Analysis of Teaching Styles of Teachers Regarding Various Variables

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Article Info

DOI: 10.14646/buefad.426636

Article History:
Received 24.05.2018
Accepted 10.12.2018
Published 01.02.2019

Keywords:
Teaching Styles,
CORD Teaching Styles,
Demographic Characteristics

Article Type:
Research Article

Abstract

The teaching styles that teachers have influence the modes of presentation of information, their communication with students, and the way in which the classroom and classroom activities are arranged. In this context, an examination of teaching styles of teachers regarding various variables will contribute to the field. From this point of view, the aim was to determine whether the teaching styles of teachers differ according to gender, branch, educational status, type of school, location of school, professional seniority and average classroom size of the teachers. In the study, a simple case causal-comparative pattern was used from quantitative research designs. The data were obtained from 248 teachers working in Kırklareli in the academic year 2016-2017. “Center for Occupational Research and Development (CORD) Teaching Styles Inventory” was used as data collection tool in the research. As a result of the research, it was concluded that the teaching styles of the teachers do not meaningfully differ based on the gender, branch, educational status, the type of school, the settlement where the school was located. However, professional seniority and classroom size are variables that make a difference in teaching style preferences of teachers.

Öğretmenlerin Ölçüm Stillerinin Çeşitli Değişkenler Açısından İncelenmesi

Makale Bilgisi

DOI: 10.14646/buefad.426636

Makale Geçmişi:
Geliş 24.05.2018
Kabul 10.12.2018
Yayın 01.02.2019

Anahtar Kelimeler:
Öğretme Stilleri,
CORD Öğretme Stili,
Demografik Özellikler

Makale Türü:
Araştırma Makalesi

Öz


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Introduction

Teachers encounter different students with different intelligence, abilities, interests, expectations and learning styles in their professional lives. Teachers must provide the appropriate teaching environment for students with these different characteristics. In the research conducted by Çetinkaya and Eskici (2018), it was concluded that teachers perceived teaching as a labor-demanding process. One of the key questions faced by teachers during this process is "how to teach". According to Kolb, knowledge is a combination of the transfer and perception of experience, and learning style is the method of perceiving and processing knowledge that is personally preferred (Kolb, 1984). The concept of learning style explains the individual differences in learning, based on the student's preference for using different phases of the learning cycle (Kolb & Kolb, 2005). Just as students have their learning styles, teachers also have instructional styles. Teaching style is different from the teaching methods used by teachers. Two teachers can use small group discussion method and audio-visual tools in a classroom, but they both have different forms of application. This difference is the teaching style (Fischer & Fischer, 1979). Teaching style includes behaviors (Cooper, 1999) of teachers, their preferences related to teaching method selection and instruments (Irby, 1995), teacher role within the classroom (Grasha, 1997), and classroom management of teachers (Cooper, 1999). According to Grasha (2003), teaching style is a special combination of teachers' behavior in the classroom environment, their performance, beliefs, needs and knowledge of pedagogy. The teaching style includes instructional behaviors such as how teachers provide information, how they interact with students and how they socialize with their students within the teaching-learning process.

Different scientists have classified learning styles and accordingly, teaching styles in different ways. Dunn and Dunn (1993) suggest that learning styles change according to environmental (sound, light, heat, seating arrangement), emotional factors (motivation, responsibility, job-task distribution, structure), social factors (single/dual, peer, team, adult/diversity), physiological factors (perceptual, snacks, time of day, movement) and psychological factors (analytic, holistic, reflective, thinker). Dunn and Dunn (1993) argue that the teacher influences the teaching style based on nine factors: teaching philosophy, student preferences, planning of teaching, grouping of students, classroom layout, teaching environment, features of teaching, teaching methods and evaluation techniques. Grasha (1997) classifies teaching styles as Expert, Formal Authority, Personal Model, Facilitator and Delegator. Fischer & Fischer (1979) classified instructional styles as task-oriented, collaborative-planner, student-centered, subject-centered, learning-centered and emotionally exuberant/calm.

One learning style classification was created by the Center for Occupational Research and Development (CORD). Teaching in this model is dealt with in two ways as "teaching goals" and "teaching methods" (CORD, 2005). Teaching goals are interpreted from two perspectives. The first point of view relates to the mechanics (memorization) and logical (comprehension) learning of the students in general. The second aspect concerns teachers' representation of abstract or feasible concepts and ideas in teaching activities (Bota & Tulbure, 2015). CORD learning style instructional objectives have two dimensions of "learning-based" and "concept representation-based". The important symbols, principles and concepts in teaching for a teacher adapting the learning-based teaching style are taken as the knowledge in the book. Teachers use memorization more in this style. Rather than memorizing the definition of a concept, a teacher with the concept representation-based teaching style focuses on making students understand how and why the concept is defined as it is and associating learning with the real world. These two dimensions of learning-based and concept representation-based are classified in four group as A, B, C and D. The distribution of this classification is given in Figure 1.

![Concept Representation Diagram](Image)

**Figure 1.** Teaching Styles According to Teaching Goals (CORD, 2005).
In style A the goal is mechanical learning and abstract teaching. The teacher prefers to begin teaching through memorizing and move toward analysis. For example, students memorize by repeating abstract facts such as multiplication tables.

B style is based on mechanical learning and practical knowledge (practical teaching). The teacher also focuses on practice as well as teaching memorizing. For example, students learn practical facts about the world.

Style C aims to learn through comprehension and theoretical teaching (abstract teaching). This style involves a change in teaching as it encourages students to understand the information conveyed through activities. The learning process is based on understanding, processing, and learning the information received. The teacher prefers to teach starting with analysis rather than by memorizing but does not focus on practical applications. For example, students learn abstract processes.

Style D aims to teach through comprehension and practical knowledge (practical teaching). This style focuses on practical, concrete knowledge that supports logical learning. Productivity and performance are essential. For example, students are presented with problems that they can formulate from the real world (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015).

For example; when providing the definition of the “education” concept, a teacher with the learning-based teaching style will give students the book definition and ask them to memorize the definition as it is or will first explain other concepts contained with the “education” concept and give a general definition wanting students to understand this definition. A teacher adapting the concept representation-based teaching style will begin from what the “education” concept means within the students’ lives, explain with examples from daily life and begin from the students’ definition of education wanting them to present examples from their own lives.

The second dimension of teaching styles is represented by teaching methods and observed from two perspectives. The first perspective takes the cognitive processing of concepts, thoughts, and theories into consideration and the second considers the organizational structure of the students (individual or groups). CORD learning-style teaching methods are classified into two dimensions as “cognitive processing-based” and “interaction-based”. A teacher adapting the cognitive processed based teaching style will focus more on individual work and teacher-centered teaching activities. A teacher adapting the interaction-based teaching style will focus more on group work and student-teacher, student-student interactive teaching methods. These two dimensions of cognitive processing and interaction are also classified within themselves in four groups as A, B, C, D in itself. The distribution of this classification is given in Figure 2.

**Figure 2. Teaching Styles According to Teaching Methods (CORD, 2005)**

Four teaching styles are also listed here (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015).

Style A requires symbolic cognitive processing and individual work. In other words, the teaching methods used by the teacher are mostly about the method of expression, and the aim is to work through the learning tasks individually. The teacher enables students to acquire knowledge through symbols and verbal means. For example, before explaining the topic, the teacher gives a preliminary reading task.

Style B involves symbolic cognitive processing and collaboration groups. The teacher allows students to acquire knowledge using symbols and verbal methods and prefers that the students work as a group. For example, students are divided into groups and requested to discuss problems.
Style C involves processed or interpreted (actional) cognitive processing and individual work. According to this style, teachers encourage students to discover and understand new knowledge through individual study. For example, individual research activities may be performed.

Style D involves the cognitive processing and cooperative groups involving processing or interpretation (enactive). Through group work, students discover new knowledge and actively participate in the teaching process. The teacher enables students to learn through practical activities that are completed based on the cooperation of the students. For example, laboratory work based on team work (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015).

For example, if a teacher intending to conceptualize problems requiring four processes choses the cognitive processing-based teaching style, they will explain problem solutions based on their own examples and ask students to solve sample problems individually. A teacher adapting the interaction-based teaching style will have students solve four-process problems with group work, and perform teamwork related to solving problems with cooperative teaching techniques.

How can training applications be effective? Many attempts have been made through the years to answer this important question. The teaching styles that teachers use are part of the answer to this key question. According to Dunn and Dunn (1993), none of the research conducted is sufficient to explain how students achieve academic success, how they acquire and retain knowledge. People of different ages and different mental capacities learn in different ways, but the academic success of some students depends on the chosen teaching method. Studies show that motivation and academic achievement of students increase when they are taught using appropriate teaching methods for the learning styles of students (Miller 2001; Brown, 2003; Stitt-Gohdes, 2003, Mosston & Ashworth, 2002). Teachers' teaching styles influence the modes of presentation of information, their communication with students, and the way in which the classroom and non-classroom activities are arranged. In this context, it is thought that the determination of teachers' teaching styles and their examination in terms of select variables will contribute to the field.

In the literature, there are studies investigating the teaching styles of teachers in terms of a range of variables. For example, Maden (2012) investigated the teaching styles of Turkish teachers according to Grasha’s teaching styles and concluded that teaching styles differed in terms of gender, professional seniority and department graduated from. Gencel (2013) compared the teaching styles of teachers working in Turkey and the USA according to Grasha’s teaching styles and revealed that the teaching styles of teachers in the USA and Turkey had statistically significant differences. In the USA the most commonly chosen teaching style were delegator/facilitation/expert and the least chosen teaching style was expert/formal authority. In Turkey the facilitator/personal model/expert was the most chosen teaching style, while the personal model/expert/formal authority was the least chosen teaching style. Üredi (2011) investigated the teaching styles of primary school teachers according to Grasha’s teaching styles and concluded there was no significant correlation between gender, age, seniority, school type and school of final graduation with the chosen teaching style of teachers. They identified a significant correlation between the stages and branch of teachers with the chosen teaching styles. Sulaiman, Hassan and Yi (2011) concluded that teaching styles of primary and middle school teachers differed using a multiple intelligence approach. Cothran, Kulmina, Banville et al. (2005) investigated the teaching styles of teachers in 7 different countries according to Mosston’s teaching styles and concluded teaching styles differed according to country. As explained above, it is possible to find studies investigating teaching styles of teachers in terms of a range of variables; however the number of studies dealing with CORD teaching styles are limited (Alias and Zakaria 2008; Artvinli, 2010; Bota & Tulbure, 2015). In this study, the aim was to use CORD teaching styles and to investigate the teaching styles of teachers from different branches and stages in terms of a range of variables. From this aspect, our study is unique and it is considered the study results will contribute to the field. Based on this consideration, in this research the aim was to investigate the teaching styles of teachers in terms of a range of variables and the answers to the following questions were sought:

Do the teaching styles of teachers show a meaningful difference according to
a) gender,
b) branch
c) region where they are employed,
d) average number in the class,
e) educational status,
f) type of school they are employed in,
and g) their professional seniority?
Method

The research can be described as a simple case causal-comparative research from the quantitative research models. In simple case causal-comparative research, the investigator tests the relationship between a categorical argument and a quantitative argument and whether this relationship is statistically significant (Johnson & Christensen, 2014). During this research, the teaching styles of the teachers were examined by comparing the demographic characteristics of the teachers.

Participants

The maximum variation sampling method from purposeful sampling methods was used for the teacher sampling method. The aim was to examine teachers’ situations in a wide range, including branch, the location of the schools they are employed in, the type of school they are employed in, gender and professional seniority. This information was obtained from 248 teachers who worked in Kirkkareli during the 2016-2017 academic year. Demographic information of the study group is presented in Table 1.

Table 1. Demographic Information of the Study Group

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>%</th>
<th>Settlement unit</th>
<th>N</th>
<th>%</th>
<th>Class size</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>158</td>
<td>63.7</td>
<td>Province</td>
<td>102</td>
<td>41.1</td>
<td>0-20</td>
<td>111</td>
<td>44.8</td>
</tr>
<tr>
<td>Male</td>
<td>90</td>
<td>36.3</td>
<td>District</td>
<td>117</td>
<td>47.2</td>
<td>21-25</td>
<td>41</td>
<td>61.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Town</td>
<td>20</td>
<td>8.1</td>
<td>26-30</td>
<td>55</td>
<td>83.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Village</td>
<td>9</td>
<td>3.6</td>
<td>31-35</td>
<td>41</td>
<td>14.9</td>
</tr>
<tr>
<td>Branch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal</td>
<td>53</td>
<td>21.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numerical</td>
<td>68</td>
<td>27.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td>22</td>
<td>8.9</td>
<td>0-5</td>
<td>82</td>
<td>33.1</td>
<td>Primary school</td>
<td>75</td>
<td>30.2</td>
</tr>
<tr>
<td>Art</td>
<td>10</td>
<td>4.0</td>
<td>6-10</td>
<td>30</td>
<td>12.1</td>
<td>Middle School</td>
<td>82</td>
<td>33.1</td>
</tr>
<tr>
<td>Physical training</td>
<td>11</td>
<td>4.4</td>
<td>11-15</td>
<td>35</td>
<td>14.1</td>
<td>High school</td>
<td>91</td>
<td>36.7</td>
</tr>
<tr>
<td>Class</td>
<td>78</td>
<td>31.5</td>
<td>16-20</td>
<td>28</td>
<td>11.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-school</td>
<td>6</td>
<td>2.4</td>
<td>21-over</td>
<td>73</td>
<td>29.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education status</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completing degree</td>
<td>15</td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>215</td>
<td>86.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master's degree</td>
<td>18</td>
<td>7.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Collection Tools

The "CORD Teaching Styles Inventory" was used as data collection tool in the research. Developed by the Center for Occupational Research and Development (CORD), this inventory consists of 12 items and four situations under each item. In these sub-situations, the teachers’ thinking style or feelings related to teaching methods and classroom behavior are given. The Teaching Styles Inventory developed by CORD was adapted to Turkish by Artvinli (2010). There are four different teaching styles within the measurement. These styles are: 1. Learning-based (scale between memorization and cognition), 2. Concept Representation Based (scale between abstract/theoretical and application/adaptation), 3. Cognitive Processing Based (scale between symbolic/figurative and real/enaction) and 4. Interaction Based (scale between individual and cooperative groups). The Cronbach Alpha internal consistency coefficient was found as .88 by Artvinli (2010). The reliability coefficients of the four subscales of the inventory were .91 for Learning Based, .80 for Concept Representation Based, .89 for Cognitive Processing Based, and .92 for Interaction Based Subscale. A preliminary application performed with 183 individuals by the researchers in this study found the Cronbach Alpha internal consistency coefficient was .70. The reliability coefficients of the four subscales of the inventory were found to be .72 for Learning Based, .81 for Concept Representation Based, .79 for Cognitive Processing Based, and .82 for Interaction Based Subscale.

Analysis of the data

The analysis of the data was carried out using SPSS 17. In general, frequency, arithmetic mean and percentages were calculated. The Kolmogorov-Smirnov test was also applied to determine whether the data are normally distributed, and the result is that the data do not show normal distribution. For this reason, the Mann Whitney-U test and Kruskal Wallis-H test, which are non-parametric tests, were used for the difference analysis.

Findings

Findings related to the research are presented in tables.
Table 2. Mann Whitney-U Test Results of Teachers’ Teaching Styles According to Gender Variable

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Learning-based</th>
<th>Concept representation based</th>
<th>Cognitive process based</th>
<th>Interaction based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>158</td>
<td>121.68</td>
<td>123.60</td>
<td>127.22</td>
<td>127.24</td>
</tr>
<tr>
<td>Male</td>
<td>90</td>
<td>129.44</td>
<td>126.08</td>
<td>119.73</td>
<td>119.68</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test result</td>
<td></td>
<td>Z=.82</td>
<td>Z=-.26</td>
<td>Z=.79</td>
<td>Z=.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>p&gt;.05</td>
<td>p&gt;.05</td>
<td>p&gt;.05</td>
<td>p&gt;.05</td>
</tr>
</tbody>
</table>

Table 2 shows the results of the Mann Whitney-U test to determine whether there is a meaningful difference in the teaching styles of the teachers in the study group compared to the gender variable. According to the findings, the difference between the arithmetic mean of all the styles (learning Z=.82, p>.05, concept representation Z=-.26, p>.0, cognitive processing Z=.79, p>.05, interaction Z=.80, p>.05) in the groups is not statistically significant. According to these findings, it can be said that teachers' teaching styles do not differ according to their gender. Though the teaching styles of teachers do not differ according to gender, when rank mean points are investigated, it appeared female teachers mainly chose interaction-based (127.24) and cognitive processing-based (127.22) teaching styles, while male teachers mainly chose learning-based (129.44) teaching styles.

Table 3. Kruskal Wallis-H Test Results of Teachers’ Teaching Styles According to Branch

<table>
<thead>
<tr>
<th>Branch</th>
<th>N</th>
<th>Learning-based</th>
<th>Concept representation based</th>
<th>Cognitive process based</th>
<th>Interaction based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal</td>
<td>53</td>
<td>141.49</td>
<td>133.31</td>
<td>104.11</td>
<td>115.84</td>
</tr>
<tr>
<td>Numerical</td>
<td>68</td>
<td>110.65</td>
<td>131.48</td>
<td>130.63</td>
<td>126.56</td>
</tr>
<tr>
<td>Language</td>
<td>22</td>
<td>124.66</td>
<td>114.84</td>
<td>141.70</td>
<td>116.66</td>
</tr>
<tr>
<td>Art</td>
<td>10</td>
<td>119.25</td>
<td>109.95</td>
<td>128.70</td>
<td>132.60</td>
</tr>
<tr>
<td>Class</td>
<td>78</td>
<td>124.75</td>
<td>122.78</td>
<td>129.73</td>
<td>122.47</td>
</tr>
<tr>
<td>Physical education</td>
<td>11</td>
<td>137.00</td>
<td>108.14</td>
<td>93.77</td>
<td>153.23</td>
</tr>
<tr>
<td>Pre-school</td>
<td>6</td>
<td>113.42</td>
<td>79.67</td>
<td>153.33</td>
<td>166.67</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test result</td>
<td></td>
<td>KW X²=6.07 p&gt;.01</td>
<td>KW X²=55.23 p&gt;.01</td>
<td>KW X²=9.53 p&gt;.01</td>
<td>KW X²=5.15 p&gt;.01</td>
</tr>
</tbody>
</table>

Table 3 shows the Kruskal Wallis-H test results to determine whether the teachers who constituted the study group display a meaningful difference in teaching styles based on branch. The difference between the arithmetic mean of the teaching styles (learning X²=6.07, p>.01, concept representation X²=55.23, p>.0, cognitive processing X²=9.53, p>.01, interaction X²=5.15, p>.01) in the findings was not statistically significant. It can be said that the teaching styles of the teachers did not differ according to their branch. When the rank mean points related to teaching style according to branch are investigated, verbal teachers chose learning-based (141.49), numerical teachers chose concept representation-based (131.48), language teachers chose cognitive processing-based (141.70), class teachers chose cognitive processing-based (129.73), art teachers chose interaction-based (132.60), physical education teachers chose interaction-based (153.23) and preschool teachers chose interaction-based (166.67) teaching styles.

Table 4. Kruskal Wallis-H Test Results of Teachers’ Teaching Styles According to the settlement Unit

<table>
<thead>
<tr>
<th>Settlement unit</th>
<th>N</th>
<th>Learning-based</th>
<th>Concept representation based</th>
<th>Cognitive process based</th>
<th>Interaction based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province</td>
<td>102</td>
<td>136.04</td>
<td>125.27</td>
<td>117.75</td>
<td>119.28</td>
</tr>
<tr>
<td>District</td>
<td>117</td>
<td>114.31</td>
<td>124.72</td>
<td>131.38</td>
<td>124.59</td>
</tr>
<tr>
<td>Town</td>
<td>20</td>
<td>129.15</td>
<td>124.05</td>
<td>117.60</td>
<td>140.93</td>
</tr>
<tr>
<td>Village</td>
<td>9</td>
<td>115.83</td>
<td>113.89</td>
<td>126.78</td>
<td>145.94</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test result</td>
<td></td>
<td>KW X²=5.24 p&gt;.01</td>
<td>KW X²=2.18 p&gt;.01</td>
<td>KW X²=2.41 p&gt;.01</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows the Kruskal Wallis-H test results to determine whether the teachers who constituted the study group display a meaningful difference in teaching styles based on the settlement unit. The difference between the arithmetic mean of the teaching styles (learning X²=5.24, p>.01, concept representation X²=2.18, p>.01, interaction X²=2.41, p>.01) in the findings was not statistically significant. It can be said that the teaching styles of the teachers did not differ according to their settlement unit. When the rank mean points related to teaching style according to settlement unit are investigated, province teachers chose learning-based (136.04), district teachers chose concept representation-based (124.72), town teachers chose cognitive processing-based (124.05), village teachers chose interaction-based (115.83) teaching styles.
According to the results of the Kruskal Wallis-H test, the teachers' teaching styles (learning $X^2=5.24, p>.01$, concept representation $X^2=21, p>.01$, cognitive processing $X^2=2.18, p>.01$, interaction $X^2=2.41, p>.01$) do not show any statistically significant difference based on the settlement where they work. When rank mean points are investigated, teachers working in villages and towns chose interaction-based (village=145.93, town=140.93) teaching style, while teachers working in provincial centers chose learning-based (136.04) teaching style.

**Table 5. Kruskal Wallis-H Test Results of the Teachers’ Teaching Styles According to the Class Size**

<table>
<thead>
<tr>
<th>Class size</th>
<th>N</th>
<th>Learning-based</th>
<th>Concept representation based</th>
<th>Cognitive process based</th>
<th>Interaction based</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>111</td>
<td>118.41</td>
<td>107.11</td>
<td>131.86</td>
<td>147.22</td>
</tr>
<tr>
<td>21-25</td>
<td>41</td>
<td>133.16</td>
<td>136.94</td>
<td>120.94</td>
<td>102.89</td>
</tr>
<tr>
<td>26-30</td>
<td>55</td>
<td>120.09</td>
<td>130.77</td>
<td>125.92</td>
<td>117.43</td>
</tr>
<tr>
<td>30+</td>
<td>41</td>
<td>138.23</td>
<td>150.72</td>
<td>106.52</td>
<td>94.09</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test result: $KW X^2=3.12, p>.01$ for learning, $KW X^2=-13.70, p<.01$ for concept representation, $KW X^2=3.90, p>.01$ for cognitive processing, $KW X^2=22.92, p<.01$ for interaction.

Table 5 shows the results of the Kruskal Wallis-H test to determine whether the teaching styles of the teachers who constituted the study group showed a meaningful difference based on the number in the class. According to the findings obtained, the difference between the arithmetic mean of concept representation-based teaching styles [$KW X^2 = -13.70, p <0.01$] and interaction-based [$KW X^2 = 22.92, p <0.01$] teaching styles was statistically significant. The Mann Whitney-U test was conducted to determine which groups the difference was found between, the result indicates that teachers with 20 or fewer in their class were significantly less likely to use teaching styles based on conceptual explanations than teachers with 30 or more in their classroom ($U = 1462, p <.05$). Also, it was concluded that teachers with 20 or fewer in their class used significantly higher levels of interaction-based teaching style than teachers with 30 or more in their class ($U = 1325, p <.05$). When rank mean points are investigated, teachers with 21-25, 26-30 and 31 or more in their class mainly chose concept representation-based (21-25=136.94, 26-30=130.77, 31 or more=150.72) teaching style, while teachers with 20 or fewer in their class mainly chose interaction-based (147.22) teaching style.

**Table 6. Kruskal Wallis-H Test Results of Teachers’ Teaching Styles According to Educational Status**

<table>
<thead>
<tr>
<th>Education Status</th>
<th>N</th>
<th>Learning-based</th>
<th>Concept representation based</th>
<th>Cognitive process based</th>
<th>Interaction based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completing degree</td>
<td>15</td>
<td>108.70</td>
<td>140.53</td>
<td>137.57</td>
<td>104.20</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>215</td>
<td>124.75</td>
<td>123.51</td>
<td>125.20</td>
<td>125.67</td>
</tr>
<tr>
<td>Master's degree</td>
<td>18</td>
<td>134.69</td>
<td>122.97</td>
<td>105.25</td>
<td>127.47</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test result: $KW X^2=1.10, p>.01$ for learning, $KW X^2=.80, p>.01$ for concept representation, $KW X^2=1.82, p>.01$ for cognitive processing, $KW X^2=1.30, p>.01$ for interaction.

The results of the Kruskal Wallis-H test to determine whether the teaching styles of the teachers of the study group showed a meaningful difference according to the educational status variable of the teachers are given in Table 6. Teachers did not show any statistically significant difference in teaching styles (learning $X^2=1.10, p>.01$, concept representation $X^2=.80, p>.01$, cognitive processing $X^2=1.82, p>.01$, interaction $X^2=1.30, p>.01$) based on educational status. When rank mean points are investigated, teachers completing their degree chose concept representation-based (140.53) teaching style, teachers with a degree chose interaction-based (125.67) teaching style and teachers with a master’s degree chose learning-based (134.69) teaching style.
As can be seen from Table 7, based on the results of the Kruskal Wallis-H test, the teachers' teaching styles (learning $X^2=3.25$, p>.01, concept representation $X^2=1.82$, p>.01, interaction $X^2=1.30$, p>.01) do not show statistically significant differences according to the type of school they work in. When rank mean points are investigated, teachers working in primary schools chose cognitive processing-based (130.20) teaching style, teachers working in middle schools chose cognitive processing-based (134.71) teaching style and teachers working in high schools chose concept representation-based (137.53) teaching styles.

Table 8 shows the results of the Kruskal Wallis-H test to determine whether the teaching styles of the teachers who constituted the study group showed a significant difference according to the seniority of the teachers. According to the findings obtained, the difference between the arithmetic mean of the teaching styles based on interaction [$KW X^2=11.48$, p < 0.01] was found to be statistically significant. The Mann Whitney-U test was conducted to determine which groups caused this difference, it was concluded that the teachers who have length of service between 0-5 years use the interaction-based teaching style more significantly than teachers who have a length of service of between 16-20 (U=2035, p<.01) and (U=774, p<.01) over 21 years. When rank mean points are investigated, teachers with 0-5 years of service chose interaction-based (145.28) teaching style, teachers with 6-10 years of service chose cognitive processing-based (148.30) teaching style, teachers with 11-15 years of service whose concept representation-based (146.95) teaching style and teachers with 21 years or more of service chose learning-based teaching style.

**Table 7. Kruskal Wallis-H Test Results of Teachers' Teaching Styles According to School Type**

<table>
<thead>
<tr>
<th>School Type</th>
<th>N</th>
<th>Learning-based</th>
<th>Concept representation based</th>
<th>Cognitive process based</th>
<th>Interaction based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>75</td>
<td>$\bar{X}$ 128.47</td>
<td>$\bar{X}$ 115.15</td>
<td>$\bar{X}$ 137.63</td>
<td>$\bar{X}$ 119.17</td>
</tr>
<tr>
<td>Middle School</td>
<td>82</td>
<td>120.78</td>
<td>121.73</td>
<td>130.20</td>
<td>125.99</td>
</tr>
<tr>
<td>High school</td>
<td>91</td>
<td>124.58</td>
<td>134.71</td>
<td>108.54</td>
<td>127.55</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test result</td>
<td></td>
<td>KW $X^2=3.25$</td>
<td>p&gt;.01</td>
<td>KW $X^2=1.82$</td>
<td>KW $X^2=1.30$</td>
</tr>
</tbody>
</table>

Discussion and Conclusion

Many factors can play a role in a teacher's preferred teaching style. According to Grasha (2002), the teaching style influences the characteristics and abilities of students, teacher's desire to develop efficient relationships with people, the need for teachers to control the learning task, the learning style of the students and the situational needs of the students (urgent needs and wishes of that moment or day). In addition to these factors, this study investigates teachers' teaching styles in terms of different variables, since demographic characteristics such as their experiences, preservice education, and type of school they are working in may also be decisive in teaching style preferences.

When the findings obtained from the research are examined, the difference between the teaching styles of the teachers according to the gender variable was not statistically significant. However, Artvinli (2010) found in his research about geography teacher that conceptual representation-based and interaction-based teaching styles differed in favor of female teachers, while the learning-based style differed in favor of male teachers. On the other hand, there was no significant difference between male and female geography teachers for teaching style based on...
cognitive processing. In this study, female teachers mainly chose interaction-based teaching style while male teachers mainly chose learning-based teaching style according to rank mean points. Though teaching styles of female and male teachers did not show statistically significant differences, this is similar to the study by Artvinli (2010). There are studies in the literature showing the gender variable does not create a difference in teaching style of teachers/teacher candidates (Can, 2011; Üredi, 2011; Zeng, 2016), while there are also studies identifying differences (Lacey, Saleh and Gorman 1998; Maden, 2012). In this situation it is difficult to say that gender is a determinant of the teaching style of teachers.

According to the findings obtained from the research the teachers' teaching styles did not differ statistically according to branch. Verbal lesson teachers (history, geography, social studies) had higher preferences for learning-based teaching style (more memorization) than numerical lesson teachers (mathematics, physics, chemistry). At the same time, though art, physical education and preschool teachers chose interaction-based teaching style more compared to other branch teachers, the difference was not statistically significant. Ali and Zakaria, (2008), in their research about university lecturers, found that technical education faculty members are less likely to prefer instructional teaching based on conceptual representation compared to engineering, technology management, and information technology faculty members, and found it to be alarming. This is because they argue that teachers need to learn by understanding abstract concepts and they state that the teaching style based on the concept representation should be preferred for the teaching of future teachers instead of the learning-based teaching style. Perhaps, as Byrne (2007) points out, teachers define the style of teaching according to the culture that is found within the school independently of the subjects taught.

According to another finding in the research, teachers’ teaching styles did not significantly differ according to the settlement unit where they work. According to rank mean points, teachers working in villages and towns mainly chose interaction-based teaching style and teachers working in provincial centers mainly chose learning-based teaching style. Teaching styles of teachers working in different countries may differ according to country (Cothran et al., 2005; Gencel, 2013); however, it can be said the teaching style of teachers does not differ according to settlement unit.

When the findings obtained from the research were examined, it was concluded that the class size variable caused a difference in teaching preferences of teachers. It was concluded that teachers with 20 or fewer in their class used teaching style based on concept representation significantly less than teachers with 30 or more in their class. Also, it was concluded that teachers with 20 or fewer in their class use teaching style based on interaction significantly more than teachers with 30 or more in their class. According to the results of the research, teachers with smaller class sizes use teaching style based on interaction more often and conceptual explanations less often. The results obtained from the study are in parallel with those obtained from the study by Artvinli (2010). Crowded class numbers do not give teachers the opportunity to do group work.

When findings related to the teaching style according to educational status of teachers are investigated, no significant difference in teaching styles was identified. Artvinli (2010) concluded that geography teachers who graduated from education institutes applied more teacher-centered and behavioral teaching styles, including teaching the students through symbols and verbal methods, individual work without interaction, and listening to lessons. He also stated that teachers who had undergone postgraduate education preferred interaction-based instructional techniques and stated that the results of the study were supported by research by Zhang (2007). Gencel and Ogan-Bekiroglu (2004) suggest that teachers prefer more student-centered teaching styles as their level of education increases. However, the results of this research there was no significant differences in teaching styles of teachers according to their educational status. Additionally, according to rank mean points, the mean for interaction-based teaching style was higher among teachers with graduate and masters degrees compared to teachers who were still completing their degree. However, it is noteworthy that the highest rank mean points for the learning-based teaching style were among teachers with masters degrees.

When findings related to teaching style according to the level of the school (primary school, middle school, high school) are investigated, no significant difference in teachers’ teaching styles were identified. According to rank mean points, teachers working in primary and middle schools were identified to choose more cognitive processing-based teaching style, while teachers working in high schools chose concept representation-based teaching style. Artvinli (2010) concluded that teaching styles of geography teachers difference for the concept representation-based teaching style according to the type of school the teachers worked in. Accordingly, for the concept representation-based teaching style, there was a difference in favor of teachers working in Anatolian, Science and Social Sciences high schools among teachers working in Anatolian, Science, Social Sciences high schools and vocational high schools. According to Artvinli (2010), this difference is interpreted as due to more memorization-based geography education in the first group of schools due to university exam concerns. In this
research, the mean for concept representation-based teaching style was higher for high school teachers compared to primary and middle school teachers which may be due to concerns about university exam preparation.

Another finding of the research is that the seniority variable created a difference in teachers’ choice of teaching style. It was concluded that teachers with 0-5 years of experience chose interaction-based teaching style at significantly higher rates compared to teachers with 16-20 years and 21 years or more experience. Similar results were obtained in studies by Artvinli (2010) and Alias and Zakaria (2008). In the teaching program applied in Turkey, it is expected that cooperative-based teaching methods be used and that students not just receive information passively but they should structure information through activities. In other words the students should be active and the teacher should act as a guide. It is necessary to organize teaching based on a constructivist approach (MEB, 2005). Programs in educational faculties allow the opportunity to gain knowledge, abilities and values, in addition to candidates gaining teaching experience in a systematic and planned fashion. This experience is organized within faculty-school cooperation. In Turkey, this experience organized within faculty-school cooperation may be assessed as an example of the constructivist approach to teaching style (Kaya, 2016). In this context, it may be considered that teachers with 1-5 years of experience were raised with a constructivist approach during preservice education. It may be that teachers with greater seniority remain linked to more traditional methods. Teachers adapting student-centered teaching styles are more successful in preparing constructivist environments (Üredi and Üredi 2009). As teacher candidates cannot teach without learning, the topics of teaching-learning concepts, strategies and styles that prevail while they are attending teaching training programs have great importance. Thus, it will be possible to train tutors with wider foresight in terms of method components (Babadoğan, 2000).

According to the results of the research, teachers with low class numbers chose interaction-based teaching style. In this context, it may be suggested that studies be completed to lower class numbers in order to provide teachers the opportunity for in-class activities and group work.

According to another result obtained in the research, considering teachers with less seniority chose interaction-based teaching style more often, in-service training seminars may be arranged to detach teachers with more experienced from traditional teaching methods.

More extensive research could be completed to investigate the effects of variables such as gender, branch, education status, school type, etc. on teaching styles of teachers. Some qualitative research could be performed to obtain the opinions of the teachers about which variables determine their teaching style preferences.

**Acknowledgement**

This study was presented at IX. International Congress of Educational Research as abstract.
Öğretmenlerin Öğretme Stillerinin Çeşitli Değişkenler Açısından İncelenmesi

Giriş


Öğretmenlerin Öğretme Stillerinin Kavram Amaçlarına Göre Öğretim Stilleri (CORD, 2005).

Stil A, mekanik öğrenmeyi ve soyut öğretimi amaçlar (soyut öğretim). Öğretmen ezberden başlayarak analize doğru öğretmeyi tercih eder. Örneğin öğrenciler çarşın tablosu gibi soyut gerçekleri tekrarlayarak ezberler.

B stili, mekanik öğrenme ve pratik bilgi üzerine kuruludur (uygulamalı öğretim). Öğretmen ezber öğretmenin yanında pratik uygulamalar üzerine de odaklanır. Örneğin öğrenciler dünya hakkında pratik gerçekleri uygulamaları olarak öğrenirler.

Stil C kavrama yoluyla öğrenmeyi ve teorik öğretimi amaçlar (soyut öğretim). Bu stil, öğrencilerin faaliyetler yoluyla aktaran bilgiyi anlaması için öğretmeyi bir değişiklik getirir. Öğrenme süreci, alınan bilgilerin anlaşılmasının, işlenmesi ve mantıksal olarak öğrenilmesine tabidir. Öğretmen analizden başlayarak ezber doğru öğretmeyi tercih eder fakat pratik uygulamalar üzerine odaklanmaz. Örneğin öğrenciler soyut süreçleri öğrenirler.

Stil D kavrama yoluyla öğrenmeyi ve pratik bilgiyi (uygulamalı öğretim) amaçlamaktadır. Bu stil, mantıksal öğrenmeyi destekleyen uygulanabilir somut bilgiye odaklanır. Üretkenlik ve verimlilik esaslar. Örneğin öğrencilere gerçek dünyaya ilişkin formüle edebilecekleri problemler sunulur (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015).

Örneğin; “Eğitim” kavramının tanımı verecek bir öğretmen öğrenmeye dayalı öğretim stilinde kitaptaki tanımları verir ve bu tanımların bir parçasını isteyebilir. Öğretmen her kavramın tanımı ve genel tanımlarını vererek öğrencilerin bu tanımlarını okur ve öğrenir. Kavram açıklamaları被称为 “Eğitim” kavramını öğrencilerin hayatlarında eğitimin ne anlama geldiği üzerinden yola çıkarak, gündelik hayatlarında örneklerle açıklar ve öğrencilerin eğitimin tanımından yola çıkarak kendi hayatlarında örnekler sunmasını ister.

Eskici ve Çetinkaya

**Şekil 2. Öğretme Yöntemlerine Göre Öğretim Stilleri**

CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015)

Dört adet öğretim stili de burada bulunmaktadır:

- **Stil A**: Sembolik bilişsel işleme ve bireysel çalışmayı gerektirir. Başka bir deyişle, öğretmenlerin kullandıkları öğretim yöntemleri en fazla anlatım yöntemidir ve öngörülen öğrenme görevleri bireysel çalışmayı amaçlar. Öğretmen öğrencilerin simgeler ve sözel yol ile bilgi edinmesini sağlar. Örneğin öğretmen konu anlat|minan önce ön okuma görevleri verir.

- **Stil B**: Sembolik bilişsel işleme ve iş birliği grupları. Öğretmen öğrencilerin simgeler ve sözel yol ile bilgi edinmesini sağlar ve grup olarak çalışmayı tercih eder. Örneğin öğrencilere grup ve bireysel çalışmayı seçer. Örneğin öğretmen gruplar arasında ayrılmış problemleri tartışılabilir.

- **Stil C**: İşlenmiş veya yorumlanmış (eylemsel) bilişsel işleme ve bireysel çalışmayı amaçlar. Bu stile göre, öğretmenler, öğrencileri bireysel çalışma yoluya, yeni bilgiyi keşfetme ve anlamaya teşvik ederler. Örneğin öğrencilerin bireysel araştırmaları yapılır.

- **Stil D**: İşlenmiş veya yorumlanmış (eylemsel) bilişsel işleme ve iş birliği grupları. Öğreniciler grup çalışmalarıyla yeni bilgiyi keşfederler ve öğretim sürecine aktif olarak katılarlar. Öğretmen öğrencilerin işbirliğine dayalı olarak tamamlanan pratik etkinliklerle öğrenmelerini sağlar. Örneğin takım çalışmasına dayalı laboratuvar çalışmaları yapılır (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015).

Öğretmen; öğretim stili onun öğrencilere uygun öğretim stillerini seçer. **Dört adet** öğretim stilleri de burada bulunmaktadır (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015):

- **Stil A**: Sembolik bilişsel işleme ve bireysel çalışmayı gerektirir. Başka bir deyişle, öğretmenlerin kullandıkları öğretim yöntemleri en fazla anlatım yöntemidir ve öngörülen öğrenme görevleri bireysel çalışmayı amaçlar. Öğretmen öğrencilerin simgeler ve sözel yol ile bilgi edinmesini sağlar. Örneğin öğretmen konu anlatımından önce ön okuma görevleri verir.

- **Stil B**: Sembolik bilişsel işleme ve iş birliği grupları. Öğretmen öğrencilerin simgeler ve sözel yol ile bilgi edinmesini sağlar ve grup olarak çalışmayı tercih eder. Örneğin öğrencilere grup ve bireysel çalışmayı seçer. Örneğin öğretmen gruplar arasında ayrılmış problemleri tartışılabilir.

- **Stil C**: İşlenmiş veya yorumlanmış (eylemsel) bilişsel işleme ve bireysel çalışmayı amaçlar. Bu stile göre, öğretmenler, öğrencileri bireysel çalışma yoluya, yeni bilgiyi keşfetme ve anlamaya teşvik ederler. Örneğin öğrencilerin bireysel araştırmaları yapılır.

- **Stil D**: İşlenmiş veya yorumlanmış (eylemsel) bilişsel işleme ve iş birliği grupları. Öğreniciler grup çalışmalarıyla yeni bilgiyi keşfederler ve öğretim sürecine aktif olarak katılarlar. Öğretmen öğrencilerin işbirliğine dayalı olarak tamamlanan pratik etkinliklerle öğrenmelerini sağlar. Örneğin takım çalışmasına dayalı laboratuvar çalışmaları yapılır (CORD, 2005; Artvinli, 2010; Bota & Tulbure, 2015).


Öğretmenlerin öğretme stilleri:

a) cinsiyetlerine göre
b) branş alanlarına göre
c) görev yaptıkları yerleşim birimine göre
d) derse girdikleri sınıfların ortalama mevcuduna göre
e) eğitim durumuna göre
f) görev yaptıkları okul türüne göre
e) mesleki kademelerine göre anlamlı farklılık göstermektedir?

Yöntem


Çalışma Grubu

Öğretmenlerin seçiminde amaçlı örnekleme yöntemlerinden maksimum çeşitlilik örnekleme seçimi kullanılmıştır. Öğretmenler branş, çalıştıkları okulların bulunduğu yerleşim birimi, çalışmaların okul türleri, cinsiyet, mesleki kademelerine göre ait demografik bilgiler Tablo1’de sunulmuştur.
Tablo 1. Çalışma Grubuna Ait Demografik Bilgiler

<table>
<thead>
<tr>
<th>Cinsiyet</th>
<th>N</th>
<th>%</th>
<th>Yerleşim birimi</th>
<th>N</th>
<th>%</th>
<th>Sınıf mevcudu</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
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<td>63.7</td>
<td>İl</td>
<td>102</td>
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<td>111</td>
<td>44.8</td>
</tr>
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<td>36.3</td>
<td>İlçe</td>
<td>117</td>
<td>47.2</td>
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<td>20</td>
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<td>26-30</td>
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<td>Biyoloji)</td>
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<tr>
<td>Dil (İngiliz ve</td>
<td>22</td>
<td>8.9</td>
<td>0-5</td>
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<td>İlkokul</td>
<td>75</td>
<td>30.2</td>
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<td>6-10</td>
<td>30</td>
<td>12.1</td>
<td>Ortaokul</td>
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<td>33.1</td>
</tr>
<tr>
<td>Sanat (Resim ve</td>
<td>10</td>
<td>4.0</td>
<td>11-15</td>
<td>35</td>
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<td>Lise</td>
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<td>28</td>
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<td>Beden Eğitimi</td>
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<td>4.4</td>
<td>21-üstü</td>
<td>73</td>
<td>29.4</td>
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<td>Smif</td>
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<td>31.5</td>
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<tr>
<td>Okul Öncesi</td>
<td>6</td>
<td>2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eğitim durumu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lisans tamamlama</td>
<td>15</td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisans</td>
<td>215</td>
<td>86.7</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yüksek lisans</td>
<td>18</td>
<td>7.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Veri Toplama Araçları


Verilerin Analizi

Bulgular

Araştırmaya ilişkin bulgular tablolar şeklinde sunulmuştur.

Tablo 2. Öğretmenlerin Öğretim Stillerinin Cinsiyet Değişkenine Göre Mann Whitney-U Testi Sonuçları

<table>
<thead>
<tr>
<th>Cinsiyet</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel süreç dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kadın</td>
<td>158</td>
<td>121.68</td>
<td>123.60</td>
<td>127.22</td>
<td>127.24</td>
</tr>
<tr>
<td>Erkek</td>
<td>90</td>
<td>129.44</td>
<td>126.08</td>
<td>119.73</td>
<td>119.68</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td>Z=-.82, p&gt;.05</td>
<td>Z=-.26, p&gt;.05</td>
<td>Z=-.79, p&gt;.05</td>
<td>Z=-.80, p&gt;.05</td>
</tr>
</tbody>
</table>

Tablo 2’de çalışma grubundaki öğretmenlerin öğretim stillerinde cinsiyet değişkenine göre anlamlı bir farklılık olup olmadığını belirlemek amacıyla yapılan Mann Whitney-U testi sonuçları sunulmuştur. Elde edilen bulgulara göre grupların tüm stiller (öğrenmeye dayalı Z=-.82, p>.05, kavram açıklamaya dayalı Z=-.26, p>.0, bilişsel süreç dayalı Z=-.79, p>.05, etkileşime dayalı Z=-.80, p>.05) ilişkin aritmetik ortalamalar arasindaki fark istatistiksel olarak anlamılır değildir. Elde edilen bulgulara göre öğretmenlerin öğretim stillerinin cinsiyetlerine göre farklılaşmadığını söyleyebilir. Öğretmenlerin öğretim stillerinin cinsiyetlerine göre farklılaşmadığına rağmen sıra ortalama puanları incelendiğinde kadın öğretmenlerin daha çok etkileşime dayalı (127.24) ve bilişsel süreç dayalı (127.22), erkek öğretmenlerin ise öğrenmeye dayalı (129.44) öğretim stili tercih ettikleri söylenebilir.

Tablo 3. Öğretmenlerinin Öğretim Stillerinin Branş Değişkenine Göre Kruskal Wallis-H Testi Sonuçları

<table>
<thead>
<tr>
<th>Branş</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel süreç dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sözel</td>
<td>53</td>
<td>141.49</td>
<td>133.31</td>
<td>104.11</td>
<td>115.84</td>
</tr>
<tr>
<td>Sayısal</td>
<td>68</td>
<td>110.65</td>
<td>131.48</td>
<td>130.63</td>
<td>126.56</td>
</tr>
<tr>
<td>Dil</td>
<td>22</td>
<td>124.66</td>
<td>114.84</td>
<td>141.70</td>
<td>116.66</td>
</tr>
<tr>
<td>Sanat</td>
<td>10</td>
<td>119.25</td>
<td>109.95</td>
<td>128.70</td>
<td>132.60</td>
</tr>
<tr>
<td>Smf</td>
<td>78</td>
<td>124.75</td>
<td>122.78</td>
<td>129.73</td>
<td>122.47</td>
</tr>
<tr>
<td>Boden</td>
<td>11</td>
<td>137.00</td>
<td>108.14</td>
<td>93.77</td>
<td>153.23</td>
</tr>
<tr>
<td>Eğitim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okul öncesi</td>
<td>6</td>
<td>113.42</td>
<td>79.67</td>
<td>153.33</td>
<td>166.67</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tablo 3’te çalışma grubunun oluşturan öğretmenlerin öğretme stillerinin branşlarına göre anlamlı bir farklılık gösterip göstermediğini belirlemek amacıyla yapılan Kruskal Wallis-H testi sonuçları sunulmuştur. Elde edilen bulgulara öğretmen stillerine (öğrenmeye dayalı X²=6.07, p>.01, kavram açıklamaya dayalı X²=55.23, p>.0, bilişsel süreç dayalı X²=9.53, p>.01, etkileşime dayalı X²=5.15, p>.01) ilişkin aritmetik ortalamalar arasındaki fark istatistiksel olarak anlamılır değildir. Öğretmenlerin öğretim stillerinin branşlarına göre farklılaşmadığı söyleyebilir. Branşlara göre öğretmen stillerine ilişkin sıra ortalama puanlar incelendiğinde sosyal ders öğretmenlerin en çok öğrenmeye dayalı (141.49), sosyal ders öğretmenlerin kavram açıklamaya dayalı (131.48), dili öğretmenlerin bilişsel süreç dayalı (141.70), smf öğretmenlerin bilişsel süreç dayalı (129.73), sanat öğretmenlerin etkileşime dayalı (132.60) beden eğitimi öğretmenlerin etkileşime (153.23) ve okul öncesi öğretmenlerin etkileşime dayalı (166.67) öğretim stillerini tercih ettikleri görülmektedir.

<table>
<thead>
<tr>
<th>Yerleşim Birimi</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel süreçe dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>İl</td>
<td>102</td>
<td>136.04</td>
<td>125.27</td>
<td>117.75</td>
<td>119.28</td>
</tr>
<tr>
<td>İlçe</td>
<td>117</td>
<td>114.31</td>
<td>124.72</td>
<td>131.38</td>
<td>124.59</td>
</tr>
<tr>
<td>Belde</td>
<td>20</td>
<td>129.15</td>
<td>124.05</td>
<td>117.60</td>
<td>140.93</td>
</tr>
<tr>
<td>Köy</td>
<td>9</td>
<td>115.83</td>
<td>113.89</td>
<td>126.78</td>
<td>145.94</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test sonucu  
KW $X^2=5.24$  $p>.01$  
KW $X^2=-21$  $p>.01$  
KW $X^2=2.18$  $p>.01$  
KW $X^2=2.41$  $p>.01$

Kruskal Wallis-H testi sonuçlarına göre öğretmenlerin öğretim stilleri (öğrenmeye dayalı $X^2=5.24$, $p>.01$, kavram açıklamaya dayalı $X^2=-21$, $p>.01$, bilişsel süreçe dayalı $X^2=2.18$, $p>.01$, etkileşime dayalı $X^2=2.41$, $p>.01$) görev yaptıkları yerleşim birimine göre istatistiksel olarak anlamlı farklılıklar göstermemektedir. Sıra ortalamalar puanlar incelendiğinde ise köy ve beldede görev yapan öğretmenlerin daha çok etkileşime dayalı (köy=145.93, belde=140.93) öğretim stili tercih ettikleri, il merkezinde görev yapan öğretmenlerin daha çok öğrenmeye dayalı (136.04) öğretim stili tercih ettikleri görülmektedir.

Tablo 5. Öğretmenlerinin Öğretim Stillerinin Görev Yaptıkları Sınıf Mevcuduna Göre Kruskal Wallis-H Testi Sonuçları

<table>
<thead>
<tr>
<th>Sınıf mevcudu</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel süreçe dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>111</td>
<td>118.41</td>
<td>107.11</td>
<td>131.86</td>
<td>147.22</td>
</tr>
<tr>
<td>21-25</td>
<td>41</td>
<td>133.16</td>
<td>136.94</td>
<td>120.94</td>
<td>102.89</td>
</tr>
<tr>
<td>26-30</td>
<td>55</td>
<td>120.05</td>
<td>130.77</td>
<td>125.92</td>
<td>117.43</td>
</tr>
<tr>
<td>31+</td>
<td>41</td>
<td>138.23</td>
<td>150.72</td>
<td>106.52</td>
<td>94.09</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test sonucu  
KW $X^2=3.12$  $p>.01$  
KW $X^2=-13.70$  $p>.01$  
KW $X^2=3.90$  $p>.01$  
KW $X^2=22.92$  $p>.01$

Tablo 5’te çalışma grubunu oluşturan öğretmenlerin öğretme stillerinin öğretmenlerin sınıf mevcudunun değişikliğinde göre anlamlı bir farklılık gösterip göstermediğini belirlemek amacıyla yapılan Kruskal Wallis-H testi sonuçları sunulmuştur. Elde edilen bulgulara göre kavram açıklamaya dayalı [KW $X^2=13.70$, $p<0.01$] ve etkileşime dayalı [KW $X^2=22.92$, $p<0.01$] öğretme stillerine ilişkin aritmetik ortalamalar arasındaki fark istatistiksel olarak anlamlı bulunmuştur. Elde edilen farklı gruplar arasında olduğunun saptanması amacıyla yapılan Mann Whitney-U testi sonunda 20 ve daha az sınıf mevcuduna sahip öğretmenlerin 30 ve daha fazla sınıf mevcudu olan öğretmenlerle oranla (U= 1462, $p<.05$) kavram açıklamaya dayalı öğretme stili tercih etmesi ve 30 ve üstündeki sınıfların ise daha çok etkileşime dayalı öğretim stili tercih ettikleri sonucu vermiştir. Bu sonucun yanı sıra 20 ve daha az sınıf mevcuduna sahip öğretmenlerin 30 ve daha fazla sınıf mevcudu olan öğretmenlerle oranla (U= 1325, $p<.05$) etkileşime dayalı öğrenme stili tercih etmeleri ve 30 ve üstündeki sınıfların ise daha çok kavram açıklamaya dayalı (21-25=136.94, 26-30=130.77, 31 ve üstü=150.72) öğretim stili tercih etmeleri sonucu vermiştir.

<table>
<thead>
<tr>
<th>Eğitim Durumu</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel sürece dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisans tamamlama</td>
<td>15</td>
<td>108.70</td>
<td>140.53</td>
<td>137.57</td>
<td>104.20</td>
</tr>
<tr>
<td>Lisans</td>
<td>215</td>
<td>124.75</td>
<td>123.51</td>
<td>125.20</td>
<td>125.67</td>
</tr>
<tr>
<td>Y. Lisans</td>
<td>18</td>
<td>134.69</td>
<td>122.97</td>
<td>105.25</td>
<td>127.47</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test sonucu

KW $X^2$=1.10, $p>0.01$
KW $X^2$=.80, $p>0.01$
KW $X^2$=1.82, $p>0.01$
KW $X^2$=1.30, $p>0.01$

Tablo 7. Öğretmenlerin Öğretim Stillerinin Görev Yaptıkları Okul Türü Değişkenine Göre Kruskal Wallis-H Testi Sonuçları

<table>
<thead>
<tr>
<th>Okul Türü</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel sürece dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>İlkokul</td>
<td>75</td>
<td>128.47</td>
<td>115.15</td>
<td>137.63</td>
<td>119.17</td>
</tr>
<tr>
<td>Ortaokul</td>
<td>82</td>
<td>120.78</td>
<td>121.73</td>
<td>130.20</td>
<td>125.99</td>
</tr>
<tr>
<td>Lise</td>
<td>91</td>
<td>124.58</td>
<td>134.71</td>
<td>108.54</td>
<td>127.55</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test sonucu

KW $X^2$=.45, $p>0.01$
KW $X^2$=3.25, $p>0.01$
KW $X^2$=1.82, $p>0.01$
KW $X^2$=1.30, $p>0.01$

Tablo 8. Öğretmenlerinin Öğretim Stillerinin Meslekli Kadem Değişkenine Göre Kruskal Wallis-H Testi Sonuçları

<table>
<thead>
<tr>
<th>Kadem Yılı</th>
<th>N</th>
<th>Öğrenmeye dayalı</th>
<th>Kavram açıklamaya dayalı</th>
<th>Bilişsel sürece dayalı</th>
<th>Etkileşime dayalı</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>82</td>
<td>117.23</td>
<td>113.59</td>
<td>121.97</td>
<td>145.28</td>
</tr>
<tr>
<td>6-10</td>
<td>30</td>
<td>115.30</td>
<td>115.13</td>
<td>148.30</td>
<td>126.72</td>
</tr>
<tr>
<td>11-15</td>
<td>35</td>
<td>111.69</td>
<td>132.04</td>
<td>129.40</td>
<td>129.56</td>
</tr>
<tr>
<td>16-20</td>
<td>28</td>
<td>138.09</td>
<td>146.95</td>
<td>100.45</td>
<td>105.29</td>
</tr>
<tr>
<td>21+</td>
<td>73</td>
<td>137.38</td>
<td>128.38</td>
<td>124.44</td>
<td>105.19</td>
</tr>
<tr>
<td>Toplam</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test sonucu

KW $X^2$=5.84, $p>0.01$
KW $X^2$=5.77, $p>0.01$
KW $X^2$=6.75, $p>0.01$
KW $X^2$=11.48, $p<0.01$
Tablo 8'de çalışma grubunu oluşturan öğretmenlerin öğretme stillerinin öğretmenlerin kidem yılı değişkenine göre anamli bir farklılık gösterip göstermediğini belirlemek amacıyla yapılan Kruskal Wallis -H testi sonuçları sunulmuştur. Elde edilen bulgulara göre etkileşime dayalı \[ KW X^2=11.48, p<0.01 \] öğretme stillerine ilişkin aritmetik ortalamalar arasındaki fark istatistiksel olarak anamli bulunmaktadır. Elde edilen farklı hangi gruplar arasında olduğunu aptalması amacıyla yapılan Mann Whitney-U testi sonucunda 0-5 yıl arasında kidem yılına sahip öğretmenlerin etkileşime dayalı öğretme stilini 16-20 yıl (U=2035, p<.01) ve (U=774, p<.01) 21 yıl ve üzeri kademeye sahip öğretmenlere oranla anamlı bir düzeyde daha fazla kullanıkları sonucuna ulaşmıştır. Sıra oratalama puanlar incelendiğinde 0-5 yıl arasında mesleki kademeye sahip öğretmenler en çok etkileşime dayalı (145.28), 6-10 arasında mesleki kademeye sahip öğretmenler en çok kavram açıklaması dayalı (148.30), 11-15 yıl arasında mesleki kademeye sahip öğretmenlerin en çok kavram açıklamaya dayalı (146.95), 21 yıl ve üzeri kademeye sahip öğretmenlerin ise en çok öğretmeye dayalı öğretim stillini tercih etikleri görülmektedir.

Tartışma ve Sonuç

Bir öğretmenin öğretim stili tercihinde birçok etken rol alabilir. Grasha (2002)'ya göre öğretim stilini; öğrencilerin özellikleri ve yetenekleri, öğretmenin kişisel arası verimli ilişkiler geliştirme isteği, öğretmenlerin öğrenme görevini kontrol etme ihtiyaçı, öğrencilerin, öğrenme stili ve öğrencilere ait dursun (o gün ve o anda ait acil ihtiyaç ve istekler) talepler etkiler. Bu unsurların yanı sıra öğretmenlerin öğretim stili tercihlerinde deneysel, hizmet ve işci adımların etkisi, eğitimlerin okul kültüründe gelenekler ve öğretim stili tercihlerinde belirleyici olabilir dursunları ile bu araştırma öğretmenlerin öğretim stillerleri farklı değişkenler açısından incelenebilir.


Araştırmanın elde edilen bulgulara göre görev yaptıkları yerleşim birimine göre öğretmenlerin öğretim stillerinin istatistiksel olarak farklılaşmadığı sonucuna ulaşmıştır. Sıra oratalama puanlara göre ise köy ve beldede öğretmenlerin etkileşime dayalı öğretim stillini daha çok tercih etmektedir. Farklı ülkelerde öğretmenlerin öğretim stillerinin görev yaptıkları ülkelere göre farklılaşabileceğini düşündüğümüzde farklılaşmadığı söylenebilir.

Araştırmanın elde edilen bulgulara göre öğretmenlerin öğretim stillerini görev yaptıkları yerleşim birimine göre değişmektedir. Sıra ortalama puanlara göre ise köy ve beldede öğretmenlerin etkileşime dayalı öğretim stillini daha çok tercih etmektedir. Farklı ülkelerde öğretmenlerin öğretim stillerinin görev yaptıkları yerleşim birimine göre farklılaşabileceğini düşündüğümüzde farklılaşmadığı söylenebilir.

Araştırmanın elde edilen bulgulara göre öğretmenlerin öğretim stillerini görev yaptıkları yerleşim birimine göre değişmektedir. Sıra ortalama puanlara göre ise köy ve beldede öğretmenlerin etkileşime dayalı öğretim stillini daha çok tercih etmektedir. Farklı ülkelerde öğretmenlerin öğretim stillerinin görev yaptıkları yerleşim birimine göre farklılaşabileceğini düşündüğümüzde farklılaşmadığı söylenebilir.
Araştırmadan elde edilen bulgular incelendiğinde öğretmenlerin sınıf mevcudu değişkeninin öğretmenlerin öğretim stili tercihlerinde farklı yaratığı sonucu elde edilmiştir. 20 ve daha az sınıf mevcudunda sahip öğretmenlerin 30 ve daha fazla sınıf mevcudu olan öğretmenlere oranla kavram açıklamaya dayalı öğretim stiliini anlamlandı düzeyde daha az kullanıklıkla sonucuna ulaşmıştır. Bunu yanı sıra 20 ve daha az sınıf mevcudunda sahip öğretmenlerin 30 ve daha fazla sınıf mevcudu olan öğretmenlere etkileşime dayalı öğrenme stiliini anlamlandı düzeyde daha fazla kullanıklıkla sonucuna ulaşmıştır. Araştırma sonuçlarına göre sınıf mevcudu daha az olarak öğretmenler etkileşime dayalı öğrenme stili ile daha fazla kavram açıklamaya dayalı öğrenme stiliini daha az kullanmaktadır. Çalışmadan elde edilen sonuçlar Artvinli (2010)’ın çalışmasında elde edilen sonuçlar ile paralel Görüntüleme katedmiştir.


Araştırma sonuçlarına göre sınıf mevcudu düşük olan öğretmenler etkileşime dayalı öğretim stilini tercih etmektedir. Bu bağlamda öğretmenlerin sınıf içi aktivitelere ve grup çalışmalarına fırsat vermesi için sınıf mevcutlarının düşürülmesine yönelik çalışmalar yapılması önerilebilir.

Araştırmadan elde edilen bir başka sonuca göre mesleki kıdemi az olan öğretmenlerin etkileşime dayalı öğretim stilini daha çok tercih ettikleri düşünüldüğünde özellikle mesleki kıdemi fazla olan öğretmenlere geleneksel yöntemlerden sıyrılmaları için hizmet içi eğitim seminerleri düzenlenebilir.

Öğretmenlerin öğretim stillerinde cinsiyet, branş, eğitim durumu, okul türlü vb. değişkenlerin etkisinin araştırılacağı daha geniş çaplı araştırmalar yapılabilir. Öğretmelerin öğretim stilleri tercihlerinde hangi değişkenlerin belirleyici olup oynadığı yönelik öğretmen görüşlerinin alınacağı nitel araştırmalar yapılabilir.

**Bilgilendirme**

Bu çalışma IX. Uluslararası Eğitim Araştırmaları Kongresi'nde özet metin olarak sunulmuştur.
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