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A Study on Teachers' Curriculum Awareness and Their Perceptions of Self-Efficacy towards Teaching Thinking Skills *

ABSTRACT

This study aims to assess teachers' awareness of the curriculum and their self-efficacy perceptions towards teaching thinking skills. The sample was composed of 264 in-service teachers during the spring semester of the 2022-2023 academic year. Curriculum Awareness Scale and Teachers' Self-Efficacy Towards Teaching Thinking Skills Scale were used as data collection tools. Data analysis was performed using descriptive statistics, independent samples t-test, one-way analysis of variance (ANOVA), Pearson correlation analysis, and multiple linear regression. The findings indicated that teachers' curriculum awareness and their self-efficacy perceptions for teaching thinking skills were at a high level. Significant variations in curriculum awareness were observed based on gender, professional seniority, and school type. While teachers' self-efficacy perceptions differed significantly by gender, no significant differences were found in relation to professional seniority or school type. A statistically significant, moderate, and positive correlation was identified between curriculum awareness and self-efficacy. Furthermore, regression analysis confirmed that curriculum awareness is a significant predictor of teachers' self-efficacy in teaching thinking skills. Various suggestions were presented within the scope of the research results.

Keywords: Teachers, curriculum awareness, self-efficacy towards teaching thinking skills.

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INTRODUCTION

Changes in the needs of individuals and societies with the advancement of technology and science have caused the roles expected from individuals in the modern age to change. In this direction, the paradigms in education are also changing, and it is not the individuals who learn the information as in the past; It is aimed to foster learners who can serve as generators of new knowledge., use it actively in daily life, have problem-solving and critical thinking skills, and communicate effectively (MEB, 2005). As a result of changing paradigms, traditional learning environments where direct information is transferred have been replaced by learner-centered environments and teaching programs, have been reshaped according to the progressive education movement (Oğuz, 2013). This new educational landscape demands that teachers move away from the traditional role of information transmitters to become facilitators who develop students' complex skills such as collaboration, creativity, and critical thinking (Chen, 2025)

Teachers have an essential role in the effective implementation of curriculum (Öztürk Yurtseven & Özaydınlık, 2018). The determining factor in reflecting the program into practice as designed is the program experiences of the teacher (Taylor, 2013). Indeed, effective curriculum implementation requires not only adhering to the program's goals but also the teacher's professionalism in adapting the content to students' needs with deep curriculum awareness (Garcia & Jones, 2024). Teachers can only provide students with the knowledge and skills offered by the curriculum if they master the four elements of the curriculum: target, content, learning situations, and testing situations (Ertürk, 2017; Yıldız & Baycan, 2012). It is difficult and time-consuming for teachers to become competent and self-confident in using the curriculum (Marsh & Willis, 2007). For this reason, the faster teachers can adapt to the curriculum, the faster the planned learning will occur (Keskin & Korkmaz, 2021).

A review of the literature reveals that a majority of teachers report a deficiency in their curricular knowledge, they cannot understand the philosophy and educational approaches of the program and the purpose of the curriculum, and they cannot master the concepts, content and learning outcomes in the programs; they don't have sufficient knowledge about the methods and techniques included in the curriculum and assessment-evaluation techniques and that they don't exactly know how the program should be implemented and they have difficulty in implementing the program effectively (Akdeniz & Paçin, 2012; Doğan & Semerci, 2016; Durdukoca & Arıbaş, 2014; Epçaçan & Erzen, 2008; Ercan, 2011; Erdoğan, Kayır, Kaplan, Ünal & Akbunar, 2015; Ertürk, 2013; Feyzioğlu, 2014; Gelen & Beyazıt, 2007; Güneş & Baki, 2011; İncekara, 2011; Kahraman, 2014; Karal, Reisoğlu & Günaydın, 2010;

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Kaymakçı, 2015; Keleş, Haser & Koç, 2012; Kesten & Özdemir, 2010; Kırmızı Susar & Akkaya, 2010; Kuduban & Aktekin, 2013; Kurt & Yıldırım, 2010; Özcan & Mirzeoğlu, 2014; Şengül Bircan & Tokdemir, 2013; Tarman, Tuncer & Berkant, 2012; Yapıcı & Demirdelen, 2007). To overcome these problems, teachers need to be good curriculum readers with an awareness of the curriculum, adopt the philosophy of the curriculum, and show the effort required by the curriculum (Keskin & Korkmaz, 2021; Pektaş & Pesen, 2021).

The content of the curriculum includes different approaches, methods, and techniques to improve students' thinking skills, enable them to think flexibly and problem-solving skills (Burgess, 2012). Asking students open-ended questions can prompt them to make comparisons, provide justifications, or conduct research based on prior knowledge. This helps students develop their critical thinking capacity (Lee & Lai, 2017). In addition to inquiry-based approaches, it is recommended to use active learning strategies to help students develop their higher-order thinking capacities (Leung, 2013).

The concept of 21st-century skills that students should have is a learning paradigm that emphasizes their critical thinking skills and ability to make connections between knowledge and the natural world (Pratama et al., 2022). Thinking skills are related to how people understand the world around them, including the skills of problem-solving, reasoning, planning of actions, justification, choice, and creation of new ideas, and the development of these skills largely depends on practices in the family, school or society (Rrustemi & Kurteshi, 2023). According to Fisher (2008), the fundamental purpose of education is the cultivation of higher-order thinking skills, enabling students to reason critically, creatively, and effectively.

Teachers, pioneers of change and critical perspective, should be able to develop interdisciplinary activities for teaching critical thinking skills in learning environments (Gandana et al., 2021; Jones et al., 1999). Teacher characteristics come to the fore in teaching these skills effectively, and their individual competencies are practical in teaching (Dilekli & Tezci, 2015). Furthermore, teacher self-efficacy is a malleable trait that can be significantly enhanced through targeted professional development focused on innovative pedagogies, such as those required for teaching thinking skills (Williams, 2025). Studies in the literature show a relationship between teacher self-efficacy, performance, and student success, and it is considered essential to understand teachers' self-efficacy for teaching these skills (Tebbs, 2000). Among the General Competencies for the Teaching Profession prepared by the Ministry of National Education, critical thinking and problem-solving skills are among the 21st-century skills teachers are expected to provide students. In this context, there is a need to re-design the curriculum to gain these skills and redefine the teaching profession's general competencies (General Directorate of Teacher Training [GDTT], 2017).

The curriculum includes plans that guide the efficient execution of the learning-teaching process. It is essential to follow the path drawn by the curriculum in teaching the thinking skills included in the curriculum content. In this context, it can be expected that teachers with a good command of the curriculum content will consider themselves more competent in teaching thinking skills. Recent studies in the literature also reveal that teachers who are confident in interpreting and adapting the curriculum report higher self-efficacy towards teaching thinking skills (Aydın & Yılmaz, 2024). This research is built on this basis. It is expected that this research, which aims to find out teachers' awareness of the curriculum and their self-efficacy perceptions towards teaching thinking skills, will provide various perspectives to the experts who develop the curriculum and the researchers who conduct relevant literature studies. Additionally, when the relevant literature is examined, it is seen that no research assesses teachers' curriculum awareness and self-efficacy perceptions towards teaching thinking skills together. In this regard, this research aims to assess teachers' awareness of the curriculum and their self-efficacy perceptions towards teaching thinking skills. In this context, answers were sought to the following questions:

1. What is the level of teachers' awareness of the curriculum?

2. Does teachers' awareness of the curriculum differ significantly according to gender?

3. Does teachers' awareness of the curriculum differ significantly according to professional seniority?

4. Does teachers' awareness of the curriculum differ significantly depending on the type of school they work in?

5. What is the level of teachers' self-efficacy perceptions towards teaching thinking skills?

6. Do teachers' self-efficacy perceptions towards teaching thinking skills differ significantly according to gender?

7. Do teachers' self-efficacy perceptions towards teaching thinking skills differ significantly according to professional seniority?

8. Do teachers' self-efficacy perceptions towards teaching thinking skills differ significantly depending on the type of school they work in?

9. Are there significant relationships between teachers' awareness of the curriculum and their self-efficacy perceptions towards teaching thinking skills?

10. Does teachers' awareness of the curriculum significantly predict their self-efficacy perceptions towards teaching thinking skills?

METHOD

Model

In this research, singular and relational screening designs, which are among general survey models, were used. The singular screening design was preferred because it examined the level of teachers' awareness of the curriculum and their self-efficacy perceptions towards teaching thinking skills. Secondly, since the relationships between these two variables were examined, the relational design was preferred.

Sample Group

The sample of this research consists of 264 teachers working in a city in Turkey in the 2022-2023 academic year. A convenient sampling method was preferred in sample selection. Information about the research sample is presented in Table 1.

Table 1: Data on the Research Sample

Variable		Frequency (f)	Percentage (%)
Gender	Woman	171	64.8
	Male	93	35.2
Seniority	0-10 years	54	20.5
	11-20 years	114	43.1
	21 years and above	96	36.4
School type	Primary school	61	23.1
	Middle school	97	36.7
	High school	106	40.2

The research sample is given in Table 1. Accordingly, 171 participants are women (64.8%) and 93 (35.2%) are men. 54 (20.5%) of the participants have a professional seniority between 0-10 years, 114 (43.1%) have a professional seniority between 11-20 years, and 96 (36.4%) have a professional seniority of 21 years and above. 61 (23.1%) of the participants work in primary school, 97 (36.7%) work in secondary school, and 106 (40.2%) work in high school.

Data Collection Tools

In this research, the "Curriculum Awareness Scale" (CAS) developed by Pektaş and Esen (2021) and the "Teachers' Self-Efficacy Towards Teaching Thinking Skills Scale" (TTSS) developed by Dilekli and Tezci (2015) were used.

Curriculum Awareness Scale: The study to develop this scale developed by Pektaş and Esen (2021) was carried out with two groups of teachers. First, the relevant literature was reviewed, and an item pool was created. After expert opinions, a 58-item trial scale was developed. Explanatory Factor Analysis (EFA) was conducted on the data obtained from the first group of 364 teachers. As a result of EFA, a structure consisting of 25 items and three factors was obtained. Confirmatory Factor Analysis (CFA) was performed on the data obtained from the second group composed of 417 teachers. As a result of CFA, it was determined that the structure obtained by EFA was at an acceptable and sufficient level. The scale consists of three dimensions: "Psychomotor Awareness," "Cognitive Awareness," and "Affective Awareness." The scale is a 5-point Likert type. Cronbach Alpha analysis was applied to measure the reliability of the scale. As a result of the analysis, Cronbach Alpha values were determined as 0.85 for the "Psychomotor Awareness" dimension, 0.81 for the "Cognitive Awareness" dimension, and 0.79 for the "Affective Awareness" dimension. As a result of the analysis carried out within the scope of this research, Cronbach Alpha values were determined as 0.89 for the " Psychomotor Awareness" dimension, 0.91 for the "Cognitive Awareness" dimension, and 0.90 for the " Affective Awareness" dimension.

Teachers' Self-Efficacy Towards Teaching Thinking Skills Scale: 360 teachers participated in the study to develop this scale developed by Dilekli and Tezci (2015). After the literature review, a pool of 25 items was created. Five items were removed in line with expert opinions, and a 20-item trial scale was obtained. As a result of the Explanatory Factor Analysis (EFA), a scale consisting of 20 items and three dimensions was obtained. Afterwards, Confirmatory Factor Analysis (CFA) was applied and it was determined that the structure obtained by EFA was at an acceptable and sufficient level. The scale consists of three dimensions: "Academic Competence," "Application," and "Design." The scale is a 5-point Likert type. Cronbach Alpha analysis was applied to measure the reliability of the scale. As a result of the analysis, Cronbach Alpha values were determined as 0.89 in the "Academic Competence" dimension, 0.93 in the "Application" dimension, and 0.74 in the "Design" dimension. As a result of the analysis carried out within the scope of this research, Cronbach Alpha values were determined to be 0.91 in the "Academic Competence" dimension, 0.94 in the "Application" dimension, and 0.93 in the "Design" dimension.

Data Collection and Analysis

Scale permissions constitute the first stage of data collection in the research. In this context, the necessary permissions were obtained from the researchers who developed the scales, and then data collection started. Before analyzing the data, compliance with normality assumptions was examined. Kurtosis and skewness values were found to be between -1.5 and +1.5. According to Tabachnick and Fidell (2013), these values can be shown as evidence that the data is normally distributed. Therefore, it was decided to use parametric tests to analyze the data. In this context, arithmetic mean, standard deviation, independent t-test, one-way analysis of variance (ANOVA), Pearson correlation analysis, and multiple linear regression analysis were used. In cases where a significant difference between groups emerged in a one-way analysis of variance, the Tukey test was used. In regression analysis, tolerance and VIF values were taken into consideration to examine whether there was a multicollinearity problem. According to Field (2005), to avoid multicollinearity problems, the tolerance value should not be greater than 20, and the VIF value should not be greater than 10.

FINDINGS

Findings related to the first research question

According to the first research question, teachers' curriculum awareness levels were examined. The findings are presented in Table 2.

Table 2: Descriptive Statistics Information on Teacher Curriculum Awareness

Dimensions	N	Minimum	Maximum	Mean	Standard deviation
Psychomotor Awareness (PA)	264	1.58	5.00	4.03	.60
Cognitive Awareness (CA)	264	1.71	5.00	4.13	.67
Affective Awareness (AA)	264	2.17	5.00	4.09	.69
Overall Scale	264	2.08	5.00	4.07	.54

Descriptive statistics of teachers' curriculum awareness levels are presented in Table 2. Accordingly, teachers' awareness of the curriculum is in the Psychomotor Awareness sub-dimension (Mean=4.03, SD= 0.60), Cognitive Awareness sub-dimension (Mean= 4.13, SD= 0.67), Affective Awareness sub-dimension (Mean= 4.09, SD= 0.69). And it is at a high level in overall scale (Mean= 4.07, SD= 0.54).

Findings regarding the second research question

The second research question examines whether teachers' awareness of the curriculum differs according to gender. The findings are presented in Table 3.

Table 3. Change in Teachers' Curriculum Awareness According to Gender

Dimension	Gender	N	Mean	SS	sd.	t	p	Cohen's d
PA	Woman	171	4.08	0.60	262	2.035	0.043	0.25
	Male	93	3.93	0.59				
CA	Woman	171	4.21	0.64	262	2.892	0.004	0.36
	Male	93	3.97	0.68				
AA	Woman	171	4.16	0.66	262	2.109	0.036	0.27
	Male	93	3.97	0.74				
Overall Scale	Woman	171	4.14	0.52	262	2.742	0.007	0.35
	Male	93	3.95	0.55				

In line with the second question of the research, independent t-test results regarding teachers' curriculum awareness levels are presented in Table 3. Teachers' awareness of the curriculum in the Psychomotor Awareness sub-dimension [$t_{(262)}$= 2.035, p<.05], in the Cognitive Awareness sub-dimension [$t_{(262)}$= 2.892, p<.01], in the Affective Awareness sub-dimension [$t_{(262)}$= 2.109, p<.05] and the overall scale [$t_{(262)}$= 2.742, p<.01] differ significantly according to gender. Additionally, it can be seen that Cohen's d values are close to the medium level. Accordingly, female teachers' program awareness is higher than male teachers' program awareness in all sub-dimensions and throughout the scale.

Findings regarding the third research question

The third research question examines whether teachers' awareness of the curriculum differs according to professional seniority. The findings are presented in Table 4.

Table 4: Change in teachers' curriculum awareness according to professional seniority

	Source of variance	sum of squares	sd.	mean squares	F	p	Eta Squared
PA	intergroup	2,478	2	1.239	3.427	0.034	0.02
	within groups	94,352	261	.362			
	Total	96,829	263				
CA	intergroup	2,530	2	1.265	2.850	0.060	
	within groups	115,847	261	.444			

	Total	118,377	263			
AA	intergroup	2,268	2	1.184	2.469	0.087
	within groups	125,182	261	.480		
	Total	127,551	263			
Overall Scale	intergroup	1,061	2	.531	1.801	0.167
	within groups	76,929	261	.295		
	Total	77,991	263			

The results of the one-way analysis of variance regarding the differentiation of teachers' curriculum awareness levels according to professional seniority are presented in Table 4. Teachers' curriculum awareness levels are [$F_{(2-261)}$= 2.850, p>.050] in the Cognitive Awareness sub-dimension, [$F_{(2-261)}$= 2.469, p>.050] in the Affective Awareness sub-dimension, and in the overall scale [$F_{(2-261)}$= 1.801, p>.050] does not differ significantly according to professional seniority. Teachers' curriculum awareness levels vary significantly according to professional seniority in the Psychomotor Awareness sub-dimension [$F_{(2-261)}$= 1.239, p<.050]. According to the results of the Levene test (Levene Statistic= .811, p>.05), the Tukey test was applied to reveal the difference between the groups. Accordingly, the psychomotor awareness levels of teachers with professional seniority between 11-20 years and 21 years and above are higher than the psychomotor awareness levels of teachers with professional seniority between 0-5 years.

Findings regarding the fourth research question

The fourth research question examines whether teachers' awareness of the curriculum differs according to professional seniority. The findings are presented in Table 5.

Table 5: Change in teachers' curriculum awareness according to school type

	Source of variance	sum of squares	sd.	mean squares	F	p	Eta Squared
PA	intergroup	3,692	2	1.846	5.173	0.006	0.03
	within groups	93,138	261	.357			
	Total	96,829	263				
CA	intergroup	1,301	2	.650	1.450	0.236	
	within groups	117,077	261	.449			
	Total	118,377	263				
AA	intergroup	18,344	2	9.172	21.921	0.000	0.14
	within groups	109,206	261	.418			
	Total	127,551	263				
Overall Scale	intergroup	4,962	2	2.481	8.867	0.000	0.06
	within groups	73,029	261	.280			
	Total	77,991	263				

The results of the one-way variance analysis regarding the differentiation of teachers' curriculum awareness levels according to the type of school assigned are presented in Table 5. Teachers' curriculum awareness levels do not differ significantly in the Cognitive Awareness sub-dimension depending on the type of school they work in [$F_{(2-261)}$= 1.450, p>.050]. Teachers' curriculum awareness levels in the Psychomotor Awareness sub-dimension differ significantly depending on the type of school they work in [$F_{(2-261)}$= 5.173, p<.050]. According to the results of the Levene test, (Levene Statistic= .824, p>.05) Tukey test was used to reveal the difference between the groups. Accordingly, the cognitive awareness levels of teachers working in primary schools are higher than the cognitive awareness levels of teachers working in secondary and high schools. Teachers' curriculum awareness levels differ significantly in the Affective Awareness sub-dimension depending on the type of school they work in [$F_{(2-261)}$= 21.921, p<.050]. According to the results of the Levene test (Levene Statistic= .824, p<.05) Dunnet C test was applied to reveal the difference between the groups. Accordingly, the affective awareness levels of teachers working in primary school are higher than the affective awareness levels of teachers working in secondary and high school. In addition, the affective awareness levels of teachers working in secondary schools are higher than the awareness levels of teachers working in high schools. Teachers' psychomotor awareness levels differ significantly in general, depending on the type of school they work in [$F_{(2-261)}$= 8.867, p<.050]. According to the results of the Levene test (Levene Statistic= .144, p>.05) Tukey test was applied to reveal the difference between the groups. Accordingly, the curriculum awareness levels of teachers in primary schools are higher than the curriculum awareness levels of teachers working in secondary and high schools.

Findings regarding the fifth research question

Table 6 presents the analysis of teachers' perceived self-efficacy in the context of teaching thinking skills.

Table 6: Descriptive Statistics of Teachers' Self-Efficacy Perceptions Regarding Teaching Thinking Skills

Dimensions	N	Minimum	Maximum	Mean	Standard deviation
Academic Competence (AC)	264	1.75	5.00	4.14	.65
Application (A)	264	1.33	5.00	4.11	.71
Design (D)	264	1.00	5.00	4.02	.82
Overall Scale	264	1.45	5.00	4.11	.66

According to the fifth question of the research, the level of teachers' self-efficacy perceptions regarding teaching thinking skills was examined. Accordingly, teachers' self-efficacy perceptions towards teaching thinking skills were found in the Academic Competence sub-dimension (Mean= 4.14, SD= 0.65), in the Application sub-dimension (Mean= 4.11, SD= 0.71), in the Design sub-dimension (Mean= 4.11, SD= 0.82) and is at a high level throughout the scale (Mean= 4.11, SD= 0.66).

Findings regarding the sixth research question

Table 7 presents the data on teachers' self-efficacy for teaching thinking skills, disaggregated by gender.

Table 7. Changes in Teachers' Self-efficacy Perceptions for Teaching Thinking Skills According to Gender

Dimension	Gender	N	Mean	SS	sd.	t	p	Cohen's d
AC	Woman	171	4.26	0.60	262	4.044	0.000	0,51
	Male	93	3.93	0.68				
A	Woman	171	4.22	0.69	262	3.167	0.002	0.41
	Male	93	3.93	0.72				
D	Woman	171	4.13	0.81	262	3.119	0.002	0.39
	Male	93	3.81	0.80				
Overall Scale	Woman	171	4.22	0.63	262	3.688	0.000	0.47
	Male	93	3.91	0.68				

Independent t-test results regarding teachers' self-efficacy perceptions towards teaching thinking skills are presented in Table 7. Teachers' self-efficacy perceptions towards teaching thinking skills in the Academic Competence sub-dimension [$t_{(262)}$= 4.044, p<.05], in the Application sub-dimension [$t_{(262)}$= 3.167, p<.01], in the Design sub-dimension [$t_{(262)}$= 3.119, p<.01], the overall scale [$t_{(262)}$= 3.688, p<.01] differs significantly according to gender.

Findings regarding the seventh research question

Table 8 presents the analysis of teachers' self-efficacy in teaching thinking skills as it relates to their years of professional experience.

Table 8. Difference in teachers' self-efficacy perceptions towards teaching thinking skills according to professional seniority

	Source of variance	sum of squares	sd.	mean squares	F	p
AC	intergroup	1,022	2	.511	1.197	0.304
	within groups	111,455	261	.427		
	Total	112,477	263			
A	intergroup	1,209	2	.604	1.177	0.310
	within groups	134,074	261	.514		
	Total	135,283	263			
D	intergroup	2,210	2	1.105	1.645	0.195
	within groups	175,304	261	.672		
	Total	177,515	263			
Overall Scale	intergroup	1,233	2	.617	1.381	0.253
	within groups	116,552	261	.447		
	Total	117,785	263			

One-way analysis of variance regarding the differentiation of teachers' self-efficacy perceptions towards teaching thinking skills according to professional seniority is presented in Table 8. Teachers' self-efficacy perceptions towards teaching thinking skills were [$F_{(2–261)}$= 1.197, p>.050] in the Academic Competence sub-dimension, [$F_{(2–261)}$= 1.177, p>.050] in the Application sub-dimension, [$F_{(2–261)}$= 1.177, p>.050] in the Design sub-dimension. $F_{(2–261)}$= 1.645, p>.050] and the overall scale [$F_{(2–261)}$= 1.381, p>.050] does not differ significantly according to professional seniority.

Findings regarding the eighth research question

Table 9 presents the findings on teachers' self-efficacy for teaching thinking skills, disaggregated by the type of school in which they work.

Table 9: Difference in teachers' self-efficacy perceptions towards teaching thinking skills according to the type of school they work in

	Source of variance	sum of squares	sd.	mean squares	F	p
AC	intergroup	1,617	2	.809	1.903	0.151
	within groups	110,860	261	.425		
	Total	112,477	263			
A	intergroup	.749	2	.375	0.727	0.485
	within groups	134,534	261	.515		
	Total	135,283	263			
D	intergroup	2,316	2	1.158	1.725	0.180
	within groups	175,198	261	.672		
	Total	177,515	263			

Overall Scale	intergroup	1,175	2	.587	1.314	0.270
	within groups	116,640	261	.447		
	Total	117,785	263			

One-way analysis of variance regarding the differentiation of teachers' self-efficacy perceptions towards teaching thinking skills according to the type of school they work in is presented in Table 9. Teachers' self-efficacy perceptions towards teaching thinking skills were [$F_{(2-261)}$= 1.903, p>.050] in the Academic Competence sub-dimension, [$F_{(2-261)}$= 0.727, p>.050] in the Application sub-dimension, [$F_{(2-261)}$= 0.727, p>.050] in the Design sub-dimension $F_{(2-261)}$= 1.725, p>.050] and the overall scale [$F_{(2-261)}$= 1.314, p>.050] do not differ significantly depending on the type of school where they work.

Findings regarding the ninth research question

Table 10 presents the correlational analysis conducted to determine the association between teachers' level of curricular awareness and their self-efficacy beliefs for the instruction of thinking skills.

Table 10: Pearson correlation analysis results for the relationship between variables

Variables	Academic Competence	Application	Design	WBO
Psychomotor Awareness	.544	.553	.526	.576
Cognitive Awareness	.617	.535	.560	.602
Affective Awareness	.411	.304	.344	.371
PFO	.630	.574	.580	.630

Table 10 details the Pearson correlation coefficients illustrating the association between teachers' curricular awareness and their self-efficacy for the instruction of thinking skills, as posited in the ninth research question. Accordingly, the Psychomotor Awareness sub-dimension and the Academic Competence sub-dimension (r= .544, p<.01). There is a positive difference between the Implementation sub-dimension (r= .553, p<.01), the Design sub-dimension (r= .526, p<.01) and the Self-Efficacy Perceptions Scale for Teaching Thinking Skills (r= .576, p<.01) . There are medium level relationships in this direction. Cognitive Awareness sub-dimension and Academic Competence sub-dimension (r= .617, p<.01). There is a positive difference between the Implementation sub-dimension (r= .535, p<.01), the Design sub-dimension (r= .560, p<.01) and the Self-Efficacy Perceptions Scale for Teaching Thinking Skills (r= .602, p<.01). There are medium level relationships in this direction. Affective Awareness sub-dimension and Academic Competence sub-dimension (r= .411, p<.01). There is a positive correlation between the Application sub-dimension (r= .304, p<.01), the Design sub-dimension (r= .344, p<.01) and the Self-Efficacy Perceptions Scale for Teaching Thinking Skills (r= .371, p<.01). There are medium level relationships in this direction. Curriculum Awareness Scale and Academic Competence sub-dimension (r= .630, p<.01). There is a positive difference between the Implementation sub-dimension (r= .574, p<.01), the Design sub-dimension (r= .580, p<.01) and the Self-Efficacy Perceptions Scale for Teaching Thinking Skills (r= .630, p<.01) . There are medium level relationships in this direction.

Findings regarding the tenth research question

The tenth research question investigated the extent to which teachers' curricular knowledge predicts their self-efficacy for the instruction of thinking skills. The variables predicted in the predictive analysis are the sub-dimensions of self-efficacy perceptions for teaching thinking skills.

The predictive effect of curriculum awareness on the Academic Competence sub-dimension was examined. Findings are presented in Table 11.

Table 11: Regression Analysis Result regarding the prediction of the Academic Competence sub-dimension

Variable	B.	Standard error	β	t	p	Zero order (r)	Partial (r)	Tolerance	VEF
Fixed variable	1.081	.235		4.597	.000				
Psychomotor Awareness	.156	.077	.145	2.034	.043	.544	.125	.440	2.271
Cognitive Awareness	.433	.067	.444	6.432	.000	.617	.371	.466	2.146
Affective Awareness	.159	.050	.169	3.175	.002	.411	.393	.150	1.273
R= .650	R^2= .422								
$F_{(3-260)}$= 63.260	p= .000								

The results in Table 11 show that teachers' awareness of the curriculum predicts the Academic Competence sub-dimension in a moderately significant way (R= .650, R^2= .422, $F_{(3-260)}$= 63.260, p<.01). In the analyses, it was first examined whether there was a multicollinearity problem. In this context, considering the tolerance value and variance expansion factor (VEF) value, it is understood that there is no multicollinearity problem in the data. Teachers' curriculum awareness explains approximately 42% of the variation in the Academic Competence sub-dimension. When the standardized regression coefficients are examined, the relative importance of teachers' curriculum awareness on the Academic Competence sub-dimension, Cognitive Awareness sub-dimension (β= .444),

Affective Awareness sub-dimension (β= .169), Psychomotor Awareness sub-dimension (β= .145). When the significance test results of the regression coefficients are examined, it is seen that the predictive variables Psychomotor Awareness (p<.05), Cognitive Awareness (p<.01), and Affective Awareness (p<.01) sub-dimensions have a significant predictive effect on the Academic Competence sub-dimension. Partial relationships between the predictor variables and the predicted variable were examined. Accordingly, when other variables are controlled, the Academic Competence sub-dimension is at a level between it and the Psychomotor Awareness sub-dimension (r= .125), between it and the Cognitive Awareness sub-dimension (r= .371), and it is at a level between it and the Affective Awareness sub-dimension (r= .393). There is a relationship. According to the results of the regression analysis, the regression equation regarding the effect of teachers' curriculum awareness on the Academic Competence sub-dimension is as follows: Academic Competence sub-dimension= (.156xPsychomotor Awareness sub-dimension) + (.433xCognitive Awareness sub-dimension) + (.159xAffective Awareness sub-dimension).

Secondly, in this research question, the predictive effect of curriculum awareness on the Application sub-dimension was examined. Findings are presented in Table 12.

Table 12: Regression Analysis Result regarding the prediction of the application sub-dimension

Variable	B.	Standard error	β	t	p	Zero order (r)	Partial (r)	Tolerance	VEF
Fixed Variable	1.128	.274		4,112	.000				
Psychomotor Awareness	.395	.089	.334	4,422	.000	.553	.265	.440	2.271
Cognitive Awareness	.293	.079	.274	3,730	.000	.535	.225	.466	2.146
Affective Awareness	.045	.058	.044	0.769	.443	.304	.048	.786	1.273
R= .587	R^2= .345								
$F_{(3-260)}$= 45.643	p= .000								

The findings show that teachers' awareness of the curriculum predicts the Application sub-dimension in a moderately significant way (R= .587, R^2= .345, $F_{(3-260)}$= 45.643, p<.01). In the analyses, it was first examined whether there was a multicollinearity problem. In this context, considering the tolerance value and variance expansion factor (VEF) value, it is understood that there is no multicollinearity problem in the data. Teachers' awareness of the curriculum explains approximately 35% of the variation in the Application sub-dimension. When the standardized regression coefficients are examined, the relative importance of teachers' curriculum awareness on the Application sub-dimension, Psychomotor Awareness sub-dimension (β= .334), Cognitive Awareness sub-dimension (β= .274), Affective Awareness sub-dimension (β= .044). When the significance test results of the regression coefficients are examined, it is seen that the Psychomotor Awareness (p<.05) and Cognitive Awareness (p<.01) sub-dimensions of the predictive variables have a significant predictive effect on the Application sub-dimension. On the other hand, the Affective Awareness (p>.05) sub-dimension does not have a significant predictive effect on the Application sub-dimension. Partial relationships between the predictor variables and the predicted variable were examined. In this regard, when other variables are controlled, there is a relationship between the Application sub-dimension and the Psychomotor Awareness sub-dimension (r=.265), between it and the Cognitive Awareness sub-dimension (r= .225), and between it and the Affective Awareness sub-dimension (r= .304). There are. According to the regression analysis results, the regression equation regarding the effect of teachers' curriculum awareness on the Application sub-dimension is as follows: Application sub-dimension= (.395xPsychomotor Awareness sub-dimension) + (.293xCognitive Awareness sub-dimension) + (.045xAffective Awareness sub-dimension).

Thirdly, in this research question, the predictive effect of teachers' curriculum awareness on the Design sub-dimension was examined. Findings are presented in Table 13.

Table 13: Regression Analysis Result regarding the prediction of the design sub-dimension

Variable	B.	Standard error	β	t	p	Zero order (r)	Partial (r)	Tolerance	VEF
Fixed variable	.515	.313		1.646	.101				
Psychomotor Awareness	.293	.102	.216	2.875	.004	.526	.176	.440	2.271
Cognitive Awareness	.443	.090	.362	4.947	.000	.560	.293	.466	2.146
Affective Awareness	.121	.066	.103	1.823	.069	.344	.112	.786	1.273
R= .593	R^2= .352								
$F_{(3-260)}$= 47.020	p= .000								

Table 13 shows that teachers' awareness of the curriculum predicts the Design sub-dimension in a moderately significant way (R= .593, R^2= .352, $F_{(3-260)}$= 44.020, p<.01). Prior to the primary analyses, the issue of multicollinearity was investigated. In this context, considering the tolerance value and variance expansion factor (VIF) value, it was found that multicollinearity was not an issue in the data set. Teachers' curriculum awareness explains approximately 35% of the variation in the Design sub-dimension. Regarding the statistical significance of the regression coefficients, it was found that the relative importance of teachers' curriculum awareness on the Design sub-dimension, Cognitive Awareness sub-dimension (β= .3362, Psychomotor Awareness sub-dimension (β= .274),

Affective Awareness sub-dimension (β= .103). When the significance test results of the regression coefficients are examined, Psychomotor Awareness (p<.05) is one of the predictive variables. And Cognitive Awareness (p<.01) sub-dimensions seem to have a significant predictive effect on the Design sub-dimension. On the other hand, Affective Awareness (p>.05) sub-dimension does not have a significant predictive effect on the Design sub-dimension. Predicted by predictive variables. Partial relationships between the variables were examined. In this regard, when other variables were controlled, the Design sub-dimension was found to be between the Psychomotor Awareness sub-dimension (r= .176), the Cognitive Awareness sub-dimension (r= .293), and the Affective Awareness sub-dimension (r).=.112) The regression analysis yielded the following equation to predict the Design sub-dimension from teachers' curriculum awareness:

Design sub-dimension= (.293xPsychomotor Awareness sub-dimension) + (.443xCognitive Awareness sub-dimension) + (.121xAffective Awareness sub-dimension).

DISCUSSION AND CONCLUSION

The primary objective of this study was to investigate the association between teachers' level of curricular knowledge and their self-efficacy for the instruction of thinking skills. Gender, professional seniority and type of school constitute categorical variables. The discussion of the findings is structured to correspond with the sequence of the research questions.

Within the scope of the first research question, the study assessed the level of teachers' curriculum awareness. The results revealed that teachers' curriculum awareness was notably high, not only in the specific sub-dimensions but also in the aggregate measure. This finding suggests that teachers are knowledgeable about the goals and contents of the curriculum they implement and that they can apply the curriculum efficiently in the learning-teaching process. Similar research results were obtained in Pektaş and Pesen's (2021) study. Despite this, in their research on the English curriculum, Demir (2020), Bulut and Atabey (2016), and Özkan Elgün (2018) found that teachers lack adequate information about the program and that they need in-service training.

Within the scope of the second research question, the study analyzed whether teachers' awareness of the curriculum differed significantly according to gender. The results determined that teachers' awareness of the curriculum differed significantly in all sub-dimensions and generally by gender. In other words, it can be said that gender affects teachers' awareness of the curriculum. The analysis revealed that female teachers' awareness of the curriculum was at a higher level. Contrary to the present finding, the research by Pektaş and Pesen (2021) indicated that teachers' cognitive and affective awareness of the curriculum did not differ statistically significantly according to their gender. Despite this, in the study conducted by Saral (2019) examining the curriculum literacy of English teachers, a significant difference was detected in favor of female teachers.

The third research question aimed to establish whether significant variations in teachers' curriculum awareness existed across different levels of professional seniority. The results indicate that teachers' curriculum awareness differed significantly in the Psychomotor Awareness sub-dimension. In other words, it can be said that professional seniority affects teachers' awareness of the curriculum. In this regard, it was determined that the psychomotor awareness levels of teachers with professional seniority between 11-20 years and 21 years and above were higher than the psychomotor awareness levels of teachers with professional seniority between 0-5 years. These results suggest that teachers in the first years of their profession have some deficiencies in adopting the basic philosophy of the curriculum they apply in the learning-teaching process and applying it efficiently in line with the achievements. This result may stem from the limited professional experience characteristic of teachers in the initial phase of their careers. The results obtained by Pektaş and Pesen (2021) revealed that the cognitive and sensory awareness of the curriculum of teachers with 13 years or more of seniority was higher than other teachers.

Within the scope of the fourth research question, it was examined whether teachers' awareness of the curriculum differs significantly according to their school type. The analysis revealed that teachers' curriculum awareness varied significantly by school type, both overall and within the Psychomotor and Affective Awareness sub-dimensions. This suggests that the educational stage is a critical factor influencing teachers' engagement with the curriculum. Specifically, primary school teachers demonstrated significantly higher levels of curriculum awareness compared to their counterparts in secondary and high schools. This finding may indicate a more profound internalization of the curriculum's core philosophy and a greater commitment to its pedagogical application at the primary level. The comparatively lower awareness among secondary and high school teachers could be attributed to differing pedagogical perspectives inherent to higher educational stages or, as hypothesized, a difference in curriculum fidelity. This interpretation is corroborated by the findings of Sakallıoğlu and Özüdoğru (2022), who identified a higher degree of curriculum commitment among primary school teachers. Similarly, Erman (2016) reported that primary and secondary school teachers utilized the curriculum more extensively than those in secondary education. In contrast to these findings, however, a study by Pektaş and Pesen (2021) found no statistically significant variation

in teachers' psychomotor and affective curriculum awareness based on school type, highlighting an area of inconsistency within the literature.

Within the scope of the fifth research question, self-efficacy perceptions towards teaching thinking skills were examined. The results determined that teachers' self-efficacy perceptions towards teaching thinking skills were at a high level in all sub-dimensions and in general. In this regard, it can be said that teachers consider themselves reasonably competent in teaching students thinking skills in the learning-teaching process. In different studies conducted in the literature, it has been determined that teachers' self-efficacy perceptions towards teaching thinking skills are at a high level (Bozpolat & Yıldız, 2023; Dilekli & Tezci, 2020; Dinçer Göbel, 2013; Gelen, 2002; Kazu & Pullu, 2019; Khun-InKeeree et al ., 2022). In the studies conducted by Arslan (2017) and Akbıyık and Kalkan Ay (2014), the opposite results were obtained, and it was determined that teachers' self-efficacy perceptions towards teaching thinking skills were at a low level. If different results were obtained, It can be shown that teachers work in different branches, provinces, and school types.

The analysis for the sixth research question revealed a statistically significant difference in teachers' self-efficacy for teaching thinking skills based on gender. Specifically, female teachers reported higher levels of self-efficacy in this domain. This finding, however, is not entirely consistent with the existing literature. For instance, in a contrasting result, Bozpolat and Yıldız (2023) found male teachers to possess higher competence perceptions. Furthermore, a substantial body of research indicates no significant gender-based differentiation in this area at all (Arslan, 2017; Dilekli, 2015; Dinçer Göbel, 2013; Gelen, 2002; Koç, 2020).

The analysis for the seventh research question indicated that professional seniority was not a significant factor in teachers' self-efficacy for the instruction of thinking skills. This finding is consistent with the research by Dinçer Göbel (2013), who also reported no significant differences based on years of experience. However, it diverges from studies by Bozpolat and Yıldız (2023) and Dilekli (2015), which found that teachers with greater professional tenure exhibited significantly higher self-efficacy. This discrepancy in the literature may be attributable to variations in the research samples, such as the diverse provincial and institutional contexts in which the teachers were situated. The analysis pertaining to the eighth research question indicated that teachers' self-efficacy for the instruction of thinking skills does not vary significantly by the type of school in which they are employed.

The correlational analysis, central to the ninth and tenth research questions, revealed a moderate, positive, and statistically significant association between teachers' curricular awareness and their self-efficacy for the instruction of thinking skills. Significant relationships were revealed in the regression analysis results. First of all, it was determined that the Psychomotor, Cognitive, and Affective Awareness sub-dimensions of teachers' curriculum awareness had a significant predictive effect on the Academic Competence sub-dimension. The Cognitive Awareness subdimension had the most predictive impact. In this context, it can be said that teachers with a cognitive awareness of the curriculum have a higher level of academic competence in thinking skills and teaching. Secondly, the Psychomotor and Cognitive Awareness sub-dimensions have a significant predictive effect on the Application sub-dimension. The Psychomotor Awareness subdimension had the most predictive impact. In this context, it can be said that teachers with psychomotor awareness of the curriculum have a higher level of application of thinking skills towards teaching. Thirdly, Psychomotor and Cognitive Awareness sub-dimensions have a significant predictive effect on the Design sub-dimension. The Cognitive Awareness subdimension had the most predictive impact. In this context, it can be said that teachers with cognitive awareness of the curriculum have a higher level of design for teaching thinking skills. In Pehlivan and Şahin Taşkın's (2020) research, a strong positive relationship was found between teachers' program design approach preferences and classroom practices in teaching thinking skills.

SUGGESTIONS

Some results came to the fore in the research. The first of these is that teachers' awareness of the curriculum varies according to professional seniority. Accordingly, it was determined that teachers in the first years of their profession had lower levels of awareness of the curriculum. In this context, emphasis can be given to seminar programs for teachers who are at the beginning of their profession regarding the importance of curriculum in terms of the learning-teaching process. Relevant units carrying out in-service training activities have important duties in this regard. In addition, qualitative research designs can be designed to conduct an in-depth examination of this result.

Secondly, it was determined that teachers working in primary schools had a higher level of awareness of the curriculum. It was determined that teachers working in secondary and high schools had lower levels of awareness of the curriculum. This subject can be examined in depth. For this purpose, studies can be designed with a qualitative research design.

Thirdly, it was determined that teachers' awareness of the curriculum significantly predicted their self-efficacy perceptions towards teaching thinking skills. In other words, curriculum awareness is important in understanding

teachers' self-efficacy perceptions towards teaching thinking skills. In this context, in-service training can be designed to increase teachers' awareness of the curriculum.

One of the limitations of this research is the sample structure. This research was conducted with teachers working in only one city. Studies can be conducted with a more comprehensive sample. In this way, more comprehensive and generalizable results on the subject can be achieved.

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