-Cypriot sample state that they are Cypriots only, and an equally small percentage of the Greek-Cypriots state that they are Greek-Cypriots. There is also emphasis on the Christian Orthodox element on the part of certain individuals in the Greek-Cypriot sample and a smaller but equally powerful emphasis on the Turkish element on the part of certain individuals in the Turkish-Cypriot sample.

Despite the friction due to historical events, the overwhelming majority of both the Greek-Cypriot and Turkish-Cypriot samples expressed positive feelings towards the other community during the British Administration. However, approximately half of these people stated that their feelings changed towards the negative after the division. Smaller percentages mentioned that since they had grown up in single-community villages, they had no contact with the other community and therefore
could not form an opinion. Also, some other smaller percentages had lost contact after the division and could not say whether their feelings had changed.

More than half of the Turkish-Cypriot and half of the Greek-Cypriot samples felt that the educational system of their time was good, and they could not identify any areas that could have been improved. However, the remainder of the interviewees stated that the system could have been better in several areas. Firstly, the Turkish-Cypriots stated that there was political influence which does not belong in education. Secondly, the Greek-Cypriots stated that the system was very strict and regimented, which created distance between the teachers and the students. Finally, students who attended the Greek Gymnasia mentioned that their system was inferior to that of the English-speaking schools.

Both communities gave a unanimous “no” to the “Solution” question. As reasons, the Turkish-Cypriots put forward the Greek-Cypriot attitude (40%), the influence of Greece, Europe, and the USA (20%), and, finally, the negative emotions which exist between the two communities due to the history of the island (40%). They also state that the two communities cannot live together since there is no trust, and if they are once more united into one country, they will fight again. On the other hand, the majority of the Greek-Cypriot accused the outside powers, and especially the British and the Greeks, for creating this situation and the Turkish for the continuation of the division and the impasse in the negotiations. They believe that the Cypriots can find the solution if they are left alone.

**Discussion and Conclusions**

The current citizens of the island of Cyprus, Greek-Cypriots and Turkish-Cypriots, are the product of many cultures merging throughout the centuries, and more recently of the British Administration and its colonial policies as they were implemented through the Education system in the 19th and 20th centuries. Divided and conflicted, they were forced to side with ethnic identities which occasionally failed to accurately define them. It is the view of the writers that one can discern the trends of the British colonial policies towards the establishment of a more British society on the island.

Although the participants of the research are of predominantly rural backgrounds, they were encouraged by their families and their communities to pursue higher studies (for that time). This was done in an effort to improve their lives since a better education could lead to better career prospects, with one of the most popular career choices being a well-paid position within the British Administration.

Another popular choice at that time was to attend the English-speaking schools; these offered a higher standard of education and gave the students the opportunity to study in the academic institutions of Britain, thus opening more doors in their future. This, combined with the fact that the Greek Gymnasia offered what was perceived as an inferior quality education, can lead us to believe that for many individuals, success and improvement belonged to British-educated people.

Finally, the British Administration implemented measures which deprived the two communities educational contact with their cultures by banning the import of
textbooks from Greece and Turkey and by forbidding the use of national symbols or
the celebration of National Days...though the latter measure was relaxed when the
need for support towards the Allies became stronger than the need to anglicise the
population.

This research was by no means exhaustive—more qualitative research with new
research methods is needed in the field of educational administration, as also
suggested by Aydin, Erdag, and Sarier (2010, p.38)—but it shows the trend of
popular opinion of the citizens who were raised in a British Colony and now live
with the consequences of those policies regarding education, society, and Politics.
Still conflicted, still divided.

**Appendix 1**  The Table Showing Details About The Turkish-Cypriot Sample
Whose Ages Ranged Between 71 and 93

<table>
<thead>
<tr>
<th>Gender</th>
<th>Identity</th>
<th>Primary</th>
<th>Secondary</th>
<th>Rural/Urban</th>
<th>Relationship with Others</th>
<th>Solution in Cyprus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Cypriot</td>
<td>Nicosia Ayia Sofia Mosque Primary School</td>
<td>Victoria Girls’ School</td>
<td>Urban</td>
<td>Good relations—no racism</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Turk</td>
<td>Latka Primary School</td>
<td>Nicosia Koms Islam Lycee</td>
<td>Rural/Urban</td>
<td>Good as children—different towards the end</td>
<td>No</td>
</tr>
<tr>
<td>Female</td>
<td>Turkish Cypriot</td>
<td>Karis&amp;Ayia Sofia Primary School</td>
<td>Victoria Girls’ School</td>
<td>Rural/Urban</td>
<td>Good as children—Coldness afterwards</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Cypriot</td>
<td>Larnaca Primary School</td>
<td>American Academy—Ikefe</td>
<td>Urban</td>
<td>Good at first—distant later</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Turkish Cypriot</td>
<td>Limassol Primary School</td>
<td>Limassol Lycee</td>
<td>Urban</td>
<td>Good at first—British destroyed it</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Cypriot</td>
<td>Larnaca Primary School</td>
<td>American Academy—Larnaca</td>
<td>Urban</td>
<td>Good at first—changed afterwards. Personally stayed friends.</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Turkish Cypriot</td>
<td>Lapta Primary School</td>
<td>Nicosia Boys School</td>
<td>Rural/Urban</td>
<td>Mixed village friends—changed afterwards</td>
<td>No</td>
</tr>
<tr>
<td>Female</td>
<td>Turkish Cypriot</td>
<td>Tatlisu Village Primary School (Mari Kingdom)</td>
<td>Victoria Girls’ School</td>
<td>Rural / Urban</td>
<td>Single community village—Met a Greek Cypriot abroad but lost contact</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Turkish Cypriot</td>
<td>Messaria Village Primary School</td>
<td>Nicosia Turkish Lycee</td>
<td>Rural/Urban</td>
<td>Mixed Village—had friends—have not changed</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Turkish Cypriot</td>
<td>Famagusta Primary School</td>
<td>The English School—Famagusta</td>
<td>Urban</td>
<td>No nationalism at first—changed afterwards</td>
<td>No</td>
</tr>
</tbody>
</table>
### Appendix 2: The Table Showing Details About The Greek-Cypriot Sample Whose Ages Ranged Between 64 and 83

<table>
<thead>
<tr>
<th>Gender</th>
<th>Identity</th>
<th>Primary</th>
<th>Secondary</th>
<th>Rural/Urban</th>
<th>Relationship with Others</th>
<th>Solution in Cyprus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Cypriot</td>
<td>Larnaca Primary School</td>
<td>Greek Gymnasium Larnaca</td>
<td>Urban</td>
<td>Good</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Greek &amp; Cypriot</td>
<td>Primary School – Village outside Famagusta</td>
<td>Nicosia English School</td>
<td>Urban</td>
<td>Still friends – get together often</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Cypriot of Greek origin</td>
<td>Primary School – village outside Limassol</td>
<td>Greek Gymnasium Famagusta</td>
<td>Rural/Urban</td>
<td>Were friends – British divided us</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Greek Cypriot</td>
<td>Agios Ermolaos Primary School</td>
<td>PanCyprian Gymnasium</td>
<td>Rural/Urban</td>
<td>Friends – feelings did not change</td>
<td>No – disappointed</td>
</tr>
<tr>
<td>Male</td>
<td>Greek Cypriot Christian</td>
<td>Primary School – village in Karpaz</td>
<td>Nicosia – English School</td>
<td>Rural/Urban</td>
<td>Primary school – Turks the enemy but in English School made friends</td>
<td>No</td>
</tr>
<tr>
<td>Female</td>
<td>Greek-speaking Cypriot</td>
<td>St John’s Primary School Famagusta</td>
<td>Girls’ Gymnasium Famagusta</td>
<td>Urban</td>
<td>Friendships – changed afterwards</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>Cypriot</td>
<td>Athiyenou Primary School</td>
<td>American Academy</td>
<td>Rural/Urban</td>
<td>Friendships – later relationships cooled</td>
<td>No light in tunnel</td>
</tr>
<tr>
<td>Female</td>
<td>Orthodox Christian Greek Cypriot</td>
<td>Athiyenou Girls’ Primary School</td>
<td>PanCyprian Gymnasium</td>
<td>Rural/Urban</td>
<td>Before 1960 good – after 1960 changed.</td>
<td>Very difficult</td>
</tr>
<tr>
<td>Male</td>
<td>Greek – mother tongue Greek</td>
<td>Athiyenou Boys’ Primary School</td>
<td>PanCyprian Gymnasium</td>
<td>Rural/Urban</td>
<td>Good relations – British made us fight</td>
<td>If left alone, yes</td>
</tr>
<tr>
<td>Female</td>
<td>Greek Cypriot (but feels closer to Cyprus)</td>
<td>Athiyenou Girls’ Primary School</td>
<td>Pallaris Trade Commercial College</td>
<td>Rural/Urban</td>
<td>All-Greek village</td>
<td>If Turkey says “yes” – British separated us</td>
</tr>
</tbody>
</table>
References


20. Yüzyılların İngiliz Sömürgeçiliğinin K whisper'teki Eğitim Üzerindeki Etkisi

Atıf:

(Özet)


Araştırmanın Yöntemi: Bu araştırma, nitel araştırma özelliği taşımaktadır. Araştırımda, veri toplama yöntemi olarak rastgele seçilmiş, konuşmayı istekli 10 Kıbrıs Türk ve 10 Kıbrıs Rum ile görüşmeler yapılmıştır. Görüşme yapılan Kıbrıs Türk ve Türklerin hepsi İngiliz yönetiminde öğrencil olan Kıbrıs'ın farklı köy ve şehir okullarında eğitim almışlardır. O zamanlardan yüksek bir eğitim seviyesi olarak görülen ilk ve özellikle orta öğrenimden geçen bu katkılarda hatıralıkları noktaları göre en az 20 dakika ve en çok 1 saat 8 dakika arasında sure görüşmelerde araştırmacılarla bilgi vermişler. Bu görüşmelerde katımları esas olarak ilk ve orta okulları oldukca müfredat ve amaçları, okullardaki milliyetçilik ve dini unsurlar, kimlik, anavatana bağlılık ve toplumlar arası ilişkiler hakkındaki düşünceleri şeklinde yan疑问が解決したか、さらに、表記や文法が正確であるかを確認してください。

Anahtar Sözcükler: Kıbrıs'ta İngiliz sömürüsü, eğitim yönetimi, müfredat ve kimlik
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Grade Level and Creativity

Füsun G. ALACAPINAR*

Suggested Citation:

Abstract

Problem Statement: Creativity has been addressed by many scientists and thinkers. Among them, Guilford regards creativity as the ability to generate new ideas, and relates it to intelligence. According to Thurstone, creativity must develop and be implemented within a theoretical framework, and a solution must result. Torrance thinks of creativity as a scientific research process and sequences its steps.

Purpose of Study: This study was conducted to explore whether significant differences in average fluency, flexibility, originality, elaboration, and total scores of students are observable on the basis of class level or gender, to determine whether a primary school curriculum that has been implemented for 6 years has significantly improved the creative thinking skills of students.

Methods: The quantitative and qualitative methods were applied in the study. To this end, 172 students from grades 3 to 8 attending a primary school in Çankaya District of Ankara were selected randomly. Descriptive data analysis was conducted on the qualitative data. The data gathered from focus groups were analyzed using qualitative content analysis.

Findings and Results: Significant differences were found in average fluency, flexibility, originality, elaboration, and total scores of classes. Fluency, flexibility, originality, elaboration, and total scores of the 5th graders were the highest compared to other classes. On the other hand, the 6th grade students’ scores were the lowest. Fluency, flexibility, originality, elaboration and total scores increased from the 3rd to the 5th grade, but declined to their lowest levels in the 6th year. Scores increase once more in the 7th grade, only to fall again in the 8th grade.

Conclusions and Recommendations: Significant differences were found in average fluency, flexibility, originality, elaboration and total scores with

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respect to class levels and gender. These findings are also supported by the outcomes of some other studies. It is stressed that there is a significant relation between class level, gender, and creativity. The significant difference exhibited by the 5th grade students in terms of four areas and total creativity scores can be explained by the fact that their ideas and products related to creativity enjoyed the support of their friends, families, and teachers. In order to improve children’s creative thinking, teachers and the parents should be supported by further training programs.

**Keywords:** Primary school, curriculum, student, creativity, classroom.

Education seeks to help students attain top-level targets. These targets fall within the category of “synthesis” in Bloom’s taxonomy. At the level of synthesis, the student is expected to come up with an original and new theory, model, suggestion for a solution, etc. that goes beyond what is already known. In this context, the person has to present an invention, suggest a model, etc.

Creativity has been addressed by many scientists and thinkers. Among them, Guilford regards creativity as the ability to generate new ideas, and relates it to intelligence (Guilford, 1950, 1968). Kris supports the same view. There are also others who understand creativity as the ability to solve problems (Mumfort & Gustafson, 1988).

According to Thurstone, in order for creativity to exist, there must first be a theoretical framework, this framework must be put into practice, and the identified problem should be solved at the end. The theoretical framework may be related to all spheres of life, including thought, the arts, the sciences, etc. What matters is the novelty and originality of the theoretical framework. It is also important that creative thinking go beyond existing known solutions and models (Torrance, 1965a; Taylor, 1972; San, 1979; Urban, 1991).

These criteria for creativity can be grouped with respect to three dimensions: production, professional criteria, and social criteria. In terms of production, reference can be made to patent rights acquired by the person concerned. In terms of professional criteria, the reference may be to person’s fame and reputation in his or her profession, and social criteria may consider what his or her colleagues say about the person concerned (Amabile, Hennessey & Grossman, 1986). Personal characteristics may also be added to these criteria (MacKinnon, 1962; Gebe & Jackson, 1962). These criteria regard the end product as primary in describing creativity.

Torrance considers creativity to be a scientific research process, and identifies its by describing steps within a sequence. First, there must be awareness and sensitivity regarding what is conceived as a problem or what is missing. Then, hypotheses must be advanced—in other words, approximated solutions that are tested over and over again. If some hypotheses prove to be inappropriate, they are either improved or replaced by others to be tested again, and the process of testing continues until a
solution to the problem is reached (Torrance, 1962). In a sense, this process follows the experimental research logic of Dewey (Dewey, 1910).

Mott defines four steps in creativity: Preparation, incubation, discovery (inspiration), and control. In the first step, data relating to the problem are collected, and various responses are developed and tried as solutions. The person is engaged in a process of trial and error. This first step may be too short or too long. At the incubation stage, the brain concentrates on what the solution could be. It organizes data and synthesizes it with earlier experiences. At the stage of discovery (inspiration) the solution suddenly appears, just like Archimedes running out of the bath naked, declaring, “I found it!” At the control stage, the solution is applied to the problem. If the problem is indeed solved, then the result is confirmed and the solution is proven. As can be seen in this process, creativity is a mental activity in which all potential capabilities inherent in human beings are mobilized and further developed. Human beings are gifted with curiosity, interest, invention and discovery, and the ability to synthesize and remould thoughts (Mott, 1973). There are also some who defend the idea that there is a relationship between a given cultural structure and creativity (Öncü, 1989, 2000, 2003).

If the given cultural structure provides support and reinforcement to creative persons, then creative activities flourish (Taylor, 1972; Cohen, 1988). Scholars also state that levels of intelligence, monetary rewards, and environments with ample occasions to engage in warm, flexible, and creative activities are the factors that improve a person’s ability to engage in divergent thinking (Thistilwaite, 1963; Knapp, 1963; Torrance, 1965a). However, some other researchers assert that monetary rewards and reinforcement are detriments to creativity, and there is no significant relationship between intelligence and creativity (Mumford & Gustafson, 1988). Moreover, investigations have also been carried out to see whether there is a meaningful relationship between creativity and factors such as education and school systems, teachers’ attitudes, or training in creativity and intelligence games. Results are divided: while some studies found this relationship meaningful, others did not (Feldhusen & Treffinger, 1975; Thomas & Berk, 1981; Woodman & Feldt, 1990; Wang & Tzeng, 2007). In some studies conducted in Turkey, a significant relationship was found between the level of creativity and a set of other factors including the following: Level of education, school performance and success in courses, fields of education, secondary school attended, leisure time activities, sex, age, class level, intelligence games, playing, ways of learning, problem-solving skills, training in arts, economic status, father’s educational background, socio-demographic characteristics, teachers’ behaviour, and type of school (Öncü, 1989; Sungur, 1992; Ataman, 1992; Öncü, 2000; Öncü, 2003; Görgen & Karaçelik, 2009; Ersoy & Başar, 2009).

Starting in 2005, the Turkish Education System began to design curricula using a constructivist approach and started to implement the curricula beginning in primary education. One of the basic objectives of this approach is to help students reach high-level achievements. Creative thinking is among these achievements.
This study aimed to find out the following: Does the existing primary school curriculum meaningfully affect students' creative thinking skills? Do significant differences between average fluency, flexibility, originality, elaboration, and total scores exist by class level and sex? What are the opinions of students in this regard?

**Method**

**Working Group**

The study was conducted with 172 students from grade 3 to 8 attending a primary school in Çankaya District of Ankara. Grades 1 and 2 were excluded from the survey. A purposive convenience sampling technique was used in the study. Since it was necessary to reach individual students directly and three students were randomly selected from the third, fifth, and sixth grades, respectively, the most convenient group was used in the qualitative survey.

**Data Collection and Data Analysis**

The Torrance test of creative thinking was given students by grades. Students' scores on the fluency, flexibility, originality, and decorative part of the test, as well as their total scores, were calculated by two experts in the field.

Semi-structured focus group interviews were conducted with these groups and students' opinions were recorded. These records were analyzed by two experts. Due to some articulation problems, statements made by some students were later corrected after asking them for clarification.

**Results**

This section examines, comments on, and explains data on creativity-related fluency, flexibility, originality, elaboration and total scores of students from grade three to grade eight covered by the survey.

**Data Relating to the First Sub-problem**

Data relating to the question of whether there are significant differences between the average fluency scores of grades are given below in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>Grades</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd grade</td>
<td>34</td>
<td>33.44</td>
<td>9.51</td>
</tr>
<tr>
<td>4th grade</td>
<td>40</td>
<td>32.17</td>
<td>7.70</td>
</tr>
<tr>
<td>5th grade</td>
<td>21</td>
<td>37.95</td>
<td>3.91</td>
</tr>
<tr>
<td>6th grade</td>
<td>17</td>
<td>29.23</td>
<td>7.29</td>
</tr>
<tr>
<td>7th grade</td>
<td>16</td>
<td>35.06</td>
<td>8.64</td>
</tr>
<tr>
<td>8th grade</td>
<td>44</td>
<td>30.23</td>
<td>9.62</td>
</tr>
</tbody>
</table>
As can be seen in Table 1 above, average fluency scores are as follows: year 3: 33.44; year 4: 32.17; year 5: 37.95; year 6: 29.23; year 7: 35.06; and year 8: 30.23. T-tests were used to check for significant differences between fluency scores. The findings are given in Table 2 below.

**Table 2**

<table>
<thead>
<tr>
<th>Grades</th>
<th>4th.</th>
<th>5th.</th>
<th>6th.</th>
<th>7th.</th>
<th>8th.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd.</td>
<td>0.63</td>
<td>2.44*</td>
<td>1.6</td>
<td>0.59</td>
<td>1.46</td>
</tr>
<tr>
<td>4th.</td>
<td>3.2*</td>
<td>1.33</td>
<td>1.22</td>
<td>1.01</td>
<td></td>
</tr>
<tr>
<td>5th.</td>
<td>4.37*</td>
<td>1.36</td>
<td>3.51*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th.</td>
<td>2.09*</td>
<td>.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th.</td>
<td></td>
<td>1.04</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 2, differences between grade 5 and grades 3, 4, and 8, as well as between grade 6 and grade 7 are significant at various degrees of freedom, with a level of significance of .05. According to the same table, students in grade 5 have the highest score in fluency. Based on this data, it is possible to say that fluency scores first increased in grade 5, decreased to its lowest level in grade 6, increased again in grade 7 and then fell once more in grade 8. It can be said that there is a significant difference between classes in terms of fluency scores, and the lowest score in this regard belongs to grade 6. Given this fact, focus group interviews were conducted with three randomly selected students from grade 5, which had the highest score, and three from grade 6, which had the lowest. Outcomes obtained are presented below after some corrections in articulation that do not slant the content:

K.5. I tried to use my imagination. I closed my eyes and thought “What I can make out of these figures.” Nobody blocked me?

K.5. No friend blocked me. I can convert the letter “S” into a rose.

K.5. I did it on my own without receiving help from anybody else.

K.6. I drew those pictures inspired by people around me and their behavior. Nobody stood in my way; my family helped me a lot.

K.6. I usually observe outside while developing my ideas. Usually nobody helps.

K.6. My father and mother help me.

Fluency: Fluency can be described as the talent of using words or pictures to produce several acceptable ideas concerning a specific subject and selecting the most valuable ones among them. A person can further develop this talent if placed in an environment that supports creativity. In such an environment, the person concerned
is encouraged, supported and provided various means to succeed; the person is not
degraded or scolded in cases of failure. This allows the person to build self-
confidence by using his or her imagination and thinking without taking outside help.
He/she becomes a good observer, and tries again and again. This process supports
the development of creative thinking (Milne, 1996).

As can be inferred from their responses, the 5th grade students confirmed this
collection by saying “I used my imagination,” “I drew it on my own,” “I received
help from nobody,” “I observed outside,” and “I tried it again.” Students from the 6th
grade, on the other hand, said they received help from their parents or other family
members. Receiving help means parents too are involved, and in such cases children
may act under their parents’ influences, which may block creativity.

Data Related to the Second Sub-problem

Table 3 below provides data on whether there is any significant difference
between the average flexibility scores of classes.

<table>
<thead>
<tr>
<th>Grades</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>34</td>
<td>20.38</td>
<td>5.41</td>
</tr>
<tr>
<td>4th</td>
<td>40</td>
<td>20.92</td>
<td>5.15</td>
</tr>
<tr>
<td>5th</td>
<td>21</td>
<td>25.38</td>
<td>4.36</td>
</tr>
<tr>
<td>6th</td>
<td>17</td>
<td>17.00</td>
<td>4.80</td>
</tr>
<tr>
<td>7th</td>
<td>16</td>
<td>23.00</td>
<td>7.60</td>
</tr>
<tr>
<td>8th</td>
<td>44</td>
<td>19.00</td>
<td>6.10</td>
</tr>
</tbody>
</table>

According to Table 3, the average flexibility scores of each grade are as follows:
grade 3: 20.38; grade 4: 20.92; grade 5: 25.38; grade 6: 17.00; grade 7: 23.00 and grade
8: 19.00. A t-test was used to determine whether there are significant differences
between the flexibility scores. Findings are given in Table 4 below.

<table>
<thead>
<tr>
<th>Grades</th>
<th>4th.</th>
<th>5th.</th>
<th>6th.</th>
<th>7th.</th>
<th>8th.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>.44</td>
<td>3.75*</td>
<td>2.28*</td>
<td>1.39</td>
<td>1.00</td>
</tr>
<tr>
<td>4th</td>
<td>3.55*</td>
<td>2.75*</td>
<td></td>
<td>1.18</td>
<td>1.51</td>
</tr>
<tr>
<td>5th</td>
<td></td>
<td>5.62*</td>
<td>1.20</td>
<td>4.76*</td>
<td></td>
</tr>
<tr>
<td>6th</td>
<td></td>
<td>2.72*</td>
<td></td>
<td>1.39</td>
<td></td>
</tr>
<tr>
<td>7th</td>
<td></td>
<td></td>
<td></td>
<td>2.06*</td>
<td></td>
</tr>
</tbody>
</table>
Table 4 shows that with the exception of the fifth and seventh grades, the differences between classes as well as the difference between the sixth and seventh and seventh and eighth grades are significant at a .05 significance level and various degrees of freedom. According to the data in Table 3, the 5th grade has the highest score on flexibility. Given these data, it can be said that flexibility scores rise in the fifth grade, reach their lowest level in sixth grade, increase again in seventh grade, and then fall in eighth grade. It can further be stated that there are significant differences between classes in terms of flexibility scores, with the 6th grade being the lowest. Given these findings, focus group interviews were conducted with three randomly selected students from the fifth grade, which scored the highest, and three from the sixth grade, i.e. the lowest scoring class. Outcomes obtained are presented below after some corrections in articulation.

K.5. My family supports me a lot. So do my friends.
K.5. They had no influence in any behavior of mine.
K.5. They just supported me in my ideas and that’s all.
K.6. For example, if I think different in any matter and if it is reasonable, they receive it well. But if it is absurd, they show me the correct way.
K.6. They do not interfere with my ideas. I have reasonable ideas in general. There are cases when I fly too high, but they approve if they find it logical. If not, they correct what does not make sense.
K.6. They say “come on... it is just impossible.”

Flexibility is when a person can think about many aspects of an issue and can change his ideas. Flexibility requires one to see an issue or an event from different angles and change a specific stance when it becomes necessary (Torrence, 1966). To improve flexibility scores, it is necessary to provide educational environments that allow students to develop new ideas in addition to what has been said about fluency. In such environments, students’ new ideas should be given due account, they should not be made fun of or corrected. Their desire and zeal for changing their ideas should be supported. As a matter of fact, when creativity declines, there are also significant drops also in scores on personal traits such as excitement and understanding (Onçü, 1989). If children develop low levels of trust in parents, teachers, and friends, it becomes more difficult to develop original ideas since the cultural and educational environment that students are immersed in will often lead them to think in stereotypes. In such cases, students who move beyond stereotypes may be considered annoying, and this may undermine original thinking.

The responses of students in the fifth grade confirm this: “My family supports me and my ideas a lot. They had no influence in any behavior of mine.” Students from grade six, on the other hand, say “They say ‘come on... when they find something illogical. They show the correct way if then find something absurd.” Such behavior may undermine creativity. It can be said that the difference between the fifth and sixth grade derives from this point.
Data Related to the Third Sub-problem

Table 5 below provides data on whether there is any significant difference between the average originality scores of classes.

Table 5

<table>
<thead>
<tr>
<th>Grades</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd.</td>
<td>34</td>
<td>10.38</td>
<td>5.34</td>
</tr>
<tr>
<td>4th.</td>
<td>40</td>
<td>13.65</td>
<td>6.86</td>
</tr>
<tr>
<td>5th.</td>
<td>21</td>
<td>17.14</td>
<td>6.51</td>
</tr>
<tr>
<td>6th.</td>
<td>17</td>
<td>11.56</td>
<td>6.70</td>
</tr>
<tr>
<td>7th.</td>
<td>16</td>
<td>14.25</td>
<td>5.38</td>
</tr>
<tr>
<td>8th.</td>
<td>44</td>
<td>11.40</td>
<td>6.87</td>
</tr>
</tbody>
</table>

According to Table 5, the average originality scores of the classes are as follows: grade 3: 10.38; grade 4: 13.65; grade 5: 17.14; grade 6: 11.56; grade 7: 14.25; and grade 8: 11.40. T-tests were used to check for significant differences between originality scores, and findings are given in Table 6 below.

Table 6

<table>
<thead>
<tr>
<th>Grades</th>
<th>4th.</th>
<th>5th.</th>
<th>6th.</th>
<th>7th.</th>
<th>8th.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd.</td>
<td>2.19*</td>
<td>3.95*</td>
<td>.65</td>
<td>2.29*</td>
<td>.70</td>
</tr>
<tr>
<td>4th.</td>
<td>1.92</td>
<td>1.05</td>
<td>.31</td>
<td>1.49</td>
<td></td>
</tr>
<tr>
<td>5th.</td>
<td>2.57*</td>
<td>1.47</td>
<td>3.25*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th.</td>
<td>1.25</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th.</td>
<td></td>
<td>1.67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows that all differences between grades, with the exception of those between fourth and third grade and between fifth and fourth and seventh grade are significant at a .05 significance level and various degrees of freedom. According to the data in Table 6, the fifth grade has the highest score in originality. Given these data, it can be said that originality scores rise in fifth grade then decline in sixth grade, increase in seventh grade and then fall again in eighth grade. It can further be stated that there are significant differences between classes in terms of originality scores, with the third grade scoring the lowest. As a result, focus group interviews were conducted with three randomly selected students from the fifth grade, which had the highest score, and three from the third grade. Outcomes obtained are presented below, with some corrections in articulation.
Originality can be described as a person’s skill and competence in developing new and original ideas, or producing and presenting invaluable works. It is the talent of generating unique original responses regarding an issue or an event (Torrence, 1966). In addition to what has been said above concerning creativity, students’ extraordinary or divergent ideas must be supported and encouraged. In fact, students are hesitant to express such ideas for fear of being scolded or mocked by their teachers, parents, and friends. In such environments, if students are not comfortable with parents, teachers, and friends it becomes more and more difficult to think originally; this means that the cultural and educational environment surrounding the student will produce stereotypical thought. Moves beyond these stereotypes may be found annoying, and inhibited, thus precluding original thinking.

K.5. Of course my family supports me a lot. So do my friends.
K.5. We talk about and discuss places that I have never thought of or seen. I receive positive or negative responses depending upon the case.
K.5. I asked them and they accepted it if it sounded plausible and rejected if not. I received normal responses.
K.6. For example when I talk about my supernatural powers, they say it is not so desirable since everything would be too easy if I had and life would have no meaning.
K.6. They say there is too much exaggeration; it is too difficult to have it.

As can be inferred from the responses given, students in fifth grade confirmed the conclusion above with statements like “my family supports me a lot”, “we talk about and discuss places that I have never thought of or seen” and “I received normal responses.” On the other hand, students in sixth grade say, “when I talk about my supernatural powers, they say it is not so desirable since everything would be too easy” or “they say there is too much exaggeration in my ideas.” Such responses or reactions may undermine creativity, and it is possible to conclude that the difference between the fifth and sixth grades derives from this point.

Data Related to the Fourth Sub-problem

Table 7 below provides data on whether significant differences exist between the average elaboration scores of classes.
Table 7
Grades and Elaboration Scores

<table>
<thead>
<tr>
<th>Grades</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd.</td>
<td>34</td>
<td>56.44</td>
<td>17.42</td>
</tr>
<tr>
<td>4th.</td>
<td>40</td>
<td>53.37</td>
<td>14.29</td>
</tr>
<tr>
<td>5th.</td>
<td>21</td>
<td>59.95</td>
<td>12.41</td>
</tr>
<tr>
<td>6th.</td>
<td>17</td>
<td>51.94</td>
<td>23.05</td>
</tr>
<tr>
<td>7th.</td>
<td>16</td>
<td>55.93</td>
<td>10.27</td>
</tr>
<tr>
<td>8th.</td>
<td>44</td>
<td>52.56</td>
<td>14.40</td>
</tr>
</tbody>
</table>

According to Table 7, the average elaboration scores of the classes are as follows: grade 3: 56.44; grade 4: 53.37; grade 5: 59.95; grade 6: 51.94; grade 7: 55.93; and grade 8: 52.56. T-tests were used to check for significant differences between elaboration scores, and findings are given in Table 8 below.

Table 8

<table>
<thead>
<tr>
<th>Grades</th>
<th>4rd.</th>
<th>5th.</th>
<th>6th.</th>
<th>7th.</th>
<th>8th.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd.</td>
<td>.81</td>
<td>.87</td>
<td>.77</td>
<td>.10</td>
<td>1.07</td>
</tr>
<tr>
<td>4th.</td>
<td>1.86</td>
<td>.28</td>
<td>.65</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>5th.</td>
<td></td>
<td>1.28</td>
<td>1.07</td>
<td>2.01*</td>
<td></td>
</tr>
<tr>
<td>6th.</td>
<td></td>
<td></td>
<td>.63</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>7th.</td>
<td></td>
<td></td>
<td></td>
<td>1.02</td>
<td></td>
</tr>
</tbody>
</table>

In Table 8, the difference between grades five and eight is significant at a level of .05 with 63 degrees of freedom. Data in Table 7 shows that students from the fifth grade have the highest scores in elaboration. It can thus be concluded that elaboration scores rise in fifth grade and fall in eighth. It can further be stated that there is a significant difference between the elaboration scores of grades five and eight, while the sixth graders had the lowest scores on elaboration. Focus group interviews were conducted with three randomly selected students from the fifth grade, which had the highest score, and three from the sixth grade. Outcomes obtained are presented below with some corrections in articulation.

Elaboration (enriching, detailing) requires lengthening the process of thinking, giving details and synthesizing ideas. Elaboration is observed in some works that are meant to be more complex by adding some simple stimulus (Torrence, 1966; Ruza, 1999). In this step, students were asked to create an original composition out of a given figure. Students may act freely and embellish the original figure while doing this exercise. Success in this step depends on imagination, the ability to think of as many changes as possible, and level of maturity.

K.5. While developing my ideas I am inspired by pictures and it helps me as I try to interpret.
K.5. First I imagined to strike a new idea and then I tried to draw it on paper. I modified those parts that I found not so good.

K.5. I make lots of changes and I use a variety of colors and figures.

K.6. While making this I thought about how I should proceed.

K.6. I try to give a shape to the figure in line with what I think it should look like. My feelings at that moment, happiness, sadness, excitement, etc., affect what the figure eventually looks like.

K.6. By observing the outside world and by imagining.

As can be inferred from the responses of students, this conclusion is supported by statements made by fifth grade students such as “I get inspiration from pictures,” “I imagined,” “I made a lot of changes,” etc. Students from sixth grade, on the other hand, made remarks such as “I thought about how I should proceed,” “I thought about what it should look like,” “My feelings at that moment, happiness, sadness, excitement, etc., affect the figure,” and “by observing the outside world and by imagining.” These orientations may also support creativity. The difference between the two classes may derive from the level of maturity that each displays.

Data Related to the Fifth Sub-problem

Table 9 below provides data on significant differences between the average total scores of classes.

<table>
<thead>
<tr>
<th>Grades</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd.</td>
<td>34</td>
<td>121.08</td>
<td>30.43</td>
</tr>
<tr>
<td>4th.</td>
<td>40</td>
<td>120.12</td>
<td>22.57</td>
</tr>
<tr>
<td>5th.</td>
<td>21</td>
<td>140.42</td>
<td>19.95</td>
</tr>
<tr>
<td>6th.</td>
<td>17</td>
<td>110.41</td>
<td>33.17</td>
</tr>
<tr>
<td>7th.</td>
<td>16</td>
<td>127.62</td>
<td>28.44</td>
</tr>
<tr>
<td>8th.</td>
<td>44</td>
<td>113.09</td>
<td>29.36</td>
</tr>
</tbody>
</table>

According to Table 9, the average creativity scores of the classes are as follows: grade 3: 121.08; grade 4: 120.12; grade 5: 140.42; grade 6: 110.41; grade 7: 127.62; and grade 8: 113.09. T-tests were used to check significant differences between creativity scores, and findings are given in Table 10 below.
According to Table 10, the fifth graders had the highest total creativity score, while the sixth grade had the lowest. The differences between the total creativity scores of class five and all other classes were found to be significant at a level of .05 and various degrees of freedom. Hence, it can be concluded that total creativity scores of students increase from grades three to five and then fall from grades five to eight.

Focus group interviews were conducted with three randomly selected students from fifth grade, which had the highest score, and three from the sixth grade, which had the lowest. Outcomes obtained are presented below with some corrections in articulation.

K.5. We were engaged in discussion over a case. Everybody spoke out his ideas; each of us presented some real case and we were engaged in brainstorming over it. I enjoyed it.

K.5. He posed a question to solicit responses from us. I get curiosity and pleasure out of it.

K.5. Yes, we discuss a lot in classes. We say this is not the way and the other is the right one. We practice brainstorming a lot.

K.6. Yes I used it. I gave thought to the course matter and I put it in practice.

K.6. There is brainstorming.

K.6. We do it, though not so frequently. In our Turkish class we read out texts and discuss them.

As can be inferred from the responses of the students, students from grade five supported this conclusion by making such statements as “We were engaged in case study and brainstorming; I like it and I am so curious.” Students from grade six, on the other hand, say, “Yes, I’ve used it; we do brainstorming, not so frequently, but we do it.” The reason why there are significant differences between the total creativity scores of grades five and six can be explained by referring to the comments made in the previous four sub-problems. The difference may also be related to enjoyment, curiosity, and desire for novel experiences. On the basis of this information, the curricula in effect cannot be said to have a significant impact on total creativity scores, since all students say they use brainstorming methods in their
classes. There is a significant increase in total creativity scores through fifth grade, and they fall from grade five to eight.

Data related to the Sixth Sub-problem

Table 11 below gives information on significant differences between fluency, flexibility, originality, elaboration, and total scores by grade and gender.

**Table 11**

Fluency, Flexibility, Originality, Elaboration, and Total Creativity Scores by Grade and Gender and F Value

<table>
<thead>
<tr>
<th>Source</th>
<th>Tcsl Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept.</td>
<td>1987382,022</td>
<td>1</td>
<td>1987382,022</td>
<td>3149.948</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>4385,491</td>
<td>1</td>
<td>4385,491</td>
<td>6,951</td>
<td>.009</td>
</tr>
<tr>
<td>Error</td>
<td>107257,312</td>
<td>170</td>
<td>630,925</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11 uses variance analysis to determine whether average fluency, flexibility, originality, elaboration, and total scores of students vary significantly with respect to class level and gender. Observed F values were found to be meaningful at a level of .05 with 1-170 degree of freedom. On the basis of these results, it can be said that there is a significant relationship between gender and creativity scores. Creativity scores are affected by gender and grade level. These findings are supported by the outcomes of other surveys.

**Discussion and Conclusion**

A significant difference was found between average fluency, flexibility, originality, elaboration, and total scores of classes. Scores increased significantly from third to fifth grade and then fall from sixth to eighth grade. The sixth and eighth grades had the lowest average scores. Yet, in any effective curriculum, creativity scores are expected to rise as class level increases. These findings are also supported by the findings of some other studies (Torrance, 1965b; Emir, 2001; Görgen & Karaçelik, 2009). A meaningful relationship between age and gender was demonstrated as well. In cases where creativity scores decline, there are also decreases in scores related to excitement and understanding, and vice-versa. In focus group interviews students confirmed this conclusion with statements like “I like it,” “I am curious about it,” “I enjoy it,” and “they expect something different.” The significant difference between class five and others in terms of the four areas and total creativity scores can be explained by the support given to these students in their creative activities by their families, teachers, and friends. As a matter of fact, some studies suggest that such activities flourish in cases where parents, teachers, and
closer environments reward and consolidate creative behavior (Taylor, 1972; Cohen, 1988; Mumford & Gustafson, 1988). In addition, strategies, methods, techniques and materials used in educational environments may also affect creativity (Kirmizi, 2007; Alacapınar, 2007; Alacapınar, 2008; Balım, 2009; Sayan & Hamurcu, 2011). On the basis of these findings, it can be said that there are many variables affecting creativity (San, 1979; Sönmez, 1992; Senemoglu, 2007).

According to these findings, the following may be supportive of creative thinking: Asking students to come up with new, different, and original ideas and giving them support in this process; giving them positive feedback when they do; avoiding punishment, degradation, or teasing; encouraging them to think creatively by emphasizing that they are talented in this respect; encouraging them to ask questions; listening to their ideas carefully and respectfully; letting them find their own mistakes in the process rather than immediately marking them; and supporting their individual learning endeavors and mobilizing different methods, strategies, and techniques of learning and teaching in education environments (Torrance, 1965a, b; Ataman, 1992; Sünbul, 2001; Tezci & Dikici, 2003). Moreover, for an individual to engage in creative activity it may be necessary to be practical, appreciative, and skillful in the cognitive, affective, and psychomotor domains. Without having current and correct information, skills, and feelings, one cannot be expected to develop new, original, and unique thinking and put it into practice. It is also necessary for any society to respect and reward creative ideas, products, practices, and those engaged in these endeavors. Yet, in our culture and education system, most of the elements mentioned above that promote creativity are absent or unused. Even worse, there are cases where those who think creatively are punished, mocked, or despised. Traditional structures still predominate, a finding that is widely supported.

It may be necessary for teachers and parents to undergo training in creativity. No should be more time and space in education environments for projects, brainstorming, multiple intelligence theory, decision-making processes, station techniques, case studies, problem solving, and systematic teaching, and such environments should be further enriched. Students who produce creative output should be rewarded. New experimental and qualitative research is necessary on both the grade and course level.
References


Sınıf Düzeyi ve Yaratıcılık

Atıf:

(Özet)


Yaratıcılığın aşamalarını Mott dört basamak olarak belirler. Birinci basamak hazırlık, ikincisi kuluçka, üçüncüü bülush (ilham), dördüncüü ise denetlemededir.

Kültürel ortamda yaratıcılık arasındaki ilişki, bazı araştırmacılar ve düşünürlere tarafından ele alınmıştır. Ayrıca kişinin zeka düzeyinin, parazal ödülleri, sıcak esnek ve yaratıcı etkinliklerin yoğun olduğu ortamların kişinin iraksak (digerent) düşünceye düşmüşlerindeki yeterliliğini yükselttiğini; bazıları ise bunun yaratıcılığı düşürdüğü ileri sürmüşlerdir.


**Anahtar Sözcükler:** İlköğretim, eğitim programı, öğrenci, yaratıcılık, sınıf düzeyi