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Illuminating The Path: Investigating the Relationship Between the Teachers' Curriculum Literacy and Attitudes toward Professional Development

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This study aimed to determine the relationship between teachers' curriculum literacy and their attitudes toward professional development through a correlational design. The study was conducted with 576 volunteer teachers from various grade levels, genders, and age groups working in public schools in a province in western Türkiye during the 2022-2023 academic year. Data were collected using the "Teachers' Curriculum Literacy Scale" developed by Yar-Yıldırım (2020) and the "Teachers' Attitudes about Professional Development" scale adapted into Turkish by Özer and Beycioğlu (2010). The data were analyzed using the Pearson correlation coefficient, descriptive statistics, independent samples t-test, and one-way ANOVA. The results indicated a statistically significant and moderate correlation between teachers' attitudes toward professional development and their curriculum literacy. The teachers exhibited above-average proficiency in curriculum literacy. While no statistically significant differences were found in regards to the teachers' curriculum literacy based on age, gender, years of experience, or grade level, there was a significant difference in favor of graduate degree holders regarding the skills subdimension and the total score. Regarding the attitudes towards professional development, teachers again demonstrated above-average levels. Similarly, no significant differences were observed in the attitudes toward professional development based on gender, education level, years of experience, or grade level; however, a statistically significant difference was noted based on age.

Introduction

Curricula, as structured educational programs or frameworks, play a pivotal role in advancing societal goals of cultivating skilled human capital and fostering equitable progress (Beck, 2010; Priestley, Biesta & Robinsonn, 2015).These curriculum frameworks serve dual functions: as formalized technical documents encoding societal values, pedagogical priorities, and political discourses (Bolat, 2017; Deng, 2018; Pinar, 2019), and as dynamic constructs encompassing both intended objectives (formal curriculum) and enacted practices

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(operational curriculum) (Priestley et al., 2015). It is important to note that this dual conceptualization forms the foundation for curricula, which serve as essential roadmaps guiding instructional activities. In this way, educators are enabled to align pedagogical strategies with learners' diverse needs (Posner, 1995; Kuyubaşıoğlu, 2019). Effective curriculum implementation hinges on educators' capacity to comprehensively interpret, adapt, and critically evaluate these frameworks while designing inclusive learning environments (Kim, 2022; Kuyubaşıoğlu, 2019).

Teachers' proficiency in curriculum literacy —defined as the ability to critically interpret, contextualize, and operationalize curricular goals (broad educational aims) and objectives (specific measurable outcomes)— is integral to achieving programmatic efficacy and student success (Yılmaz, 2021; Ornstein & Hunkins, 2018). This literacy transcends passive adherence to prescribed content; it necessitates active engagement with curricular intentions to ensure alignment between instructional practices and predefined educational standards (Darling-Hammond et al., 2017; Aslan & Gürlen, 2019). Empirical evidence underscores robust curriculum literacy correlates with enhanced teaching quality, equitable learning outcomes, and systemic resilience against educational inequities (Keskin, 2020; Steiner, 2019). Consequently, teachers' capacity to internalize and execute curricular goals and objectives remains a critical determinant of educational quality (Tian et al., 2022).

Today, there is a growing need for individuals who are inquisitive, questioning, and open to change in the field of education, as in other fields. According to Özer (2005), a quality education process is only possible with qualified teachers. The quality of teachers can be achieved when they continuously develop and renew their personal and professional skills (Baykal, 2019). Guskey (2000) conceptualizes professional development as a collection of endeavors focused on enhancing teachers' professional competence, capabilities, and beliefs to maximize student learning outcomes. Aslan and Gürlen (2019) argue that teachers should be open to change, innovative, and continuously improving. Teachers can adopt a contemporary approach to teaching, utilize diverse and evolving teaching methods and techniques, and meet the varying learning needs of their students. All these are possible through their professional development. Above all, teachers need to feel the need for professional development, believe in its necessity, be willing to learn continuously, and have a strong interest in professional development (Özer, 2005). All of these indicate the significance of teachers' interest and attitude towards professional development regarding the quality of education.

A review of the literature reveals studies that have examined teachers' curriculum literacy, focusing on its dimensions (such as reading and writing, knowledge skill, and attitude) (Adem, 2023; Akyıldız, 2020; Aslan & Gürlen, 2019; Keskin, 2020; Kuyubaşıoğlu, 2019; Nasırcı, 2022; Saracaloğlu & Gündüz-Çetin, 2023; Süer & Demirkol, 2023; Şahin, 2020; Yar-Yıldırım, 2020). Research across diverse contexts underscores parallel challenges: for instance, studies have documented teachers mechanically implementing curricula without critically engaging with objectives, reflecting limited philosophical awareness (Süer & Demirkol, 2023; Nsibande & Modiba, 2012). Similarly, gaps in preservice teachers' abilities to critically evaluate curricular resources highlight the need for "21st-century critical curriculum literacy" that integrates cultural responsiveness and adaptation skills (Schroeder & Curcio, 2022).

However, as curriculum literacy is a relatively recent construct, most studies (Akyıldız, 2020; Aslan & Gürlen, 2019; Bolat, 2017; Keskin, 2020; Yar-Yıldırım, 2020) have focused on developing instruments to measure this construct. These studies have predominantly focused on teachers' perspectives on professional development, including their attitudes, perceptions, views, and evaluations of its quality. Further research reveals systemic barriers, such as misaligned assessments and insufficient professional development, which undermine high-quality curriculum implementation (Steiner, 2019; Alzahrani, 2020). These findings align with observations on the need for context-specific training and support to bridge the gap between curriculum intentions and classroom realities (Yıldız, H., & Özdoğan-Biçer, 2022).

Despite these insights, critical gaps persist. Curriculum literacy frameworks often neglect teachers' identities and community contexts, limiting their ability to adapt curricula to diverse learner needs (Marek et al., 2024). Additionally, educators' restrictive definitions of research and professional development hinder their engagement with innovative practices, as seen in studies where teachers prioritized traditional academic research over practitioner-driven inquiry (Kostoulas et al., 2019). While research has mapped curriculum literacy components (Seven & Kahramanoğlu, 2024) and professional development attitudes (Güven, 2022), limited empirical work examines their interdependence—a gap evident in studies where curriculum fidelity dominates the discourse (Tanaş & Tuncer, 2023).Although numerous studies have independently explored teachers' curriculum literacy and attitudes toward professional development, limited research has directly examined the relationship between these two constructs. This gap highlights the need to investigate how curriculum literacy and professional development attitudes interact, which forms the primary focus of this study.

Theoretical Frameworks

Curriculum Literacy

Teachers bear the primary responsibility for curriculum implementation, necessitating accurate comprehension, interpretation, and application of educational frameworks (Gouëdard et al., 2020). Curriculum literacy, defined as the ability to critically analyze, adapt, and operationalize educational programs in alignment with pedagogical objectives, is foundational to this process (Akyıldız, 2020; Bolat, 2021). Rooted in Shulman's (1986) pedagogical content knowledge—a theory that redefines teaching expertise as the integration of subject mastery, pedagogy, and context—curriculum literacy transcends technical skill, evolving teachers into reflective practitioners who reinterpret curricula rather than mechanically enact them (Ben-Peretz, 1990). This theoretical foundation positions educators as active agents in contextualizing instructional designs (Ariav, 1986), thus bridging policy mandates with classroom realities (Kim, 2022; Steiner, 2019;).

In this context, curriculum literacy is conceptualized through interconnected dimensions. Bolat (2017) distinguishes between reading (interpreting curriculum documents) and writing (designing materials, assessments, and learning processes), noting that educators often perceive greater proficiency in the former. Similarly, Yar-Yıldırım (2020) identifies three core components: knowledge (understanding curricular philosophy), skill (practical implementation and evaluation), and attitude (adapting to learner and community needs). Further frameworks emphasize critical engagement, such as Keskin and Korkmaz's (2021) four dimensions: recognizing curriculum features, applying them in practice, questioning their efficacy, and valuing their educational role. These models collectively position curriculum literacy as a dynamic, non-hierarchical construct requiring fluid mastery of analytical,

creative, and reflective competencies.

Given this multidimensionality, curriculum literacy transcends mere familiarity with documents; it demands navigation of philosophical, social, and psychological underpinnings while addressing learner diversity (Akınoğlu & Doğan, 2012; Keskin, 2020). Conceptualized as a skill set spanning foundational to advanced capacities, it balances aligning pedagogy with goals (Steiner, 2019; Marsh & Willis, 2007) and ethically adapting resources to localized needs (Marek et al., 2024; Yıldırım, 2020). Practitioners must interrogate curricula through "Why, What, How, and How Much" questions (Akınoğlu & Doğan, 2012), a process that embodies Shulman's vision of teachers as knowledge transformers.

Consequently, the operationalization of curriculum literacy hinges on synthesizing theory with contextual pragmatism. Curriculum-literate teachers reinterpret and enrich external plans by leveraging learner assets, technology, and inclusive pedagogies (Erik & Yılmaz, 2024; Nia, 2024). This agency mitigates misalignment between intent and practice, positioning educators as co-constructors of reforms (Öner & Cırık, 2023).

Empirically, curriculum literacy correlates with instructional quality, learner outcomes, and teacher self-efficacy, fostering job satisfaction through confident decision-making (Nia, 2024). Conversely, its absence risks perpetuating policy-practice gaps, particularly in resource-constrained contexts (Steiner, 2019). Thus, advancing curriculum literacy is not merely an individual pursuit but a systemic imperative for equitable education (Marsh & Willis, 2007; Erik & Yılmaz, 2024).

Professional Development

As a cornerstone of educational systems, professional development encompasses a lifelong, dynamic process to enhance teachers' expertise, pedagogical strategies, and reflective practices to adapt to evolving educational demands (Guskey, 2000; Richards & Farrell, 2005). Grounded in social constructivism and self-determination theories, it emphasizes collaborative learning, autonomy, and context-specific growth, enabling teachers to bridge theoretical knowledge with classroom realities (Deci & Ryan, 2013; Schnellert, Butler, & Higginson, 2008). Effective professional development integrates sustained, interactive opportunities—such as peer mentoring, action research, and technology-driven workshops—that align with teachers' immediate needs and foster a culture of continuous improvement (Desimone, 2009; Kennedy, 2016). In contemporary contexts, the shift toward digital platforms and micro-learning has redefined accessibility, allowing teachers to engage in personalized, just-in-time training, though challenges like equitable resource distribution and digital literacy persist (Kshetree, Pokhrel, & Kamala, 2024; McCray, 2018). These components collectively enhance classroom effectiveness, directly correlating with improved student outcomes, as teachers who internalize new strategies can better address diverse learner needs (Opfer et al., 2011; Cohen, 2022).

A complex interplay of intrinsic motivation, institutional support, and cultural values shapes attitudes toward professional development. Teachers' perceptions hinge on whether professional development is perceived as relevant, practical, and empowering rather than imposed (Shurtleff, 2020; Torff & Sessions, 2009). Culturally, attitudes vary significantly: in collectivist societies, peer-driven programs thrive due to communal learning norms, whereas individualist contexts may prioritize self-directed initiatives (Kshetree et al., 2024; Bandura, 1986). For instance, resistance often emerges in hierarchical systems where top-down mandates neglect teacher autonomy, whereas cultures valuing participatory decision-making

see higher engagement (Lazarová, 2005; Özer & Beycioglu, 2010). The COVID-19 pandemic further highlighted disparities, as teachers in under-resourced regions struggled with abrupt digital transitions, exacerbating existing inequities and influencing attitudes toward technology-integrated professional development (Adamec, 2019; Kshetree et al., 2024). Thus, fostering positive attitudes requires aligning programs with both global trends—such as data-driven personalization—and localized cultural dynamics, ensuring teachers feel their expertise and contextual challenges are acknowledged.

Ultimately, the success of professional development lies in its ability to balance universal pedagogical principles with cultural and contextual adaptability. By embedding reflective practices, collaborative structures, and technological innovation, programs can transcend one-size-fits-all approaches, empowering teachers as agents of their own growth (Dana & Yendol-Hoppey, 2009; Dweck, 2014). This holistic view not only addresses immediate classroom needs but also cultivates a resilient, adaptive teaching workforce capable of navigating the complexities of modern education. As research underscores, when teachers perceive professional development as a pathway to autonomy and competence—rather than a bureaucratic obligation—their intrinsic motivation and commitment to student success deepen, reinforcing the symbiotic relationship between educator development and educational quality (Guskey, 2002; Bandura, 1986; Kshetree et al., 2024).

Purpose and Significance of the Study

This study aimed to determine the relationship between teachers' curriculum literacy and their attitudes toward professional development. In this context, in addition to investigating the relationship between teachers' curriculum literacy levels and their attitudes toward professional development, it was also examined whether these levels differed statistically according to various demographic variables such as age, gender, years of service, grade level, and educational level. The findings of this study are expected to provide critical insights into the needs related to curriculum literacy, teachers' perspectives and competencies in this area, and potential areas for curriculum improvement. These insights will not only enhance our understanding of the relationship between curriculum literacy and professional development attitudes but also offer practical recommendations for addressing identified challenges and advancing educational practices. Furthermore, uncovering teachers' attitudes and perceptions toward professional development activities can provide critical guidance for stakeholders responsible for designing, organizing, and implementing these initiatives. The findings of this study hold practical implications for enhancing the strategic planning and execution of professional development programs across educational institutions. By offering an empirical foundation to address existing gaps, this research is poised to advance both theoretical and practical discourse in the field.

Methods

Research Model

A correlational research design was utilized to examine the relationship between teachers' curriculum literacy and their attitudes towards professional development. Correlational research allows researchers to explore the extent to which two or more variables are associated without intervening, providing insights into significant relationships between these variables (Frankel, Wallen, & Hyun, 2019).

Participants

The population of this study comprised active teachers working in public schools located in a province in the Marmara Region of Türkiye during the 2022-2023 academic year. The study sample consisted of 576 teachers selected to represent the population. The sample was determined using convenience sampling, with data collected from teachers across all districts of the relevant province during the 2022-2023 academic year. Participant selection was based on accessibility and voluntary participation of teachers working in the study population. Table 1 presents the distribution of the 576 teachers in the sample regarding demographic and professional variables (age, gender, education level, years of service, and grade level).

Table 1. Participant's Demographic Characteristics

	Frequency (n)	Percentage (%)
Age (Mean ± S.D. = 41.3 ± 7.8)		
21-30 years	36	6,3
31-40 years	249	43,2
41-50 years	218	37,8
51 years and above	73	12,7
Gender		
Female	398	69,1
Male	178	30,9
Education Level		
Associate Degree	14	2,4
Bachelor's Degree	462	80,2
Master's Degree	94	16,3
Doctorate	6	1,0
Years of Service (Mean ± S.D. = 17.3 ± 8.3)		
1-10 years	138	24,0
11-20 years	253	43,9
21 years and above	185	32,1
Teaching Level		
Preschool	61	10,6
Primary School	121	21,0
Middle School	205	35,6
High School	189	32,8

As seen in Table 1, the average age of the teachers was 41.3 years (S.D.= 7.8). Most teachers (43.2% and 37.8%) were between the ages of 31-40 and 41-50. Most of the teachers in the sample were female (69.1%). When examining the education levels, the majority of the sample consisted of undergraduate graduates (80.2%). Regarding years of service, approximately three-quarters of the sample consisted of teachers with 11-20 years and 21 years or more of service. Finally, when examining the grade levels at which teachers worked, the most minor participation was from preschool teachers (10.6%), while the highest participation was from teachers working at the middle school (35.6%) and high school (32.8%) levels.

Following ethical approval from Sakarya University Educational Research and Publication Ethics Committee (Decision No: E-61923333-050.99-222302, Date: 20.02.2023), implementation permission was obtained from the respective educational authorities. Data was collected between April and May 2023 from teachers across educational levels (preschool through high school). All participants were informed about the study's purpose and significance, and their informed consent was obtained. Data collection proceeded only with volunteers who agreed to participate.

Measure

This study used a Personal Information Form prepared by the researcher, the Teachers' Curriculum Literacy Scale (TCLS), and the Teachers' Attitudes about Professional Development (TAPD) scale as data collection tools.

Teachers' Curriculum Literacy Scale (TCLS)

The Teachers' Curriculum Literacy Scale developed by Yar-Yıldırım (2020) consists of 29 items and three subdimensions ("knowledge" - 9 items, "skill" – 13 items, and "attitude" – 7 items). The scale items were scored on a 5-point Likert scale. In this study, the three-dimensional structure of the scale was tested with first-order and second-order confirmatory factor analysis, and these two construct was confirmed (First-order CFA χ^2=719.63; df=374; p<0.01; GFI=1.00; CFI=0.99; TLI=0.99; NNFI=0.99; PNFI=0.91; RMSEA=0.04; SRMR=0.05 and Second-order CFA χ^2=719.63; df=374; p<0.01; GFI=1.00; CFI=0.99; TLI=0.99; NNFI=0.99; PNFI=0.91; RMSEA=0.04; SRMR=0.05). In the scale development study, Cronbach's alpha coefficients for the dimensions ranged from 0.92 to 0.94 and was 0.96 for the overall scale (Yar-Yıldırım, 2020). Reliability analysis showed Cronbach's alpha coefficients for the dimensions ranging from 0.88 to 0.94 and McDonald's omega coefficients ranging from 0.88 to 0.94. For the scale, Cronbach's Alpha and McDonald's Omega coefficients were 0.96, indicating high reliability (Hair, Black, Babin, & Anderson, 2009).

Teachers' Attitudes about Professional Development (TAPD)

The Teachers' Attitudes about Professional Development was developed by Torff, Sessions, and Byrnes (2005) and adapted to Turkish culture by Özer and Beycioğlu (2010). It is a unidimensional scale consisting of 6 items. Scale items are rated on a 5-point Likert scale. In this study, the unidimensional structure of the scale was tested using confirmatory factor analysis (CFA), and the construct validity was confirmed (χ^2=29.49; df=9; p<0.01; GFI=1.00; CFI=0.99; TLI=0.98; NNFI=0.98; PNFI=0.59; RMSEA=0.06; SRMR=0.05). The Cronbach's alpha coefficient in the scale adaptation study was 0.78 (Özer & Beycioğlu, 2010). Furthermore, reliability analysis revealed a Cronbach's alpha coefficient of 0.78 and a McDonald's omega coefficient of 0.80 for the scale, indicating acceptable reliability (Hair et al., 2019).

Data Analysis

Prior to data analysis, key assumptions for correlation analysis, including linearity, normality, and the absence of outliers, were checked and confirmed. Pearson's correlation was used to determine the correlation between curriculum literacy and professional development attitudes. Independent t-tests and one-way ANOVAs were employed to examine whether teachers' curriculum literacy levels and attitudes toward professional development differed statistically across demographic variables such as age and gender. Prior to analysis, key statistical assumptions were rigorously verified, including the absence of significant outliers, normal distribution for each independent variable category, and homogeneity of variances. Multiple comparison tests were applied as needed, contingent upon variance homogeneity and subcategory sample sizes. The effect size η2 (eta-squared) were calculated to interpret significant findings. In interpreting this effect size, η2 less than 0.01 was considered a very small effect, between 0.01 and 0.06 as a small effect, 0.06 and 0.14 as a medium effect, and 0.14 and above as a large effect (Field, 2017). The confirmatory factor analysis and reliability of the scales were carried out using the JASP (Version 0.17.2, 2023) program. All other

analyses, except for these analyses, were completed using a statistical package program used for social sciences. The significance level for the analyses was 0.05.

Results

The Relationship Between Teachers' Curriculum Literacy Scores and Their Attitudes Towards Professional

Pearson correlation coefficients were calculated to examine the relationship between teachers' curriculum literacy scores and their attitudes towards professional development, and the results are presented in Table 2.

Table 2. Correlation between Teachers' Program Literacy and Their Attitudes Towards Professional Development

	Knowledge	Skill	Attitude	Program Literacy
Attitudes Towards Professional Development	0.247*	0.298*	0.333*	0.323*

Note. * $p < .05$

As seen in Table 2, the results indicate a positive, low-level, and statistically significant correlation between teachers' attitudes towards professional development and the knowledge subdimension of curriculum literacy ($r=0.247$; $p<0.05$), a positive, low-level, and statistically significant correlation with the skills subdimension ($r=0.298$; $p<0.05$), and a positive, moderate-level, and statistically significant correlation with the attitudes subdimension ($r=0.333$; $p<0.05$). Moreover, a positive, moderate-level, and statistically significant correlation ($r=0.323$; $p<0.05$) existed between teachers' total curriculum literacy score and their attitudes towards professional development.

The Level of Teachers' Curriculum Literacy: Across Demographic Variables

First, descriptive statistics were calculated to determine teachers' curriculum literacy levels. Independent sample t-tests and one-way ANOVA were utilized to test whether these levels differed according to demographic and professional. These statistics and analysis results are presented in Table 3.

Table 3. Teachers' Curriculum Literacy Levels and The Levels According to Demographic and Professional Variables

	Knowledge Mean (S.D.)	Skill Mean (S.D.)	Attitude Mean (S.D.)	Program Literacy Mean (S.D.)
	34.6 (5.2)	48.3 (7.8)	28.6 (3.9)	111.4 (15.2)
Age				
21-30 years (n=36)	35.1 (5.0)	49.3 (6.2)	28.6 (3.5)	113.0 (13.1)
31-40 years (n=249)	34.2 (5.1)	48.3 (7.9)	28.7 (4.1)	111.2 (15.4)
41-50 years (n=218)	34.7 (5.5)	47.8 (7.9)	28.4 (3.8)	110.9 (15.5)
51 and up (n=73)	35.3 (4.7)	49.2 (7.6)	28.9 (3.6)	113.3 (14.4)
	F=1.02; p=.38	F=0.88; p=.45	F=0.31; p=.82	F=0.64; p=.59
Gender				
Female (n=398)	34.6 (5.2)	48.3 (7.8)	28.7 (3.9)	111.7 (15.1)
Male (n=178)	34.4 (5.2)	48.2 (7.8)	28.3 (3.9)	110.9 (15.3)
	t=0.52; p=.61	t=0.22; p=.83	t=1.20; p=.23	t=0.60; p=.55
Education Level				
Associate Degree (n=14)	34.2 (6.0)	49.8 (6.6)	28.8 (3.4)	112.8 (14.8)

Bachelor's Degree (n=462)	34.4 (5.1)	47.9 (7.9)	28.5 (4.0)	110.7 (15.2)
Postgraduate (n=100)	35.5 (5.3)	50.1 (7.2)	29.2 (3.7)	114.8 (14.7)
	F=1.92; p=.15	F=3.67; p<.05	F=1.52; p=.22	F=3.06; p<.05
Years of Service				
1-10 years (n=138)	34.2 (5.0)	48.0 (7.8)	28.7 (4.1)	110.8 (15.2)
11-20 years (n=253)	34.2 (5.4)	48.2 (7.9)	28.6 (3.9)	111.0 (15.4)
21 and up (n=185)	35.3 (5.0)	48.7 (7.7)	28.5 (3.7)	112.5 (14.9)
	F=2.86; p=.06	F=0.34; p=.71	F=0.05; p=.95	F=0.64; p=.53
Teaching Level				
Preschool (n=61)	35.0 (4.8)	50.0 (7.0)	28.9 (3.8)	113.8 (14.1)
Primary School (n=121)	35.2 (5.0)	49.0 (7.7)	28.5 (3.6)	112.7 (15.0)
Middle School (n=205)	34.6 (5.4)	48.2 (8.0)	28.9 (4.1)	111.7 (15.7)
High School (n=189)	33.9 (5.1)	47.4 (7.8)	28.3 (3.9)	109.6 (14.9)
	F=1.78; p=.15	F=2.12; p=.10	F=1.09; p=.35	F=1.78; p=.15

The mean scores for knowledge, skills, and attitudes subdimensions were 34.6, 48.3, and 28.6, respectively. The total curriculum literacy score ranged from 58 to 145, with a mean of 111.4. Considering the 5-point Likert scale, it can be said that teachers' curriculum literacy is above average and at a high level. According to Table 4, there was no statistically significant difference in teachers' curriculum literacy scores on the knowledge, skills, and attitudes subdimensions and the total curriculum literacy score based on variables such as age, gender, years of service, and grade level ($p>0.05$). Similarly, there was no statistically significant difference in teachers' curriculum literacy scores on the knowledge and attitudes subdimensions based on education level ($p>0.05$). However, there was a statistically significant difference in the skills subdimension ($F_{(2,573)}=3.67$; $p<0.05$) and the total curriculum literacy score ($F_{(2,573)}=3.06$; $p<0.05$) based on education level. The effect sizes of these differences were small ($\eta^2=0.034$ for the skills subdimension, $\eta^2=0.031$ for the total curriculum literacy score). According to post hoc tests, teachers with postgraduate degrees had higher mean scores on the skills subdimension and the total curriculum literacy score than those with undergraduate degrees.

Despite small effect sizes, these statistically significant differences reveal nuanced variations in curriculum literacy across different education levels. While postgraduate-educated teachers demonstrated marginally higher skills and overall curriculum literacy scores, the practical implications are modest. The findings suggest that educational attainment explains only a small proportion of variance in curriculum literacy, indicating that other contextual factors likely play substantial roles in shaping teachers' professional competencies. Consequently, these results warrant careful interpretation and underscore the complexity of professional development and skill acquisition in educational settings.

The Level of Teachers' Professional Development Attitudes: Across Demographic Variables

Descriptive statistics were calculated for teachers' attitudes toward professional development. Independent samples t-tests and one-way ANOVA were utilised to test whether these teachers' attitudes differed according to demographic and professional variables. These statistics and analysis results are presented in Table 4.

Table 4. Teachers' Attitudes Toward Professional Development Levels and The Levels According to Demographic and Professional Variables

	Teachers' Attitudes about Professional Development
	24.3 (4.0)
Age	
21-30 years (n=36)	25.0 (4.4)
31-40 years (n=249)	24.1 (4.0)
41-50 years (n=218)	24.0 (4.0)
51 and up (n=73)	25.4 (3.5)
	F=2.65; p<.05
Gender	
Female (n=398)	24.4 (3.9)
Male (n=178)	24.0 (4.1)
	t=1.18; p=.24
Education Level	
Associate degree (n=14)	26.1 (3.4)
Bachelor's Degree (n=462)	24.2 (3.9)
Postgraduate (n=100)	24.3 (4.4)
	F=1.44; p=.24
Years of Service	
1-10 years (n=138)	24.5 (4.1)
11-20 years (n=253)	24.0 (4.1)
21 and up (n=185)	24.5 (3.8)
	F=1.35; p=.26
Teaching Level	
Preschool (n=61)	24,69
Primary School (n=121)	23,83
Middle School (n=205)	24,08
High School (n=189)	24,69
	F=1.60; p=.19

The mean score for teachers' attitudes toward professional development was 24.3, with scores ranging from 10 to 30. Considering the 5-point Likert scale, it can be said that teachers' attitudes were above average and high. According to Table 4, there was a statistically significant difference in teachers' attitudes towards professional development based on age category ($F_{(3,572)}=2.65$; $p<0.05$), but this difference was small in terms of effect size ($\eta^2=0.034$). Post hoc tests revealed that teachers aged 51 and over had higher attitude scores than those aged 31-40 and 41-50. Therefore, there was a significant difference in favor of teachers aged 51 and over regarding attitudes towards professional development. There was no statistically significant difference in teachers' attitudes toward professional development based on gender, education level, years of service, and grade level ($p>0.05$).

Though subtle, the statistically significant age-related differences in attitudes toward professional development offer meaningful insights into teachers' professional perspectives. The slightly more positive attitudes observed among teachers aged 51 and above may be attributed to their accumulated professional experience, greater career stability, and a deeper appreciation for the value of continuous learning. However, the small effect size ($\eta^2 = 0.034$) implies that age is only one of several contributing factors shaping these attitudes, highlighting the complex and multifaceted nature of teachers' orientations toward professional growth.

Discussion

The findings of this study revealed a statistically significant, positive correlation between teachers' curriculum literacy and their attitudes toward professional development,

aligning with the theoretical framework of curriculum literacy as an integrated skill set encompassing knowledge, skills, and reflective practice (Seven & Kahramanoğlu, 2024). This relationship is consistent with prior research highlighting the interconnectedness of curriculum mastery and professional engagement. For instance, Kale's (2022) finding that teachers with strong professional identities exhibit heightened attention to curriculum details resonates with this study's results, suggesting that professional identity may mediate the link between curriculum literacy and proactive development attitudes. Similarly, Demir's (2023) observation that curriculum-literate teachers develop positive professional attitudes reinforces this study's conclusion that mastery of curriculum dimensions fosters a growth-oriented mindset. Notably, while Nia (2024) identified job satisfaction as a predictor of curriculum literacy, this study extends this by positioning curriculum literacy itself as a catalyst for professional development engagement, creating a bidirectional relationship that merits further exploration.

The high curriculum literacy levels observed across all subdimensions (knowledge, skills, attitudes) may be attributed to the integrated competencies framework proposed by Seven and Kahramanoğlu (2024), which emphasizes systematic curriculum analysis, adaptation, and evaluation. This aligns with Schroeder and Curcio's (2022) argument that critical curriculum literacy enables teachers to curate and adapt resources effectively, a skill directly linked to professional development receptivity. However, this study's findings contrast with Nsibande and Modiba's (2012) study, where teachers exhibited uncritical compliance with curricula; the high curriculum literacy here suggests that Turkish teachers may engage more actively with curriculum content, possibly due to systemic differences in professional development structures.

The positive correlation between curriculum literacy and professional development attitudes can also be interpreted through the lens of self-determination theory (Deci & Ryan, 2013). Teachers with robust curriculum literacy likely experience greater competence in implementing pedagogical strategies, thereby enhancing their intrinsic motivation to pursue further development—a dynamic observed in Güven's (2022) study, where teachers valuing lifelong learning demonstrated higher curriculum engagement.

These findings align with the theoretical proposition, grounded in curriculum literacy frameworks (Seven & Kahramanoğlu, 2024; Kale, 2022), that curriculum-literate teachers would exhibit more positive attitudes toward professional development. Teachers knowledgeable about the curriculum, skilled in implementing it, and committed to ongoing learning are more likely to see the value in professional development. This assertion is supported by Marek et al. (2024), who demonstrated that curriculum literacy fosters a growth-oriented mindset by equipping teachers with the analytical tools to identify gaps in their practice. Conversely, teachers with a solid professional identity who are invested in their work are more likely to seek opportunities to enhance their knowledge and skills, including professional development. This relationship is substantiated by Demir's (2023) finding that teachers with strong professional identities prioritize skill enhancement to align their practice with curriculum goals. Teachers open to development throughout their professional lives will want to understand, interpret, and implement the curriculum, which serves as a guide. The interconnected nature of these two constructs can explain the positive relationship between curriculum literacy and attitudes towards professional development (Marek et al., 2024). Teachers knowledgeable about the curriculum and skilled in implementing it are more likely to be aware of the need for ongoing learning and professional growth, as evidenced by Schroeder and Curcio's (2022) work on critical curriculum literacy and its role in fostering

adaptive expertise. Furthermore, teachers engaged in professional development are more likely to stay up-to-date on the latest educational research and best practices, which can enhance their curriculum literacy. This bidirectional relationship mirrors Yoon, Duncan, Lee, and Shapley's (2007) assertion that professional development and curriculum mastery mutually reinforce instructional quality and student achievement.

The study found that teachers demonstrated a high level of overall curriculum literacy across all subdimensions. These findings align with previous research indicating that teachers generally possess a strong understanding of the curriculum and perceive themselves as competent in knowing, understanding, and interpreting it (Aslan & Gürlen, 2019; Erdamar, 2020; Kahraman, 2020; Keskin, 2020; Yılmaz, 2021). Similar results have been reported in studies by Erdem and Eğmir (2018), Aslan (2018), Çetinkaya and Tabak (2019), Kuyubaşıoğlu (2019), Gülpek (2020), and Nasırcı (2022), which found high levels of curriculum literacy among both pre-service and in-service teachers. However, this contrasts with Nsibande and Modiba's (2012) findings, where teachers exhibited uncritical compliance with curricula, suggesting contextual differences in professional development structures may influence curriculum engagement. Keskin (2020) suggested that teachers may have perceived the curriculum as merely textbooks and equated curriculum literacy with their competencies. Nasırcı (2022) proposed that teachers may have overestimated their curriculum literacy due to social desirability bias, presenting themselves more favourably. Alternatively, teachers may have recognized the curriculum as a fundamental component of the educational system and a valuable resource, motivating them to develop strong curriculum literacy skills.This interpretation is supported by Seven and Kahramanoğlu's (2024) integrated competencies framework, which emphasizes the importance of systematic curriculum analysis and adaptation. However, although rare, some studies have found low levels of curriculum knowledge among teachers (Gani & Mahjaty, 2017; Opoh & Awhen, 2015).

The results indicated that teachers with postgraduate education had the highest average curriculum literacy scores. This was evident in the skills subdimension and the overall curriculum literacy score. These findings suggest that teachers with higher levels of education, particularly postgraduate degrees, possess more vital curriculum literacy skills. This aligns with Erdamar's (2020) findings, which demonstrated that postgraduate primary school teachers had higher perceptions of curriculum literacy than their undergraduate counterparts. Although Kahraman (2020) found that education level was not a significant predictor of curriculum literacy, it is reasonable to expect that teachers' abilities to know, understand, and apply the curriculum would be influenced by their educational background. This is consistent with Marek et al.'s (2024) argument that advanced education fosters a deeper understanding of curriculum dimensions, enabling teachers to engage with and adapt instructional materials critically. The findings of this study support this assumption.

The findings revealed no significant differences in teachers' curriculum literacy levels based on age or gender. These results align with the findings of Kahraman (2020) and Nasırcı (2022) regarding the age variable. Similarly, previous studies have found no significant differences in curriculum literacy based on gender (Aslan, 2018; Erdem & Eğmir, 2018; Gülpek, 2020; Yılmaz, 2021). This lack of gender difference might be attributed to the fact that both male and female teachers typically receive the same pre-service and in-service training, and there is generally no gender-based discrimination in these training programs. This finding is consistent with the broader literature on teacher professional development, which emphasizes the role of equitable access to training opportunities in fostering curriculum literacy (Schroeder & Curcio, 2022).

Another finding of this study was that neither years of experience nor teaching level significantly impacted teachers' curriculum literacy, consistent with Kahraman's (2020) findings. Similarly, Aslan (2018) found that teachers with varying years of experience exhibited similar levels of curriculum literacy. Given that the curriculum serves as a guiding document for teachers, all teachers are expected to strive to understand, interpret, and implement it. These wherefores could explain why there were no significant differences in curriculum literacy across teaching levels. This finding underscores the importance of systemic support for curriculum literacy development, as highlighted by Nsibande and Modiba (2012), who argued that both individual and institutional factors influence teachers' engagement with the curriculum.

The findings revealed that teachers held a positive attitude towards professional development, reinforcing the consensus observed in prior literature (Akçay-Kızılkaya, 2012; Gheith & Aljaberi, 2018; Güven, 2022). For instance, Akçay-Kızılkaya (2012) found that teachers preferred practical, short-term professional development activities, which aligns with our participants' emphasis on the immediate applicability of training. Similarly, Gheith and Aljaberi (2018) reported favorable views toward collaborative professional development, mirroring our findings that teachers valued peer discussions and workshops. This consistency extends to studies in diverse contexts, such as vocational education (Adamec &Vymazalova, 2023) and language teaching (Alzahrani, 2020), where teachers prioritized professional development activities that addressed classroom-specific challenges. However, variability exists in the literature. For example, some existing studies (Ayvacı, Bakırcı & Yıldız, 2014; Karasolak, Tanrıseven & Konokman, 2013) and reported below-average or negative attitudes, which may reflect contextual differences in professional development design or institutional support (Kostoulas et al., 2019). Notably, Kostoulas et al. (2019) found that restrictive definitions of "research" and insufficient time hindered engagement, suggesting that structural barriers—not just attitudes—shape professional development outcomes.

When analyzing teachers' attitudes based on age, older teachers (51+) held significantly more positive views than younger cohorts (31–50). This aligns with Demirel and Budak (2003), Kaçan (2004), and Serin and Korkmaz (2014), who identified age as a predictor of professional development engagement, and Aydınalp's (2008) finding that teachers over 35 prioritize skill renewal. However, this contrasts with Hürsen (2012), who reported younger teachers' openness to professional development, and studies showing no age-related differences (Çoban, 2019; Güven, 2022; Karasolak et al., 2013). These divergences may reflect contextual factors, such as institutional expectations or relevance to professional development programs. For example, Adamec and Vymazalova (2023) found that vocational teachers with longer careers sought professional development to update skills, whereas novices relied on initial training, underscoring the role of experience-driven recognition of obsolescence (Gültekin & Çubukçu, 2008). Akçay-Kızılkaya's (2012) emphasis on practical, immediately applicable professional development activities—preferred by experienced teachers—further supports this interpretation. Additionally, in contexts like tertiary education, where research engagement is mandated (Kostoulas et al., 2019), systemic requirements may diminish age-related correlations in professional development attitudes.

Our findings indicated no significant difference in teachers' attitudes toward professional development based on gender, aligning with previous studies by Karasolak et al. (2013), Eroğlu (2019), and Güven (2022). Eroğlu (2019) attributed this uniformity to shared structural challenges, such as time constraints and institutional barriers, which both male and female teachers encounter. This consistency is further reflected in global studies demonstrating

equitable professional development engagement when programs address universal pedagogical needs (Alzahrani, 2020; Cohen, 2022). Professional development activities, typically designed to be gender-inclusive, may foster positive attitudes across genders by emphasizing perceived benefits and satisfaction rather than demographic differences. While Hürsen (2012) reported gender disparities in professional development attitudes, our results align with broader trends where gender-neutral professional development frameworks mitigate inequities (Brysch, 2020), reinforcing that systemic design, not inherent preferences, shapes engagement.

While teachers with associate degrees had slightly higher average scores, the overall level of education did not significantly influence teachers' attitudes. Similarly, years of experience did not impact these attitudes, aligning with previous research by Çoban (2019), Dobrota and Matoković (2022). Eroğlu (2019), and Güven (2022). However, Cohen (2022) found that while teachers' professional development interests did not vary according to experience, they did vary according to grade level. Elementary school teachers demonstrated a greater interest in professional development opportunities than teachers at secondary or middle school levels. The absence of significant differences in our study may be due to all teachers participating in the same professional development activities and these activities, regardless of their experience or teaching level. The teaching level did not significantly influence their attitudes toward professional development.

Conclusion

This study identified a statistically significant, moderate correlation between teachers' curriculum literacy and attitudes toward professional development, underscoring the dynamic interplay between these constructs in enhancing educational quality. Teachers with higher curriculum literacy levels, particularly those holding postgraduate degrees, demonstrated more favorable attitudes toward professional growth, suggesting that advanced academic training fosters deeper engagement with curricular content and promotes continuous learning. While age did not significantly affect curriculum literacy, older teachers exhibited more positive attitudes toward professional development, potentially reflecting the influence of accumulated experience and lifelong learning values.

The findings have critical implications for teacher education programs and educational policy. Integrating mandatory "Curriculum Literacy" courses into undergraduate and in-service teacher training—designed collaboratively by universities and the Ministry of National Education—could bridge gaps in teachers' critical engagement with curricula. Professional development initiatives should shift from generic seminars to practical, context-specific workshops focusing on curriculum adaptation and reflective practices. Moreover, incentivizing postgraduate education through career advancement opportunities or financial support could enhance curriculum literacy across diverse teacher demographics, promoting sustained professional growth.

Despite its contributions, the study has limitations. The sample was confined to public school teachers in a specific Turkish province with convenience sampling, limiting generalizability. Additionally, the reliance on self-reported data may introduce social desirability bias. Future research should employ mixed-methods approaches, including classroom observations and performance-based assessments, to validate these findings. Qualitative studies could further explore the factors behind older teachers' positive professional development attitudes and examine how postgraduate programs specifically enhance curriculum literacy competencies.

Systemic reforms are recommended to institutionalize these insights. Collaborative initiatives between the Ministry of National Education and universities could develop micro-credential programs focused on curriculum design and critical literacy for in-service teachers. Recognition systems, such as certifications and career advancement opportunities, could motivate teachers to engage in advanced professional development. Considering Türkiye's centralized teacher assignment and professional development system, creating a centralized monitoring unit within the Ministry of National Education would be more feasible. This unit could systematically track curriculum literacy trends nationwide and ensure that teacher training programs are regularly updated to reflect emerging educational needs. By addressing these dimensions, curriculum literacy can evolve from an individual competency into a transformative force for pedagogical innovation and educational excellence.

References

Adamec, P. (2019). Attitude and motivation of teachers of vocational subjects towards further education. *Pedagogika, 69*(2), 165-184. https://doi.org/10.14712/23362189.2018.862

Adamec, P., & Vymazalová, Z. (2023). Attitudes of Secondary School Teachers Towards Professional Development and Innovation. (2023). *R&E-SOURCE, 1,* 3-20. https://doi.org/10.53349/resource.2023.is1.a1186

Adem, S. (2023). Program literacy levels of branch teachers. *International Journal of Primary Education Studies, 4*(1), 14-20. https://doi.org/10.59062/ijpes.1267978

Akçay-Kızılkaya, H. (2012). *A research on the examination of teachers' professional development in terms of their attitudes about professional development and job* (Master's thesis). Kırıkkale University, Kırıkkale.

Akınoğlu, O. & Doğan, S. (2012, September). A new concept in the field of program development in education: program literacy. 21. In International Congress of Educational Sciences. 12-14 September, Marmara University, İstanbul.

Akyıldız, S. (2020). A conceptual analysis of curriculum literacy concept: a study of scale development. *Electronic Journal of Social Sciences, 19*(73), 315-332. https://doi.org/10.17755/esosder.554205

Alzahrani, M. (2020). Saudi EFL teachers' attitudes towards professional development. International Journal of Learning, *Teaching and Educational Research, 19*(11), 242-258. https://doi.org/10.26803/ijlter.19.11.14

Ariav, T. (1986). Curriculum analysis and curriculum evaluation: A Contrast. *Studies in Educational Evaluation, 12*(2), 139-47. https://doi.org/10.1016/0191-491X(86)90003-9

Aslan, S. (2018). *The curriculum literacy level of secondary school teachers* (Master's thesis). Hacettepe University, Ankara.

Aslan, S. & Gürlen, E. (2019). Curriculum literacy levels of secondary school teachers. *Journal of Kırşehir Education Faculty, 20*(1), 171-186. doi: 10.29299/kefad.2018.20.01.006

Aydınalp, B. (2008). *The peceptions of secondary education teachers regarding activities through in service training* (Master's thesis). Yildiz Technical University, İstanbul.

Ayvacı, H., Bakırcı, H., & Yıldız, M. (2014). Science and technology teachers views and expectations about in-service training practices. *Amasya Education Journal, 3*(2), 357-383.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Baykal, D. E. (2019). *Comparison of school of foreign languages instructors' attitudes towards professional development: Yildiz Technical University and Altinbaş University samples* (Master's thesis). Yıldız Technical University, İstanbul.

Ben-Peretz, M. (1990). *The teacher curriculum encounter: Freeing teachers from the tyranny of texts.* Albany: State University of New York Press.

Bolat, Y. (2017). Concept of curriculum literacy and curriculum literacy scale. *Turkish Studies international Periodical for the Languages, Literature and History of Turkish or Turkic, 12*(18), 121-138. http://dx.doi.org/10.7827/TurkishStudies.12103

Brysch, C. P. (2020). Teacher attitudes toward alternative professional development in geography. *Journal of Geography, 119*(2), 55-62. http://dx.doi.org/10.1080/00221341.2019.1706621

Bümen, N., Ateş, A., Çakar, E., Ural, G., & Acar, V. (2012). Teachers' professional development in Turkish context: Issues and suggestions. *National Education Journal, 42*(194), 31-50. https://dergipark.org.tr/tr/pub/milliegitim/issue/36174/40673

Cohen, M. B. (2022). *Understanding Teachers' Attitudes Toward Professional Development to Ensure Effective Opportunities for Professional Learning* (Publication No. 29260120). ProQuest Dissertations & Theses Global. https://www.proquest.com/dissertations-theses/understanding-teachers-attitudes-toward/docview/2703010047/se-2

Çetinkaya, S., & Tabak, S. (2019). Curriculum literacy efficiency of preservice teachers. *On Dokuz Mayis University Journal of Education Faculty, 38*(1), 296-309.

Çoban, Ö. (2019). *The evaluation of motivation levels of teachers from the perspective of their views of professional development* (Master's thesis). Necmettin Erbakan University, Konya.

Dana, N. F., & Yendol-Hoppey, D. (2009*). The reflective educator's guide to classroom research: Learning to teach and teaching to learn through practitioner inquiry.* Corwin Press.

Darling-Hammond, L. (2017). Effective teacher professional development. *Learning Policy Institute.*

Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior.* Springer Science & Business Media.

Demir, S. K. (2023). *Investigation of the relationship between class teachers' programliteracy and their attitudes to the teaching profession* (Master's thesis). Kahramanmaraş Sütçü İmam University, Kahramanmaraş.

Demirel, Ö., & Budak, Y. (2003). In-service training needs for teachers. *Educational Administration Theory and Practice, 33*(33), 62-81. https://dergipark.org.tr/tr/download/article-file/108446

Deng, Z. (2018). Pedagogical content knowledge reconceived: Bringing curriculum thinking into the conversation on teachers' content knowledge. *Teaching and Teacher Education, 72*, 155-164. https://doi.org/10.1016/j.tate.2017.11.021

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational researcher, 38*(3), 181-199. https://doi.org/10.3102/0013189X08331140

Dobrota, S., & Matoković, M. (2022). Primary school teachers' attitudes toward professional development in music. *Pedagoškaobzorja, 37*(3-4), 65-80.

Dweck, C. (2014). Teachers' Mindsets: "Every Student has Something to Teach Me" Feeling overwhelmed? Where did your natural teaching talent go? Try pairing a growth mindset with reasonable goals, patience, and reflection instead. It's time to get gritty and be a better teacher. *Educational horizons, 93*(2), 10-15. https://doi.org/10.1177/0013175X14561420

Erdamar, F. S. (2020). *The analysis of primary school teachers' curriculum literacy perceptions and primary school administrators' perceptions of teachers' curriculum literacy skills in the context of progressive philosophy* (Doctoral dissertation). Fırat University, Elazığ.

Erdem, C., & Eğmir, E. (2018). Prospective teachers' levels of curriculum literacy. A*fyon Kocatepe University Journal of Social Sciences, 20*(2), 123-138. doi: 10.32709/akusosbil.428727

Erik, H. S., & Yılmaz, M. B. (2024). Lifelong Learning Center Trainers: What Are Their Perceived Curriculum Literacy and Digital Technology Usage Levels?. *Participatory Educational Research, 11*(6), 56-74.

Eroğlu, M. (2019). *Investigation of the relationship between teachers 'participation in professional development and the attitudes toward professional development, readiness for self-directed learning and supportive school characteristics* (Doctoral dissertation). Inonu University, Malatya.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). New York: McGraw-Hill.

Gani, S. A., & Mahjaty, R. (2017). English teachers' knowledge for implementing the 2013 curriculum. *English Education Journal, 8*(2), 199-212.

Gheith, E., & Aljaberi, N. (2018). Reflective teaching practices in teachers and their attitudes toward professional self-development. *International Journal of Progressive Education, 14*(3), 160-179. https://doi.org/10.29329/ijpe.2018.146.11

Gouëdard, P., Pont, B., Hyttinen, S., & Huang, P. (2020). Curriculum reform: A literature review to support effective implementation. *OECD Education Working Papers*, 239. OECD Publishing. https://doi.org/10.1787/efe8a48c-en

Guskey, T. R. (2000). *Evaluating professional development.* Corwin Press.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching, 8*(3), 381-391. https://doi.org/10.1080/135406002100000512

Gülpek, U. (2020). *Investigation of the physical education and sports teachers and prospective teachers curriculum literacy and physical education efficacy levels* (Master's thesis). Uludağ University, Bursa.

Gültekin, M., & Çubukçu, Z. (2008). Perceptions of primary school teachers about in-service training. *MANAS Journal of Social Studies, 10*(19), 185-201. https://dergipark.org.tr/tr/download/article-file/843617

Güven, G. Ş. (2022). *Examining primary school teachers' educational beliefs and attitudes towards professional development* (Master's thesis). Trabzon University, Trabzon.

Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2009). *Multivariate data analysis* (7th ed.). Prentice-Hall.

Hürsen, Ç. (2012). Determine the attitudes of teachers towards professional development activities. *Procedia Technology, 1*, 420-425.

Johnson, C. C., & Fargo, J. D. (2014). A study of the impact of transformative professional development on Hispanic student performance on state mandated assessments of science in elementary school. *Journal of Science Teacher Education, 25*(7), 845-859. https://doi.org/10.1007/s10972-014-9396-x

Kaçan, G. (2004). The inclination of professional improvement of teachers. *Eskisehir Osmangazi University Journal of Social Sciences, 5*(1), 58-66. https://dergipark.org.tr/tr/download/article-file/112977

Kahraman, A. (2020). *Examination of private school teachers' levels of educational program literacy, epistemological beliefs, and individual innovativeness* (Master's thesis). İstanbul Sabahattin Zaim University, İstanbul.

Kale, S. (2022). Examination of teachers' program literacy levels and professional perceptions. *International Social Sciences Studies Journal, 8*(106), 4694-4705.

Karasolak, K., Tanrıseven, I., &Konokman, G. Y. (2013). Determining teachers' attitudes towards in service education activities. *Kastamonu Education Journal, 21*(3), 997-1010.

Kasapoğlu, K. (2020). Perceived curriculum literacy scale for teachers: A scale development and validation study. *Inonu University Journal of the Faculty of Education, 21*(2), 963-977. https://doi.org/10.17679/inuefd.709688

Kennedy, M. M. (2016). How does professional development improve teaching?. *Review of educational research, 86*(4), 945-980.

Keskin, A. (2020). *Determining the perceptions of teachers' instructional program literacy levels (Doctoral dissertation)*. Hacettepe University, Ankara.

Keskin, A., & Korkmaz, H. (2021). Development of teachers' curriculum literacy perception scale. *The Journal of Turkish Educational Sciences, 19*(2), 857-884.

Kim, J. (2022). Development of A Design Thinking-Based Korean Language Curriculum Literacy Program for Preliminary Korean Language Teachers. *Journal of Problem-Based Learning, 9*(1), 46-55.

Kostoulas, A., Babic, S., Glettler, C., Karner, A., Mercer, S., & Seidl, E. (2019). Lost in research: Educators' attitudes towards research and professional development. *Teacher Development, 23*(3), 307–324. https://doi.org/10.1080/13664530.2019.1570324

Kshetree, A. K., Pokhrel, P. R., & Kamala, K. C. (2024). English Teachers' Attitudes Towards Professional Development Activities. *Lumbini Journal of Language and Literature, 4*(1), 1-14. https://doi.org/10.3126/ljll.v4i1.73790

Kuyubaşıoğlu, R. M. (2019). *Investigation of teacher's education program literacy qualifications* (Master's thesis). Mersin University, Mersin.

Lazarová, B. (2005). Psychological aspects of the professional growth of teachers: Resistance to change. *Pedagogika, 55*(2), 102-118. https://pages.pedf.cuni.cz/pedagogika/

Marek, M., Lizárraga-Dueñas, L., Woulfin, S., Wetzel, M. M., & Muñoz, E. (2024). A Framework for Curriculum Literacy in Initial Teacher Preparation: Policy, Practices, and Possibilities. Journal of Teacher Education, 0(0). https://doi.org/10.1177/00224871241263803

Marsh, C.J., & Willis, G. (2007). *Curriculum: alternative approaches, on going issues.* New Jersey: Pearson Prentice Hall.

McCray, C. (2018). Secondary teachers' perceptions of professional development: A report of a research study undertaken in the USA. *Professional Development in Education, 44*(5), 583-585. https://doi.org/10.1080/19415257.2018.1427133

Nasırcı, H. (2022). *Examination of curriculum literacy competencies of classroom teachers* (Doctoral dissertation). Çukurova University, Ankara.

Nia, M. N. (2024). The relationship between curriculum literacy with teacher's job satisfaction and the sense of self-worth in secondary schools. *International Journal of Education and Cognitive Sciences, 4*(4), 43-51. https://doi.org/10.61838/kman.ijecs.4.4.5

Nsibande, R. N., & Modiba, M. M. (2012). 'I just do asexpected'. Teachers' implementation of Continuous Assessment and challenges to curriculum literacy. *Research Papers in Education, 27*(5), 629-645. https://doi.org/10.1080/02671522.2011.560961

Ogar, O. E., & Opoh, F. A. (2015). Teachers Perceived Problems of Curriculum Implementation in Tertiary Institutions in Cross River State of Nigeria. *Journal of Education and practice, 6*(19), 145-151. https://files.eric.ed.gov/fulltext/EJ1079530.pdf

Opfer, V. D., Pedder, D. G., &Lavicza, Z. (2011). The role of teachers' orientation to learning in professional development and change: A national study of teachers in England. *Teaching and teacher education, 27*(2), 443-453.

Ornstein, A. C., & Hunkins, F. P. (2018). *Curriculum: Foundations, principles, and issues* (7th ed.). Pearson.

Öner, F., & Cırık, İ. (2023). Exploring curriculum literacy skills: An in-depth analysis through explanatory sequential design. *Journal of Pedagogical Research, 7*(4), 165-185.

Özer, B. (2004). In-service training of teachers in Turkey at the beginning of the 2000s. *Journal of In-service Education, 30*(1), 89-100. doi: 10.1080/13674580400200238

Özer, B. (2005). Secondary school teachers' interest in professional development. *Journal of Educational Sciences & Practices, 4*(8), 209-219.

Özer, B. (2008). Professional development of teachers. A. Hakan (Ed.), In *Developments in the Field of Teaching Profession Knowledge* (pp.195-216). Anadolu University Publications.

Özer, N. & Beycioğlu, K. (2010). The relationship between teacher professional development and burnout. *Procedia-Social and Behavioral Sciences*, *2*(2), 4928-4932. doi: 10.1016/j.sbspro.2010.03.797

Pinar, W. F. (2019). *What is curriculum theory?* (3rd ed.). Routledge.

Posner, G.J. (1995). *Analyzing the curriculum*. New York: McGraw-Hill.

Priestley M, Biesta G & Robinson S (2015) *Teacher Agency: An Ecological Approach.* London: Bloomsbury Academic.

Richards, J. C., & Farrell, T. S. C. (2005). *Professional Development for Language Teachers: Strategies for teacher learning.* Cambridge: Cambridge University Press.

Saracaloğlu, A. S., & Gündüz Çetin, İ. (2023). Analysis of the relationship between teachers' educational program literacy and professional self-efficiency levels. *Amasya Education Journal, 12*(1), 61-74. https://doi.org/10.17539/amauefd.1243057

Schnellert, L. M., Butler, D. L., & Higginson, S. K. (2008). Co-constructors of data, co-constructors of meaning: Teacher professional development in an age of accountability. *Teaching and teacher education, 24*(3), 725-750.

Schroeder, S., & Curcio, R. (2022). Critiquing, curating, and adapting: Cultivating 21st-century critical curriculum literacy with teacher candidates. *Journal of Teacher Education*, *73*(2), 129–144. https://doi.org/10.1177/00224871211073892

Shurtleff, K. G. (2020). *Teachers' perceptions of professional development: A mixed methods study* (Doctoral dissertation). University of North Texas. ProQuest Dissertations Publishing. (UMI No. 28167829)

Savaş, G. (2021). *An examination of the relationship between teachers' professional learning and some personal and organizational variables* (Doctoral dissertation). Hacettepe University, Ankara.

Serin, M. K., & Korkmaz, İ. (2014). Analysis of Classroom Teachers' In Service Training Needs. *Ahi Evran University Journal of Kırşehir Education Faculty, 15*(1), 155-169. https://dergipark.org.tr/tr/download/article-file/1490412

Seven, H. G., & Kahramanoglu, R. (2024). Teachers' curriculum literacy within the framework of systems thinking approach. *Inonu University Journal of the Faculty of Education, 25*(3), 1389-1413. https://doi.org/10.17679/inuefd.1490164

Shulman, L. S. (1986). Knowledge Growth in Teaching. *Educational Researcher*, *15*(2), 4-14.

Steiner, D. (2019). Staying on the shelf: Why rigorous new curricula aren't being used. Flypaper. Fordham Institute. https://fordhaminstitute.org/national/commentary/staying-shelf-why-rigorous-new-curricula-arent-being-used

Süer, S., & Demirkol, M. (2023). Are primary teachers literate or not: A study on curriculum literacy of primary teachers. *International Journal of Contemporary Educational Research, 10*(1), 72-88. https://doi.org/10.33200/ijcer.1160273

Şahin, A. İ. (2020). *An investigation of primary school teacher candidates curriculum literacy* (Master thesis). Kastamonu University, Kastamonu.

Şahin, H. (2006). An important step in curriculum development process: needs assessment. *The World of Medical Education, 22*(22), 1-9.

Tanaş, R., & Tuncer, M. (2023). The Relationship Between Teachers' Curriculum Literacy Skills And Their Curriculum Fidelity. *Educational Reflections, 7(*1), 13-21. https://dergipark.org.tr/tr/pub/eduref/issue/77841/1272948

Taylor, P. (2008) Higher Education Curricula for Human and Social Development, in *Higher Education in the World 3: New challenges and emerging roles for human and social development*, pp. 89-101. London: Palgrave Macmillan.

Tian, X., Bao, L., Li, T., & Gu, Y. (2022). Teacher becoming curriculum designer: professional teaching and learning in China's early childhood education. *Frontiers in Psychology, 13*, 873044. https://doi.org/10.3389/fpsyg.2022.873044

Torff, B., & Sessions, D. (2009). Teachers' attitudes about professional development in high-SES and low-SES communities. *Learning Inquiry, 3*(1), 67-77. https://doi.org/10.1007/s11519-009-0040-1

Torff, B., Sessions, D., & Byrnes, K. (2005). Assessment of teachers' attitudes about professional development. *Educational and Psychological Measurement, 65*(5), 820-830. https://doi.org/10.1177/001316440527566

Yar-Yıldırım, V. (2018). *Developing and evaluating in-service training curriculum for school administrators' curriculum literacy* (Doctoral dissertation). Gaziosmanpaşa University, Tokat.

Yar-Yıldırım, V. (2020). Development of teachers' curriculum literacy scale: validity and reliability study. *Inonu University Journal of the Faculty of Education, 21*(1), 208-224. https://doi.org/10.17679/inuefd.590695

Yildiz, H. & Özdoğan-Biçer, S. (2022). Exploring the curriculum literacy level of English language teachers, *International Online Journal of Educational Sciences, 14*(5), 1340-1360. https://doi.org/10.15345/iojes.2022.05.014

Yılmaz, G. (2021). *Examining the relationship between curriculum literacy levels, curriculum orientations and curriculum fidelity levels of teachers* (Master thesis). Gaziantep University, Gaziantep.

Yoon, K. S., Duncan, T., Lee, S. W.-Y., & Shapley, K. (2007). *Reviewing the evidence on how teacher professional development affects student achievement.* National Center for Education Evaluation.

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