



Investigation of Primary Teachers' Curriculum Fidelity

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Abstract

Curriculum fidelity refers to the closeness between the formal and implemented program and is the determination of how well a curriculum is implemented in line with its original design. The teacher is emphasized as an important variable for curriculum fidelity, and his/her attitudes and behaviors during the implementation of designed curriculum are important for the innovation and development studies in curriculum and instruction field. In this context, the aim of this study is to reveal the curriculum fidelity behaviors of primary teachers who are to use curriculum of different disciplines. This study was based on a survey design in which quantitative data were used. In this context, the Curriculum Fidelity Scale and an open-ended questionnaire form were applied to a total of 516 primary teachers who voluntarily participated in the study. The data obtained were analyzed with descriptive statistics, t-test, one-way ANOVA tests. The findings showed that primary teachers have a high curriculum fidelity highlighting the programs' functions of directing the learning activities and informing about the targets of the school subjects. In addition, it was concluded that while the primary teachers felt the need to apply to curriculum of the core subjects, they mostly benefited from the curriculum components which are learning and teaching activities.

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Introduction

Education systems require an innovative process in line with social and scientific developments. The knowledge and skills planned to be acquired by the learners in education are gained through plans and programs. Thus, curriculum in education needs updating and revision at certain intervals. The curriculum development requires three stages as designing, implementation and evaluation (Akpınar, 2014). However, it is not possible for the curriculum

to show the desired effect unless they are appropriately and fully understood by the teachers who are responsible for the implementation process (Yar-Yıldırım, 2020). To create the desired effect, a curriculum necessitates not only being well developed but also being well conducted in line with the pre-determined procedures and principles. Otherwise, it will not be possible to determine how the revised curriculum function in the real school context and to what extent it meets the needs of learners (Özçelik, 2014).

A determinant variable for the effectiveness of curriculum is fidelity. Fidelity studies have their origins in E. M. Rogers' diffusion of innovation theory (Dusenbury, Brannigan, Falco, & Hansen, 2003) and since then, fidelity has been a topic frequently used in the health, education and labor studies (Vartuli & Rohs, 2009). Curriculum fidelity is closeness between design and implementation (Lee & Chue, 2013) and it shows how well an innovation is implemented as per the original program design (Lee, Penfield, & Maerten-Rivera, 2009). The concept of curriculum fidelity is expressed as the faithful implementation of a curriculum to its original design by the teachers/stakeholders (Bümen, Çakar, & Yıldız, 2014). High curriculum fidelity shows a firm implementation of the curriculum as intended by the designers, while low curriculum fidelity indicates flexible implementation (Vartuli & Rohs, 2009).

Curriculum fidelity requires examinations of the implementation's authenticity (Dusenbury et al., 2003). For this reason, it is necessary to collect data during the implementation process so that curriculum developers could get feedback as to its real effectiveness and applicability (Haataja et al., 2014). Otherwise, as the chief implementers of the curriculum, teachers cannot fully adopt and understand the interventions made in the curriculum, which in the end lead to failure of targeted achievements (Century, Rudnick & Freeman, 2010). In this case, the effectiveness of the curriculum evaluation studies may cause limited or uncertain data (Vartuli & Rohs, 2009) as the teachers may tend to reflect their biased perception of curriculum experience rather than objective implementation of curriculum (Adams, Soumerai, Lomas, & Ross-Degnan, 1999). Therefore, it is important to know which components of the curriculum and to what extent are adopted by the teachers (Abry, Rimm-Kaufman, Larsen, & Brewer, 2013).

Curricula serve as an important tool in developing students' knowledge and preparing them for the next academic level (Polikoff & Porter, 2014). It is important to know the attitudes and behaviors of the teacher who plays an important role in the implementation process (Hall & Hord, 2015). In that, some teachers can be flexible in implementation and employ certain elements of the designed curriculum in the teaching process, while skipping others. In such a case, the teacher interferes with curriculum, and this may affect both the student's learning and the analyzes of the developers regarding the effectiveness of the curriculum and the subsequent development studies (Superfine, Marshall, & Kelso, 2015). Some other teachers adhere strictly to the curriculum and implement it as designed (Cobanoglu & Capa-Aydin, 2015). Showing such a strict level of fidelity is also criticized on the grounds that it limits the development of higher-order thinking skills, professional autonomy and decision-making, and puts teachers in the position of workers instead of expert practitioners (Achinstein & Ogawa, 2006). Despite these criticisms, many studies in the literature state that the close implementation of the curriculum to its design contributes to achieving the targets and student success (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; McNeill, Katsh-Singer, Gonzalez-Howard, & Loper, 2016; Polikoff & Porter, 2014; Weare & Nind, 2011; Wiles & Bondi,

2014). From this point of view, the fact that teachers should fully implement the curriculum is becoming popular (Seraphin et al., 2017).

The increasing attention on the effect of curriculum fidelity has brought the teachers the duty of implementing the designed curriculum in line with its purpose and design (Nevenglosky, 2018). Teachers play a key role in the consistent and effective implementation of curricula prepared for the progress and development of students (Pandey, 2018). In this direction, further research on the variables affecting teachers' fidelity is needed to determine teachers' fidelity behaviors towards curriculum components. Just like curriculum development and evaluation studies, curriculum fidelity studies have also taken their place in the relevant literature (Keith, Hopp, Subramanian, Wiitala, & Lowery, 2010) especially in countries where curricula are designed by a single center and implemented in all regions (Burakgazi, 2019).

As a matter of fact, the relevant literature showed that there are a limited number of studies examining teachers' curriculum fidelity. The preliminary studies in the field are mostly based on theoretical content focusing on the definition and subcomponents of the concept (Bay, Kahramanoğlu, Döş, & Özpolat, 2017; Burakgazi, 2019; Bümen et al., 2014; Kara, Karakoç, Yıldırım, & Bay, 2017). Following studies focused mostly on determining teachers' curriculum fidelity levels with contributing or deteriorating variables' effect. In one of these studies, Çobanoğlu and Çapa-Aydin (2015) concluded that experienced and associate degree pre-school teachers have a high level of curriculum fidelity, while Boncuk (2021) concluded that curriculum literacy levels of teachers' are an important predictor of their curriculum fidelity. We see that the curriculum fidelity studies have been basically conducted at limited branches (such as mathematics, preschool). As for many other branches and field there is still a huge gap and need for fidelity studies. Dikbayır and Bümen (2016) stated that the adoption degree of curriculum and the level of reflection to it in practice by the teachers is important in saving effort, money, and time dedicated to education. Otherwise, it would be useless to revise or intervene in the curriculum of school subjects, when we do not have an idea regarding how fidelity to core curriculum intervention is. Therefore, we need to study curriculum fidelity behaviors of teachers teaching different disciplines at different school stages. Bay et al. (2017) stated that the concept of curriculum fidelity is related to discipline, and field of study is in fact a determinant variable for curriculum fidelity since each has unique working methods and structures. As we have not come across a study handling directly the curriculum fidelity of primary teachers in the literature, this study focused on curriculum fidelity of primary teachers, who undertake the duty of teaching young students the basic skills of many branches, as well as arithmetic, reading and writing skills. As known well, primary teachers implement a variety of curriculum of different school subjects (Turkish, Mathematics, Music, Visual Arts, Physical Education and Game Subjects, Information Technologies and Software from the 1st grade to 4th grade, while they implement curriculum of Life Sciences at 1st, 2nd, 3rd grades, Social Studies at 3rd and 4th grade, Science at 3rd and 4th grade, Human Rights and Citizenship at 4th grade, Traffic Safety at 4th grade) (Ministry of National Education [MoNE], 2018). Here we conclude that primary teachers have the responsibility of implementing twelve different curricula, at least three different curricula each year, for all the grades. Based on this, this study aims to examine the behavior of primary teachers' fidelity to curriculum of different disciplines.

The aim of study

The aim of this study is to investigate primary teachers' curriculum fidelity along with the following research questions:

1. What is the level of primary teachers' curriculum fidelity?
2. Is there a significant difference between primary teachers' curriculum fidelity in terms of;
 - a. Gender,
 - b. Educational level,
 - c. Students grade,
 - d. The number of students in the class,
 - e. The school setting,
 - f. Teacher experience.
3. What kind of function do primary teachers think the curricula they teach plays in their professional lives?
4. Which components of the curriculum do primary teachers mostly implement?
5. Which curricula of different school subjects do primary teachers mostly benefit from?

Method

Research Design

This study aiming to examine primary teachers' curriculum fidelity was designed as a survey model. Survey is a research model that focuses on gathering data with the aim of describing the nature of surviving conditions, determining standards of comparison, or identifying the relationships between certain events (Cohen, Manion, & Marrison, 2007). Survey studies enable researchers to describe incidences, distributions, and relationships of variables in their natural context (Wiersma, 1995). Survey studies can include unstructured observations, open-ended interviews and questionnaires, participant observations and written documents as data collection tools and the obtained data can be analyzed with content analysis and/or descriptive statistics (Kramer, 1985). This study implicated quantitative design based on five point Likert type scale and open-ended questionnaires.

Population and Sample

The target population of the research comprises 6163 primary teachers working in primary schools in the 2nd term of the 2020-2021 academic year in Diyarbakir. For a population of 6163, the sample size was calculated as 362, with a 95% confidence level and a 5% margin of error (The Research Advisors, 2006). In this study the sample is comprised of 516 primary teachers, 274 female and 242 male, who were randomly selected from the schools in Diyarbakir Province. Simple random sampling is one of the sampling method used to grant each variables of the populations an equal probability of selection and independency from one another (Cohen, Manion, & Marrison, 2007). With simple random sampling method, selection bias is eliminated as well as external and internal validity is granted (Dattalo, 2010). Accordingly, the sample size of this study ($n = 516$) validly represents the universe. The descriptive qualities of the sample are presented in Table 1.

Table 1. *The Descriptive Qualities of the Sample*

<i>Variables</i>	<i>Categories</i>	<i>N</i>	<i>%</i>
Gender	Male	274	53.1
	Female	242	46.9
Educational level	Bachelor's degree	451	87.4
	Postgraduate degree	65	12.6
Students grade	1st Grade	147	28.5
	2nd Grade	100	19.4
	3rd Grade	141	27.3
	4th Grade	128	24.8
The number of students in the class	1-20	118	22.9
	21-40	345	66.9
	41 and over	53	10.3
The school setting	Village	148	28.7
	District Center	114	22.1
	City Center	254	49.2
Teachers' experience	1-5 year	104	20.2
	6-10 year	80	15.5
	11-15 year	116	22.5
	16-20 year	104	20.2
	21 year and over	112	21.7
Total		516	100

Instruments

The data of the study were gathered with Curriculum Fidelity Scale and Open-ended Questionnaire Form.

Curriculum fidelity scale (CFS)

CFS was developed by Yaşaroğlu and Manav (2015) as a single dimensional 5-point Likert scale comprising 20 items, 16 of which are positive, 4 of which are negative. Yaşaroğlu and Manav (2015) calculated Cronbach's Alpha reliability coefficient value of the scale as .896. In this study, we calculated Cronbach's Alpha reliability coefficient as .887.

Open ended questionnaire

An open ended questionnaire form consisting three open ended questions was developed by the researchers for this study. First of all, three open-ended questions were prepared by the researchers regarding the curriculum fidelity behaviors of primary teachers after having read the related literature and the results of research findings in the field. Afterwards, the draft form was sent to three experts in curriculum and instruction field. Along with the experts' feedbacks, the form was revised in terms of expression to put into final form and then used. The form consisted following three questions:

1. What kind of functions do curricula play in your teaching life? What does it mean for you in your teaching profession?
2. Could you please explain how you benefit from the components of the curriculum, along with your justification? (In terms of aims, content, learning-teaching process and evaluation).
3. Curriculum of which school subject(s) do you most need to apply, and why?

Data Collection Process

For data collection process, first of all, necessary permission for the use of CFS was requested and an e-mail was received from the researcher. Then ethical approval of Social and Human Sciences Ethics Committee of Dicle University decision dated 25.02.2021 and numbered 41 was obtained. Afterwards, required permissions were also obtained from Diyarbakır Provincial Directorate of National Education through the Rectorate of Dicle University to implement the data gathering tools in primary schools. The data for the study gathered through online platform in the second semester of 2020-2021 academic year. The items in the data gathering tools were processed into Google Forms and a link of it was sent to participants' emails. Demographic variables and scale items parts in the link were kept obligatory while the open ended questionnaire form was arranged as optional. The link was kept accessible until the end of the semester.

Data Analysis

This study includes two different types of quantitative data which was analyzed separately. The data obtained were analyzed by using the Jamovi package program. The percentages and frequencies were calculated to give the descriptive statistics of the sample while curriculum fidelity level of primary teachers was determined with the help of mean and standard deviation values. Mean scores were interpreted as between 1.00-1.80 strongly disagree, 1.81-2.60 disagree, 2.61-3.40 partially agree, 3.41-4.20 agree and 4.21-5.00 strongly agree.

The data set was tested in terms of normal distribution to select the statistics test to be used. Kurtosis and Skewness coefficients and Shapiro-Wilk test were used to test a normal distribution of data set. Kurtosis and skewness coefficients were 6.43 and -1.71, respectively, while Shapiro-Wilk test was $p < .001$. These values do not imply a normal distribution, in fact. However, the Central Limit Theorem (CLT), the basis of many analysis methods, claims that the mean of randomly selected samples from any distribution has a normal distribution. The CLT mentions that when we have a sample comprising hundreds of observations, the distribution of the data can be ignored (Altman & Bland, 1995). In other words, no matter how the distribution of a random variable we are interested in the population, the mean of sample will be a normally distributed variable for a sample over a certain volume (usually 30 or more) taken from a normally distributed population (Korum, 1985). In order to use parametric tests, the populations from which the samples are taken are assumed to have a normal distribution. However, with sufficiently large sample sizes ($+30$), the violation of this assumption does not cause any major problems (Pallant, 2017). However, if the group size is greater than 40 when you compare the means for each group, CLT suggests the use of parametric tests even if data set does not show a normal distribution (Elliott & Woodward, 2007). Based on these, it was concluded that the use of parametric tests in this study would not pose a threat to the assumption of normality, considering the sample size of the study. The Levene test was used

to test the homogeneity of variances, which is a necessary condition for performing parametric tests with the assumption of normality. Since Levene test results ensured homogeneity of variances for all independent variables considered in the study, Independent Samples t-test and ANOVA tests were used to test the significance between independent variables discussed ($F = 1.21, p = .272 > .05$ for gender; $F = 2.46, p = .117 > .05$ for educational level; $F = .1.64, p = .180 > .05$ for the students grade; $F = .860, p = .424 > .05$ for the number of students in the classroom; $F = .432, p = .650 > .05$ for school setting; $F = .391, p = .815 > .05$ for teachers experience). The comparisons were interpreted with the significance level of 0.05. In case of a significant difference, the effect size (Cohen's d) was calculated. Cohen's effect size (Cohen d) between 0.20 and 0.49 is interpreted as minor effect, 0.50 to 0.79 as medium effect, and if it is equal or over 0.80 is interpreted as large effect (Tan, 2016). The data obtained with open-ended questionnaire form was analyzed with descriptive statistics. In this study, since the responses to the questions in the open-ended questionnaire form were classified and their frequencies were determined, the descriptive statistics were used.

Results

In this part, findings related to the research questions were presented.

Findings Regarding Means and Standard Deviation Values for Primary Teachers' Curriculum Fidelity

The mean and standard deviation values of primary teachers' curriculum fidelity were presented in Table 2.

Table 2. *The Mean and Standard Deviation Values of Primary Teachers' Curriculum Fidelity*

<i>N</i>	\bar{X}	<i>SD</i>
516	4.53	.477

($4.21 < \bar{X} < 5.00$)

As seen in Table 2, the mean score of primary school teachers' curriculum fidelity was found 4.53. This score indicates the level of "I strongly agree". Considering that the maximum mean score is 5.00, the arithmetic mean of primary school teachers' curriculum fidelity is quite high.

Findings Regarding the Primary Teachers' Curriculum Fidelity by Gender

To test primary teachers' curriculum fidelity scores in terms of gender independent samples t test was used, and the findings were presented in Table 3.

Table 3. *Independent Samples t-test Results Regarding Primary Teachers' Curriculum Fidelity Scores in Terms of Gender Variable*

	<i>Gender</i>	<i>N</i>	\bar{X}	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>	<i>Effect Size</i>
Curriculum Fidelity	Male	274	4.48	.474	514	2.50	.013*	.221
	Female	242	4.58	.476				

* $p < .05$

As seen in Table 3, a significant difference was observed in favor of female primary teachers' curriculum fidelity in terms of gender. Considering the effect size value, the significant difference is minor.

Findings Regarding the Primary Teachers' Curriculum Fidelity by Educational Level

The findings regarding primary teachers' curriculum fidelity scores in terms of their educational level were presented in Table 4.

Table 4. *Independent Samples t-test Results Regarding Primary Teachers' Curriculum Fidelity Scores in Terms of Educational Level Variable*

	Education Level	N	\bar{X}	SD	df	t	P	Effect Size
Curriculum Fidelity	Bachelor's	451	4.55	.455	514	2.47	.014*	.327
	Postgraduate	65	4.39	.496				

*p < .05

Table 4 showed that the mean scores of primary teachers with bachelor's degree is higher than those of primary teachers with postgraduate degree and this difference is statistically significant in favor of primary teachers with bachelor's degree. However, considering the effect size value, the significant difference is minor.

Findings Regarding the Primary Teachers' Curriculum Fidelity by Students' Grade

To test primary teachers' curriculum fidelity scores in terms of students' grade one-way ANOVA test was used and the findings were presented in Table 5.

Table 5. *ANOVA Results Regarding Primary Teachers' Curriculum Fidelity Scores in Terms of Students' Grade Variable*

	Grade	N	\bar{X}	SD	F	p	Tukey	Effect Size
Curriculum Fidelity	1st Grade	147	4.56	.421	.774	.509	-	-
	2nd Grade	100	4.47	.536				
	3rd Grade	141	4.54	.466				
	4th Grade	128	4.52	.502				

As shown in Table 5, the mean scores of primary teachers teaching at 1st grade students is higher than those of teaching at 3rd and 4th Grade students. The primary teachers teaching at 2nd grade students have the lowest mean scores compared to upper grades. However, significant difference was not observed in primary teachers' curriculum fidelity scores in terms of the students' grade.

Findings Regarding the Primary Teachers' Curriculum Fidelity by the Number of Students in the Classroom

The findings regarding primary teachers' curriculum fidelity scores in terms of the number of students in the classroom were presented in Table 6.

Table 6. ANOVA Results Regarding Primary Teachers' Curriculum Fidelity Scores in Terms of the Number of Students in the Classroom Variable

	<i>Number of Students in Classroom</i>	<i>N</i>	\bar{X}	<i>SD</i>	<i>F</i>	<i>p</i>	<i>Tukey</i>	<i>Effect Size</i>
Curriculum Fidelity	1-20	118	4.54	.401	.076	.926	-	-
	21-40	345	4.52	.503				
	41 and over	53	4.54	.469				

As shown in Table 6, the mean scores of primary teachers teaching in the small classrooms (1 to 20 students) and the large classrooms are higher than those of teaching at medium ones (21 to 41 students). However, this difference in curriculum fidelity of primary teachers regarding the number of students in the classroom is not statistically significant.

Findings Regarding the Primary Teachers' Curriculum Fidelity by School Setting

The findings regarding primary teachers' curriculum fidelity scores in terms of the school setting were presented in Table 7.

Table 7. ANOVA Results Regarding Primary Teachers' Curriculum Fidelity Scores in Terms of the School Setting Variable

	<i>School Setting</i>	<i>N</i>	\bar{X}	<i>SD</i>	<i>F</i>	<i>p</i>	<i>Tukey</i>	<i>Effect Size</i>
Curriculum Fidelity	Village	148	4.51	.514	1.16	.314	-	-
	District Center	114	4.59	.498				
	City Centre	254	4.51	.444				

As shown in Table 7, the mean scores of primary teachers working in a school at district center are higher than those of working in a school at village and city center. However, this difference in curriculum fidelity of primary teachers regarding the school setting is not statistically significant.

Findings Regarding the Primary Teachers' Curriculum Fidelity by Teachers' Experience

The findings regarding primary teachers' curriculum fidelity scores in terms of teachers' experience were presented in Table 8.

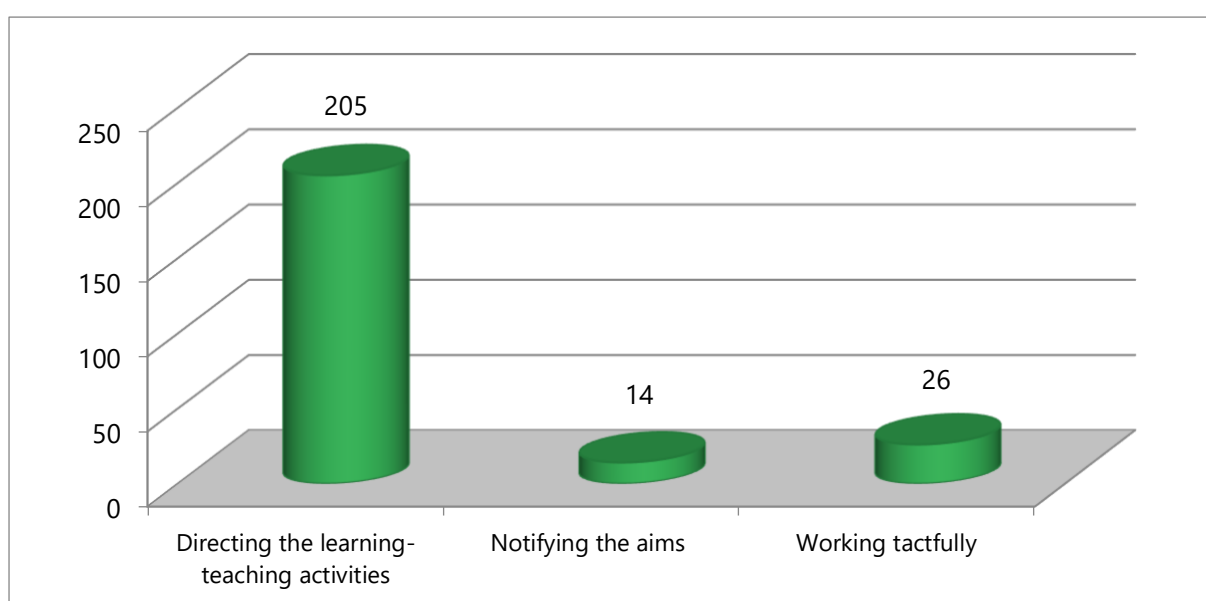
Table 8. ANOVA Results Regarding Primary Teachers' Curriculum Fidelity Scores in Terms of Teachers' Experience Variable

	<i>Teacher Experience</i>	<i>N</i>	\bar{X}	<i>SD</i>	<i>F</i>	<i>p</i>	<i>Tukey</i>	<i>Effect Size</i>
Curriculum Fidelity	1-5 year	104	4.52	.485	.113	.978	-	-
	6-10 year	80	4.53	.432				
	11-15 year	116	4.53	.433				
	16-20 year	104	4.51	.582				
	21 year and over	112	4.55	.441				

As shown in Table 8, the curriculum fidelity mean scores of primary teachers with 21 years and over teaching experience are the highest, while those with 16 to 20 years' experience are the lowest. Along with this, the curriculum fidelity mean scores of primary teachers in each category are very close to one another and this slight difference in curriculum fidelity of primary teachers regarding the teacher experience variable is not statistically significant.

Findings Regarding the Function of Curriculum in Primary Teachers' Professional Lives

Primary teachers were also asked to express their opinions on the function of the curricula they implemented in their professional lives, and 245 of the teachers responded. The views obtained from the primary teachers regarding the function of the curriculum in the teachers' professional life were categorized under three major topics. The related views and the frequencies were presented in Graph 1.



Graph 1. Primary Teachers' Views Regarding the Function of the Curriculum

As seen in Graph 1, the primary teachers benefited from the curriculum in their professional lives for directing the learning-teaching activities ($f = 205$), working tactfully ($f = 26$) and notifying the aims ($f = 14$). Particularly, a large part of teachers highlighted the benefits of curriculum in the choosing the teaching methods, techniques and materials appropriate for the learning aims of the school subjects. The opinions of the teachers regarding this questions were as follows:

Curriculum is a program that I use a lot at school. I benefit a lot while preparing my daily program (CT216).

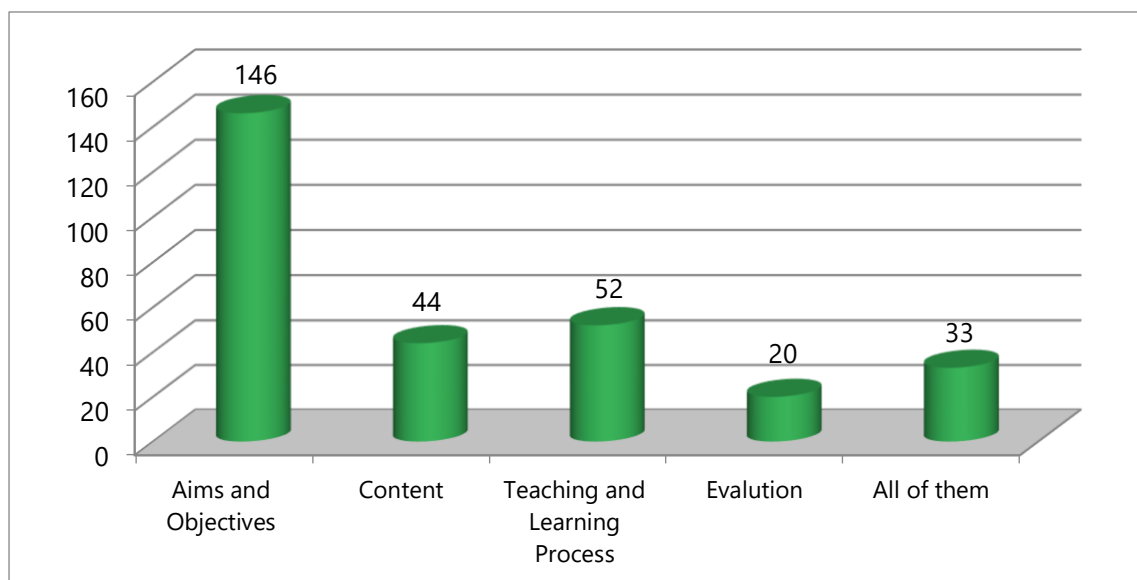
It shows which learning outcomes we should give in which direction (CT270).

It ensures the permanency of learning, therefore contributes to better professional performance of teachers (CT318).

It provides convenience in planning and managing the process and helps me save time (CT323).

Findings Regarding Primary Teachers Benefiting from the Curriculum Components

The primary teachers were asked to mention which curriculum components they applied most in their teaching process, and 220 primary teachers responded. In line with the responses from the teachers, the findings regarding the use of the curriculum components were categorized under five major topics. The related views and the frequencies were presented in Graph 2.



* The total number of frequencies in this table is higher than the number of participants who answered this question because some participants gave their opinions on more than one category.

Graph 2. Frequencies Regarding Primary Teachers' Use of Curriculum Components

As seen in graph primary teachers stated to have benefited mostly from Aims and objectives ($f = 146$), Content ($f = 44$), Teaching and learning process ($f = 52$), Evaluation ($f = 20$) and all the components ($f = 33$). The data in the graph showed the teachers applied mostly to aims and objectives component and at least to the evaluation component of the curriculum. The opinions of the teachers regarding this question were as follows:

I make use of curriculum experience component. Since it is the process where the students reach the aims and objectives (CT22).

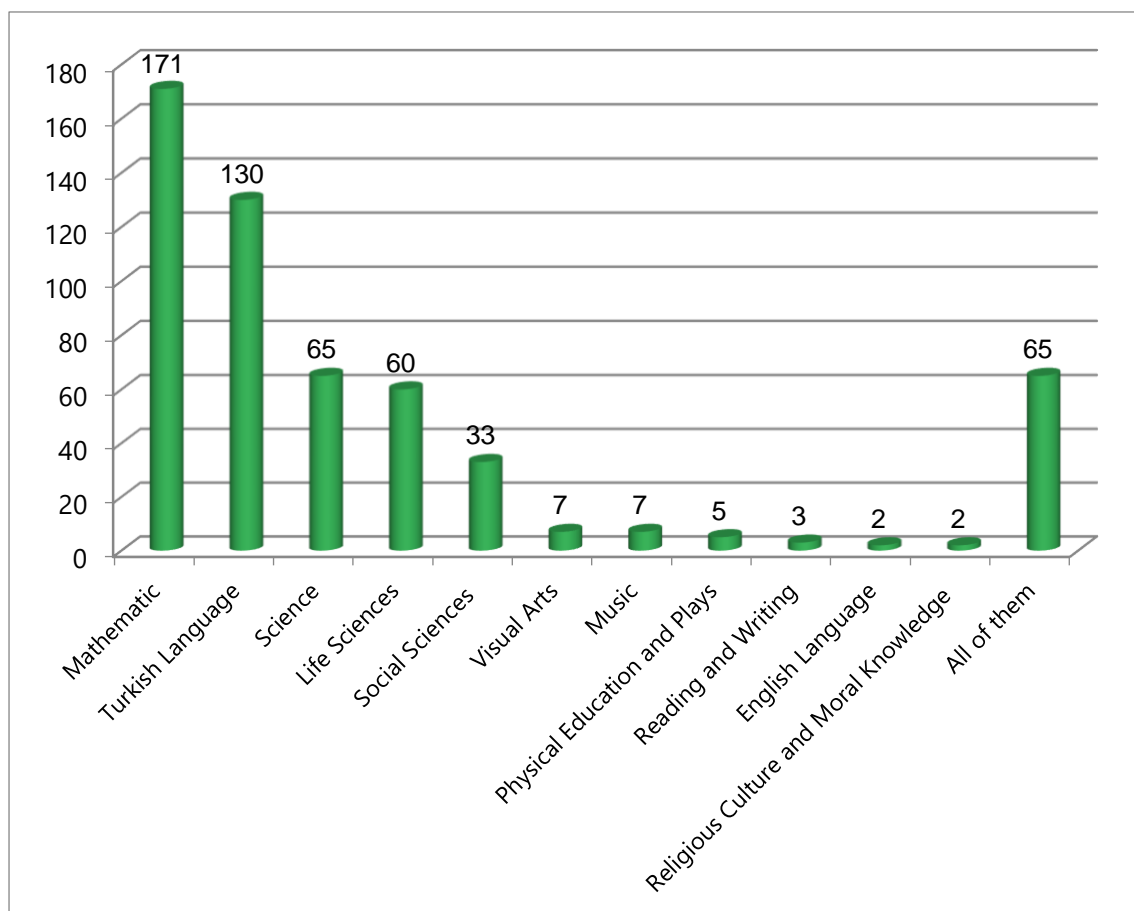
I benefited in that how I can best give a curriculum content suitable for the age groups of the students in my class (CT73).

I make use of curriculum evaluation component. The more different testing methods I used, the higher the reliability will be (CT79).

I try to implement the stages of the curriculum step by step. By using the curriculum, I learn how I should give the desired aims to the students, which method and technique should I use, how I should organize my experiences, and finally whether I have achieved the target aims and objectives of the program (CT279).

Findings Regarding Primary Teachers Benefiting from the Curriculum of Different School Subjects

The primary teachers were finally asked to express their views towards curriculum of which school subject/s they benefited mostly, and 316 primary teachers responded to the related question. In line with the answers from the teachers, the findings were categorized under twelve topics. The related themes and the frequencies were presented in Graph 3.



* The total number of frequencies in this table is higher than the number of participants who answered this question because some participants gave their opinions on more than one category.

Graph 3. Frequencies regarding the Primary Teachers' Use of Curricula of Different School Subjects

As seen primary teachers mentioned benefiting mostly from the curricula of basic courses such as Mathematics ($f = 171$), Turkish ($f = 130$) and Science ($f = 65$), Life Sciences ($f = 60$) and Social Studies ($f = 33$). The teachers also made use of at least Religious Culture and Moral Knowledge ($f = 2$) and English ($f = 2$) courses, as these two school subjects are taught by the related branch teachers.

Discussion, Conclusion and Implications

A total of 516 primary teachers voluntarily took part in this study, which aims to reveal curriculum fidelity behaviors of primary teachers working in primary schools. As a result of the analysis of the data obtained from the teachers, it was concluded that curriculum fidelity level

of primary teachers, who are responsible for implementing the curriculum of the courses within the scope of more than one discipline, is quite high. This shows that primary school curricula, which are designed from a single center and put into practice all over the country, are put into practice as designed (Vartuli & Rohs, 2009). Although there is not a study directly targeted the curriculum fidelity of primary teachers in the literature, teachers working in primary schools, the majority of whom are primary teachers, have higher level of curriculum fidelity than teachers working at other school stages (Burul, 2018). This may result from the fact that external factors such as exams, passing grades, and preparatory exams for an upper school stage in primary schools are not emphasized as much as in other education levels. Bümen et al. (2014) mentioned the large-scale tests and exams to be a determinant factor effecting curriculum fidelity of teachers in Turkey. Because the factors that create pressure and anxiety on the teacher during the curriculum implementations affect the teacher's choices while applying the curriculum or curriculum components (Bell, 2015), and when teachers are in autonomy, they can practice teaching more effectively (Hondrich, Hertel, Adl-Aminik, & Klieme, 2016). The absence of such negative contexts and concerns may contribute to the high fidelity to curriculum.

In this study, gender was concluded to create a significant difference in favor of female primary teachers' curriculum fidelity. The related literature showed that gender is not a significant variable for curriculum fidelity of teachers working at upper school stages (Aslan & Erden, 2020; Boncuk, 2021; Burul, 2018). However, female students were found to have higher level of curriculum fidelity than the male ones, in a study conducted with pre-service teachers in the department of primary teaching (Yıldız, 2018). In fact, teachers' attitudes and beliefs about curriculum are considered being an important factor affecting curriculum fidelity of teachers (Burakgazi, 2019) and there is a significantly moderate relationship between curriculum design approaches and curriculum fidelity behaviors of teachers (Yıldız, 2018). Along with this, the female teachers have significantly more positive attitudes towards student-centered curriculum design approaches than male teachers (Karaman & Bakaç, 2017). Based on this, that female teachers have more positive attitudes and beliefs towards student-centered programs may have affected their program fidelity behavior to be higher than the male teachers. For this reason, it is important to change the teachers' beliefs and attitudes towards the curriculum positively to ensure the applicability of the curriculum as designed (Dolapçioğlu, 2020).

Considering the educational level of primary teachers, it was concluded that teachers with bachelor's degree had significantly higher curriculum fidelity teachers with postgraduate degree. In the literature, Pehlivan and Taşkın (2020) concluded that as the education level of teachers increased, their fidelity to curriculum decreased, while Aslan and Erden (2020) and Boncuk (2021) concluded that teachers with a postgraduate degree working at different school stages have higher curriculum fidelity than teachers with a bachelor's degree. That the primary teachers with bachelor's degree showed significantly higher curriculum fidelity may result from their less autonomous behavior towards the teaching process. It is stated that teachers involved in the postgraduate education process, which aims to bring knowledge that did not exist before to the world of science, to produce new knowledge (Günay, 2018), can develop themselves more professionally thanks to the scientific studies and training they receive (Başar & Kösem, 2019; Turhan & Yaraş, 2013). From this point of view, teachers with postgraduate degree may

try to experience the successful methods and practices they have observed in scientific studies along with the knowledge, experience and skills they have gained during their education process, which in the end lead to a decrease in their curriculum fidelity level.

It was concluded that there was no significant difference among the primary teachers' curriculum fidelity levels in terms of students' grade, the number of students in the classroom, the school setting, and the teachers' experience variables. Burul (2018) concluded that teachers' experience did not make a significant difference for teachers' curriculum fidelity level. Thierry, Vincent, and Norris (2020) concluded that professionally experienced teachers have higher curriculum fidelity. Likewise, in the study conducted by Aslan and Erden (2020), teachers' experience and the school setting did not create a significant difference for teachers' curriculum fidelity level. This can be explained by the fact that the curriculum is prepared centrally and implemented in all regions of Turkey. In Turkey, curricula are developed from a single center and used jointly in all regions (Ornstein & Hunkins, 2014). Although the same curriculum is implemented in different regions and schools that do not have the same conditions, thanks to the feature of the being framework, teachers in any region of the country can adopt the programs under the terms and conditions of the schools. The feature of being a framework allows the objects, content and activities in the curriculum to be designed in a way that allows the teacher to take initiative in the implementation process (Akpınar, 2014). Therefore, the variables such as students' grade, the number of students in the classroom, the school setting, and the teachers' experience may not have a significant effect on the curriculum fidelity levels of the primary teachers because of framework feature of the curricula.

The views related to the function of the curriculum in the professional lives of the primary teachers pointed out that the teachers mostly benefited from the curriculum for directing the learning-teaching activities, working tactfully and notifying the aims and objectives of the school subject. The studies on curriculum fidelity highlighted that teachers follow certain parts of the programs more while ignoring the others because of environmental or personal factors (Buxton et al., 2015). This is in fact necessary for a variety of reasons related to the context of schools and cultures such as the time allocated to teaching, the language used, or the cultural elements to be presented in the classroom in the implementation process (Thierry et al., 2020) however, the aims and objects of the program, and the teaching activities should be considered as the sections that must be strictly implemented in terms of student success. Because when teachers do not fully understand the aims and objects of the course, they tend to apply instructional activities superficially (McNeill et al., 2017), which in the end leads undesirable results for students' success and learning. Therefore, teachers need to understand the aims and objects of the course, and the epistemological logic behind these in order to increase student success and the quality of teaching (Davis & Krajcik, 2005). Likewise, teachers' designing teaching activities by adhering to the curriculum makes it easier for students to comprehend the content of the subject area (Seraphin et al., 2017). Based on the related studies, it is clear that teachers' fidelity to the aims and objects of the course and the teaching activities contributes not only to the efficient implementation of the programs but also to students' learning and success. In addition, as the teachers mentioned, following a program also allows them to act planned in terms of instruction. As a matter of fact, one of the greatest benefits of curriculum is that the learners acquire the knowledge and skills within a plan and program

instead of a random process (Akpınar, 2014). From this point of view, one advantage of instructing with a fidelity to curriculum is a planned and regular teaching.

The views related to the primary teachers' use of curriculum components showed that the teachers benefited the most from the learning aims and objectives, subsequently from the teaching and learning process, and the least from the evaluation component. The relevant literature points out that the teachers do not show fidelity to other components of the curriculum except from the content (Dikbayır & Bümen, 2016; Kara et al., 2017). However, this study reveals a completely different result in the context of primary teachers, showing that primary teachers frequently benefit from the curriculum's aims and objectives, content, and teaching-learning experiences. The teachers started with the learning aims and objects to help the students to gain them and they had the responsibility of recording the learning aims and objects to classroom-notebooks, which may have led them to attach more importance to this component. As a matter of fact, the objectives and aims come at the beginning of all the components and directing the following parts of curriculum. The learning aims and objectives are the first and most important component of the curriculum as they determine the behaviors to be acquired by the students, the materials to be used, the content to be presented and the evaluation criteria to be used (Tyler, 2014). Due to such importance, teachers also stated that they benefited from the curriculum relatively more in the selection of methods, techniques and materials regarding how to achieve the gains. Primary teachers engage with students in the younger age group (7-10 years old) in the teaching process of curriculum. In this age period, these young students can think about the material and visible features of events and phenomena, thus they can only learn in familiar methods and environments (Slavin, 2012). Since teaching activities are built up considering the characteristics of the learners (Schunk, 2011), primary teachers need to be more attentive and use various teaching methods, techniques and materials (Ünsal, 2013). In this context, it is thought that primary teachers benefit from the learning-teaching processes of the curriculum in order to offer concrete experiences to the young learners for the achievement of the objectives and aims. Although teachers adhere strictly to the objectives and teaching activities, they focus less to the measurement and evaluation component of curriculum. Some other studies also mentioned that teachers tend to apply the measurement and evaluation less than the other components of the curriculum (Birgin & Baki, 2012; Kana, Aşçı, Kana, & Elkiran, 2018) as they know less about the measurement and evaluation part of the curriculum (Erdamar, 2020). Unfortunately, this reduces the applicability and function of this component in the end (Karagülle et al., 2019).

The views related to primary teachers' use of curriculums of various school subjects pointed out that teachers mostly benefit from the curricula of basic courses such as Mathematics, Turkish, Science, Life Sciences and Social Sciences. The reason of teachers' tendency to show fidelity to the curriculum of basic courses is that the achievements of basic school subjects such as Turkish, Mathematics, Social Sciences, and Science are used as criteria in the central examinations for placing students the upper level schools. In Turkey, central examinations are carried out in the transition to an upper institution after primary, secondary and high schools. The students are placed in certain schools or programs by ranking them based on their achievements and the scores on these exams (Büyüköztürk, 2016). Central exams are very important for students and parents in Turkey (Çetin & Ünsal, 2019) therefore, social and familial expectations are directed to the students to achieve high success. This situation causes pressure

and stress on teachers, leading teachers design their teaching and assessment processes in line with central exams (Yılmaz & Bülbül, 2017), focusing on the parts of the curriculum where students will be successful in the exam, and neglecting other parts (Barnes, 2005). The fact that the teachers implement the curriculum of the two courses which are Religious Culture and Moral, and English Language Teaching at the minimum level is due to the fact that related field teachers taught the courses.

In conclusion, primary teachers stated to show high fidelity to curricula of various school subjects they teach in four-year basic education period. In addition, it was concluded that the primary teachers mostly applied to the curricula of the basic courses, and although they had the intention to benefit from the entire curriculum components equally, they mostly benefited from the aims and objectives and the least from the measurement-evaluation component. Finally, the primary teachers reported they benefited from the curricula in their professional lives for directing the learning-teaching activities, working tactfully, and notifying the aims. Based on these results, the findings confirmed the primary teachers' benefiting from the curricula of school subjects. However, as we based this study on the teachers' self-statements, it is limited only to the opinions and thoughts of the primary teachers. In order to eliminate this limitation and to confirm these results with different measurement and evaluation methods, it would be beneficial to conduct a similar study with more objective data collection tools. In addition, the primary teachers benefiting from the measurement and evaluation component of curricula relatively at the minimum level highlighted their need for an in-service training about this component. Finally, some other studies can be conducted to explain the reasons for benefiting less from some school subjects' curricula.

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TÜRKÇE GENİŞ ÖZET

Sınıf Öğretmenlerinin Programa Bağlılıklarının İncelenmesi

Giriş

Eğitim programlarının etkililiğini belirlemede önemli bir etken de programa bağlılıktır. Programa bağlılık çalışmalarının kökeni E. M. Rogers'ın Yeniliklerin Yayılması kuramına dayanmaktadır (Dusenbury et al., 2003) ve o zamandan bu yana programa bağlılık, sağlık, eğitim ve hizmet alanlarındaki çalışmalar ile program değerlendirme çalışmalarında sıklıkla kullanılmaktadır (Vartuli & Rohs, 2009). Programa bağlılık, resmi ve uygulanan program arasındaki yakınlık (Lee & Chue, 2013) veya bir yeniliğin orijinal program tasarımına göre ne kadar iyi uygulandığının belirlenmesi (Lee et al., 2009) olarak tanımlanmaktadır. Öğretim programına bağlılık kavramı ise, tasarlanan programın programı uygulayan paydaşlar tarafından aslına sadık kalınarak uygulanması olarak ifade edilmektedir (Bümen et al., 2014).

Öğretim programları, öğrencilerin bilgilerini geliştirme ve akademik açıdan bir üst kademeye hazırlama sürecinde önemli bir araç görevi üstlenmektedir (Polikoff & Porter, 2014). Programın uygulama sürecinde etkin rol oynayan öğretmenin tasarlanan bir programı uygulama sürecindeki tutum ve davranışlarının bilinmesinin önemli olduğu belirtilmektedir (Hall & Hord, 2015). Buna göre bazı öğretmenlerin program uygulama sürecinde esnek davranabildiği ve tasarlanan programın belirli öğelerini öğretim sürecine dâhil ederken bir kısım öğeleri ise atlayabildiği belirtilmektedir. Tasarlanan öğretim programlarını amacına ve tasarımına uygun bir şekilde uygulamak öğretmenin temel görev ve sorumluluklarından biri olarak kabul edilmiştir (Nevenglosky, 2018). Öğretmenlerden tasarlanan programları aslına bağlı kalarak uygulamaları beklenmektedir. İlgili alanyazına bakıldığında öğretmenlerin programa bağlılığını inceleyen sınırlı sayıda çalışmanın yer aldığı ve ilkökullarda görev yapan sınıf öğretmenlerinin program bağlılığını doğrudan konu alan herhangi bir çalışmaya rastlanmadığı görülmektedir. Özellikle okuma ve yazma öğretiminin yanında birçok farklı branşa ait temel becerileri öğrencilere kazandırma görevi üstlenen sınıf öğretmenlerinin uyguladıkları programlara ilişkin bağlılıkları bu çalışma kapsamında ayrıntılı bir şekilde incelenmeye çalışılmıştır.

Yöntem

Sınıf öğretmenlerinin öğretim programlarına bağlılıklarının incelenmesinin amaçlandığı bu çalışma tarama modelinde yapılmıştır. Tarama, süregelen olayların doğasını tanımlamaya, karşılaştırma standartlarını belirlemeye veya belirli olaylar arasındaki ilişkileri saptamaya yönelik veri toplamaya odaklanan bir araştırma modelidir (Cohen, Manion, & Marrison, 2007) ve araştırmacıların, doğal bağlamlarında değişkenlerin, dağılımlarını ve ilişkilerini tanımlamalarını sağlar (Wiersma, 1995). Araştırmanın evrenini, 2020-2021 Eğitim-Öğretim yılının 2. Döneminde

Diyarbakır İl Milli Eğitim Müdürlüğüne Bağlı ilkokullarda görev yapan sınıf öğretmenleri oluşturmaktadır. Araştırmanın örneklemini 2020-2021 eğitim-öğretim yılının II. Döneminde Diyarbakır İl Milli Eğitim Müdürlüğüne Bağlı ilkokullarda görev yapan ve tesadüfi seçilmiş 274 kadın ve 242 erkek olmak üzere toplam 516 sınıf öğretmeni oluşturmaktadır. Veri toplama aracı olarak Öğretim Programına Bağlılık Ölçeği ve Açık Uçlu Anket Formu kullanılmıştır.

Araştırmada elde edilen veriler Jamovi paket programı kullanılarak analiz edilmiştir. Araştırmaya katılan öğretmenlerin kişisel bilgileri ile ilgili özelliklerinin yüzde ve frekansları hesaplanmıştır. Öğretmenlerin öğretim programına bağlılıklarının hangi düzeyde olduğunu belirlemek için aritmetik ortalama ve standart sapma değerleri hesaplanmıştır. Çalışmadaki diğer nicel analizler için parametrik testlerden yararlanılmıştır. Ayrıca açık uçlu anket aracılığıyla elde edilen verilerin analizinde ise betimsel istatistik değerleri hesaplanmıştır.

Bulgular

Araştırma kapsamında sınıf öğretmenlerinin öğretim programına bağlılıklarının yüksek düzeyde (kesinlikle katılıyorum) olduğu ve cinsiyet ile eğitim düzeyi değişkenlerine göre anlamlı farklılık gösterdiği belirlenmiştir. Sınıf öğretmenlerinin programa bağlılıkları üzerinde okutulan sınıf düzeyi, sınıftaki öğrenci sayısı, okulun bulunduğu yerleşim yeri ve öğretmenlerin mesleki kıdem değişkenlerinin anlamlı farklılık oluşturmadığı belirlenmiştir.

Sınıf öğretmenlerinin mesleki yaşamlarında öğretim programının işlevine ilişkin görüşleri incelendiğinde, öğretmenlerin öğretim programlarından öğrenme-öğretme etkinliklerine yön verme ($f = 205$), planlı çalışma ($f = 26$) ve hedeften haber etme ($f = 14$) amacıyla faydalandıkları görülmektedir. Öğretmenler söz konusu program öğelerinden en fazla kazanımlardan yararlandıklarını belirtirken en az ise sınama durumlarından yararlandıklarını ifade etmişlerdir. Ayrıca sınıf öğretmenlerinin farklı disiplin alanlarına ilişkin ders öğretim programlarından daha çok temel derslerin programlarına başvurma ihtiyacı hissettikleri belirlenmiştir.

Tartışma, Sonuç ve Öneriler

Sınıf öğretmenlerinin öğretim programına bağlılıklarının incelendiği bu çalışmada, elde edilen verilerin analizi sonucunda birden fazla disiplin alanına ait derslerin öğretim programını uygulama sorumluluğunu taşıyan sınıf öğretmenlerinin öğretim programına bağlılık düzeylerinin oldukça yüksek olduğu sonucuna ulaşılmıştır. Bu durum, tek bir merkezden tasarlanan ve ülkenin her yerinde uygulamaya konulan ilkokul düzeyindeki öğretim programlarının tasarlandığı şekliyle uygulamaya konulduğunu göstermektedir (Vartuli & Rohs, 2009). Alanyazında sınıf öğretmenlerini temele alan bir programa bağlılık çalışmasına doğrudan rastlanmamakla birlikte ilkokulda görev yapan öğretmenlerin ki bunların büyük çoğunluğunu sınıf öğretmenleri oluşturmaktadır, diğer kademelerde görev yapan öğretmenlere nazaran programa bağlılıklarının daha yüksek olduğu belirlenmiştir (Burul, 2018).

Sınıf öğretmenlerinin öğretim programına bağlılıklarına cinsiyet değişkeni açısından kadın öğretmenler lehine anlamlı fark oluşturduğu sonucuna ulaşılmıştır. İlgili alanyazında diğer öğretim kademelerinde görev yapan öğretmenlerle yapılan çalışmalarda cinsiyetin programa bağlılık açısından anlamlı bir değişken olmadığına ilişkin sonuçlara rastlanılmıştır (Aslan & Erden, 2020; Boncuk, 2021; Burul, 2018).

Sınıf öğretmenlerinin eğitim durumları ele alındığında lisans mezunu öğretmenlerin lisansüstü eğitime sahip öğretmenlerden anlamlı bir şekilde daha yüksek programa bağlılık gösterdikleri sonucuna ulaşılmıştır. Alanyazında Pehlivan ve Taşkın (2020) öğretmenlerin eğitim düzeyleri arttıkça programa bağlılıklarının azaldığı sonucuna ulaşırken Aslan ve Erden (2020) ile Boncuk (2021) çalışmasında farklı öğretim kademelerinde görev yapan lisansüstü eğitim mezunu öğretmenlerin lisans mezunu öğretmenlere nazaran daha yüksek programa bağlılık düzeyine sahip olduğu sonucuna ulaşılmıştır.

Sınıf öğretmenlerinin okutulan sınıf, sınıftaki öğrenci sayısı, okulun bulunduğu yerleşim yeri ile öğretmenlerin mesleki kıdem değişkenlerine göre öğretim programına bağlılık düzeyleri arasında anlamlı fark olmadığı sonuçlarına ulaşılmıştır. Burul (2018) da çalışmasında farklı öğretim kademelerinde görev yapan öğretmenlerin programa bağlılık düzeylerinin mesleki kıdem değişkeni açısından anlamlı farklılık oluşturmadığı sonucuna ulaşmıştır. Thierry, Vincent ve Norris (2020) mesleki açıdan deneyimli öğretmenlerin programa bağlılık düzeylerinin daha yüksek olduğu sonucuna ulaşmıştır. Aynı şekilde Aslan ve Erden'in, (2020) gerçekleştirdikleri çalışmada da ortaokul öğretmenlerinin öğretim programına bağlılıklarının mesleki deneyim ve görev yapılan yerleşim yeri değişkenlere göre farklılık göstermediği sonucuna ulaşmıştır.

Sınıf öğretmenlerinin mesleki yaşamlarında öğretim programının işlevine ilişkin görüşleri incelendiğinde, öğretmenlerin öğretim programlarından en fazla öğrenme-öğretme etkinliklerine yön verme, planlı çalışma ve kazanımlardan haberdar etme amacıyla faydalandıkları belirlenmiştir. Programa bağlılığa ilişkin yapılan çalışmalarda çevresel veya kişisel faktörlerden ötürü öğretmenlerin programların belirli bölümlerini daha fazla uyma eğilimi gösterirken belirli bölümlerini göz ardı etme davranışlarında bulundukları ifade edilmektedir (Buxton et al., 2015).

Sınıf öğretmenlerinin öğretim programının öğelerinden yararlanma durumlarına ilişkin görüşlerine bakıldığında öğretmenlerin programın öğelerinden en çok kazanımlar daha sonra eğitim durumları, en az ise sınav durumu öğesinden yararlandıklarını belirtmişlerdir. İlgili alanyazında öğretmenlerin öğretim programında içerik haricinde diğer öğelere bağlılık göstermedikleri belirtilmektedir (Dikbayır & Bümen, 2016; Kara et al., 2017). Ancak söz konusu çalışma sınıf öğretmenleri bağlamında tamamen farklı bir sonuç ortaya koyarak sınıf öğretmenlerinin programın kazanımlar, içerik ve eğitim durumları öğelerinden sıklıkla yararlandıklarını göstermektedir.

Sınıf öğretmenlerinin farklı disiplin alanlarına ilişkin ders öğretim programlarından yararlanmalarına ilişkin görüşleri incelendiğinde, öğretmenlerin daha çok Matematik, Türkçe, Fen Bilimleri, Hayat Bilgisi ve Sosyal Bilgiler gibi temel derslerin öğretim programlarından daha çok yararlandıkları görülmektedir. Öğretmenlerin temel derslerin öğretim programlarına daha çok başvurma ihtiyacı hissetmeleri diğer üst öğretim kademelerine öğrenci yerleştirme amacıyla yapılan sınavlarda Türkçe, Matematik, Sosyal Bilgiler, Fen Bilimleri gibi temel derslerin kazanımlarının ölçüt olarak kullanılmasından kaynaklandığı düşünülmektedir.