Curriculum Literacy Perception Level of Teachers

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The main purpose of this study is to determine the curriculum literacy levels of the teachers. For this purpose, the study was designed as correlational research. The participants of the study consisted of 447 teachers working in Birecik district of Şanlıurfa. The data were collected using the "Curriculum Literacy Scale" developed by Bolat (2017). In analyzing the data, measures of central tendency (mode, median, arithmetic mean) were used to determine teachers' curriculum literacy perception levels. Mann Whitney U test was used to determine whether their perception level differed according to gender variable. Kruskal Wallis H test was used for measurements related to the school level, year of work experience, and age variables. As a result of the study, it was found that the reading perception level (X=89.86), writing perception level (X=85.57) and curriculum literacy level of teachers were at a very high level (X=87.79). Curriculum literacy perception levels of the teachers were found to differ according to gender variable. On the contrary, no significant difference was obtained between curriculum literacy levels and age, school level, year of work experience and postgraduate education status variables.

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INTRODUCTION

Education plays a crucial role in shaping the future of individuals and societies, influencing their growth and development at every stage of life. It is essential for individuals to align themselves with the demands of the contemporary era and contribute to the advancement of society. Since ancient times, education has occupied a vast sphere of human life and has been instrumental in the evolution and reformation of society. Education is therefore of the utmost significance for the overall progress and transformation of societies. Different countries have implemented many education reforms to compete with each other economically. Educational problems, needs and developments which arise in schools require education researchers and program producers to design, develop and implement new practices (Richards & Skolits, 2009). The global transformations and progressions in individual, social and economic aspects are also evident in multiple domains in Turkey, including social structure, scientific comprehension, information technologies, business relations and workforce caliber. As a result, it has become mandatory to incorporate these developments into education programs (MEB, 2005). The enhancement of education programs in line with advancements in science and technology is a recognized approach to attaining educational objectives, resulting in the continuous updating and modification of curriculums (Erişen, 1998). The information presented in the literature highlights the global transformations and progressions that are taking place in various domains, including social structure, scientific comprehension, information technologies, business relations and workforce caliber, which are also evident in Turkey. To keep pace with these advancements, it has become essential to incorporate them into the education system. This means that the education programs must be updated and modified regularly to keep pace with the latest developments in science and technology.

The curriculum plays a crucial role in achieving educational objectives and it is the backbone of the education system. Demirel (2020) defined a curriculum as "The list of topics, course contents, scheduling of studies, list of teaching materials, order of courses, target behavior group, that is, everything taught in a planned way by educators inside and outside the school". According to Goodson (1994), the concept of a curriculum is complex and has many facets. It is constructed, negotiated and renegotiated at various levels and in different arenas. The curriculum can be viewed as a means of attaining particular educational aims and goals. It can be considered as a checklist of intended results in this regard. During the process of creating a curriculum, the objectives are typically clearly defined and expressed in observable and behavioral terms. This approach is referred to as the objectives curriculum model, which emphasizes the end products or outcomes and is often centered on the teacher or educational administration. When a curriculum is developed from an administrative perspective, politicians tend to create it without consulting teachers, and very few teachers feel a sense of responsibility or ownership towards the content which they are required to teach (Su, 2012). The curriculum defines the scope of knowledge, skills and attitudes that students are expected to acquire during their schooling years. Therefore, any updates or modifications to the education programs must be reflected in the curriculum.

The curriculum allows for education to progress in a more systematic and organized manner within schools. A successful curriculum should be based on a well-researched and documented action plan (Kawata, 2020).

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Furthermore, curriculum development is a continuous process which involves not only adding or removing topics but also incorporating contemporary methods and taking into consideration the interests, needs and experiences of students in real life (Kahramanoğlu, 2019). The teacher is considered the center of instruction in the classroom, and the teacher's approach to teaching, providing feedback and implementing the curriculum can determine success or failure in the teaching process (Wang & Cheng, 2009). Teachers have a crucial role to play in curriculum implementation, and in order to do so effectively, they must have adequate content knowledge and curriculum literacy (Özer & Gelen, 2008; Aslan, 2018; Kızılaslan Tunçer, 2019). The information presented above highlights the importance of a well-designed curriculum in facilitating effective education in schools. It is therefore essential to recognize that simply leaving the program unchanged may not be sufficient to meet the needs of individuals in a rapidly changing society, economy and living standards. This highlights the importance of a continuously evolving curriculum to facilitate effective education and underscores the critical role which teachers play in implementing and adapting the curriculum to meet the evolving needs of students. It is therefore crucial for the teachers who will execute the curriculum to possess knowledge about it, to comprehend it and to formulate plans to put it into action. To effectively comprehend the overall framework of the curriculum and implement it, teachers must possess curriculum literacy since the success of the curriculum is attained only when it is efficiently implemented.

Several components affect the competence related to the curriculum. One of these components is literacy, which is an essential skill that teachers must possess to be curriculum literate. The term 'curriculum literacy' is considered to be one of the essential literacy skills of the twenty-first century. It refers to the mastery of the curriculum, having the knowledge of how to implement it, and possessing the necessary skills to evaluate it (Akyıldız, 2020). According to Yar Yıldırım (2020), curriculum literacy involves practitioners using critical thinking skills to analyse and understand the curriculum by asking questions such as 'Why', 'What', 'How' and 'How Much'. Kahramanoğlu (2019) defined curriculum literacy as the process of teachers making sense of and analysing the official curriculum using high-level mental skills. Keskin (2020) stated that curriculum literacy is the teacher's knowledge of the features and use of the curriculum in practice, including critical evaluations and interpretations, and Erdamar (2020) defined curriculum literacy as the ability of teachers to know and implement the curriculum, a qualification that all education stakeholders should possess to adapt to twenty-first-century learning approaches. In summary, curriculum literacy requires teachers to have the appropriate knowledge and skills to use and analyse the curriculum. Additionally, it encompasses having a comprehensive understanding of the curriculum's elements (Bolat, 2017), interpreting this knowledge critically to evaluate the curriculum (Keskin & Korkmaz, 2017), and creating adaptable plans by considering the existing situation instead of following monotonous plans (Nsibande & Modiba, 2012). The curriculum is a vital part of the education system as it involves a structured approach to learning, outlining the main topics that students need to complete, designing and selecting appropriate content, methods and evaluations for educational success, and providing a roadmap for teachers to follow (Akkaya, 2023). As is evident from the various definitions presented in the literature, curriculum literacy involves not only understanding and mastering the curriculum but also critically analysing and evaluating its elements. Moreover, it requires teachers to possess the necessary skills to create adaptable plans and make informed decisions based on the specific situation. Curriculum literacy is therefore a crucial aspect of education which can lead to successful curriculum implementation, ultimately benefitting students' learning outcomes.

Curriculum literacy serves two important purposes in education. First, it assists in the successful attainment of the desired goals and objectives laid out in a carefully designed curriculum, ultimately determining the quality of education (Oliva, 2009). Despite curriculums serving as a guiding tool for teachers to implement during designated times, each teacher has the discretion to interpret and apply the program in their own way (Ryu, 2015). Therefore, even the most meticulously planned curriculum must be properly understood and adopted by implementers to ensure accurate execution (Akyıldız, 2020; Ellis, 2013). The literature shows that some teachers implement the same curriculum differently whereas others resist changes and updates by adhering to traditional teaching methods (Bümen et al., 2014; Songer & Gotwals, 2005). Moreover, it is evident that many teachers struggle with the skills and competencies necessary to truly comprehend, interpret and implement the curriculum, further highlighting the significant role of curriculum literacy (Süral & Dedebali, 2018). So in order to implement the curriculum as intended, teachers must be well-versed in its structure, philosophy and essence, enabling them to plan the educational process accordingly (Süer & Demirkol, 2013). As can be understood, the curriculum literacy of teachers is crucial for ensuring the effective implementation

of education programs. Teachers must therefore have a deep understanding of the curriculum, including the objectives, content and assessment methods, in order to be able to design effective lesson plans and deliver quality instruction to students. Curriculum literacy can also help teachers to make informed decisions and modifications to the curriculum to meet the needs of their students. It allows them to identify any gaps in the curriculum and provide additional resources and support to students who require it. It is therefore essential to provide professional development opportunities to teachers to enhance their curriculum literacy skills and enable them to provide quality education to students.

Teachers provide the link between the curriculum which they use as a guide and the learners. They do the necessary work for the students to acquire the learning outcomes specified in the curriculum. In this context, when the general qualifications of the teaching profession are examined, it is expected from teachers to be able to be aware of other teaching programs related to the curriculum of their field and their knowledge of the learning and development characteristics of students with the teaching processes. In addition, teachers are expected to be able to compare different methods, models, strategies and techniques which can be used for teaching in their field, as well as measurement and evaluation methods which can be used in the field (MEB, 2017:13-16). Similarly, Ornstein and Hunkins (2017) stated that the teacher should be able to understand and apply the variables of the curriculum. Moreover, through other courses related to the curriculum development course given in pre-service teacher training, teacher candidates and teachers who work actively with in-service training are also given a mission to prepare a curriculum. So as the implementers of the curriculum, teachers should understand the curriculum in the best way.

In Turkey, there is a growing interest in curriculum literacy among teachers. Accordingly, various studies have been conducted on the curriculum literacy of undergraduate students, teachers and education administrators according to a number of variables (Erdem & Eğmir 2018; Yar Yıldırım, 2018; Çetinkaya & Tabak, 2019; Aslan & Gürlen 2019; Kahramanoğlu, 2019; Karagülle, Varki & Hekimoğlu, 2019; Demir, Yücesoy & Serttaş, 2020; Keskin, 2020, Gülpek, 2020). Turkey has been going through significant changes in various domains, including social structure, science and technology, information technologies and business relations. To keep pace with these developments, the Turkish education system needs to ensure that teachers are equipped with the necessary knowledge and skills to deliver effective instruction to students. There is therefore a need for further research into the level of curriculum literacy among teachers in Turkey in order to identify gaps in their knowledge and skills, and to recommend appropriate interventions to enhance their curriculum literacy skills. These studies can provide a basis for the development of professional development programs for teachers and curriculum revisions, ensuring that Turkish teachers are prepared to meet the changing needs of society and provide quality education to students. Based on this, the researchers hold the belief the present study will make a contribution to the existing literature by providing further data for teachers and policy makers. The purpose of this study is to determine the perceptions of teachers about whether they can fulfill their responsibilities in applying the curriculum appropriately and writing a new curriculum when necessary. Within this context, the following research questions are addressed:

1. What is the curriculum literacy level of teachers in Turkey?
2. Does the curriculum literacy level of the teachers differ according to the variables of a. gender, b. age, c. school level, d. years of work experience and e. postgraduate education status?

METHOD

In this section, the design of the study, the participants, the data collection tools and the techniques used in the analysis of the data are given.

Research Design

Research design refers to studies planned to be carried out by a researcher in order to seek answers to the research questions. Obtaining findings with high validity and reliability in the research design is related to controlling the variance of dependent variable(s) (Balcı, 2001). In this study designed to determine the curriculum literacy level of teachers, a quantitative research design was used involving the survey method. A survey model is a model designed to detect a past or present situation as it exists (Karasar, 2019). Survey research is based on the principle of first determining a research problem and then determining any sub-problems. An appropriate survey is then devised to elicit data needed to answer the research questions. The

data collected in survey studies are very well defined and the questions asked to the participants within the scope of the research must be related to the purpose (Cohen & Manion, 1997; Fraenkel & Wallen, 2006). The main purpose of the current study is to investigate the possible relationships between teachers' curriculum literacy level and the variables of gender, age, school level, years of work experience and postgraduate education status. In this context, a correlational research design was employed. A correlational research design is used to determine the existence and/or degree of co-variance between two or more variables (Karasar, 2019).

Participants

The study was carried out with teachers working in public and private schools in the Birecik district of Şanlıurfa Province in Turkey in the 2020-2021 academic year. The participants consisted of 447 teachers working in the Birecik district. The distribution of the education regions of the schools in the Birecik district is determined by the Şanlıurfa Provincial Directorate of National Education. Demographic characteristics of the teachers participating in the study are given in Table 1.

Table 1. Demographic Information of Teachers Participating in the Study

Gender	N	%
Male	283	63,3
Female	164	36,7
Total	447	100.0
Age	**N**	**%**
22-30	261	58,4
31-40	121	27,1
41-50	48	10,7
51-58	17	3,8
Total	447	100
School level	**N**	**%**
Preschool	24	5,4
Primary School	217	48,7
Secondary School	109	24,4
High School	97	21,5
Total	447	100
Year of Work-Experience	**N**	**%**
1-10	329	73,8
11-20	73	16,1
21-30	41	9,2
31-40	4	0,9
Total	447	100
Post Graduate Education	**N**	**%**
Yes	61	13,6
No	386	86,4
Total	447	100,0

As can be seen in Table 1, the participating teachers' demographic information is distributed according to the five variables of interest. In terms of the gender variable, the number of female teachers was higher than that of males, and when the distribution of teachers by age is examined, the number of teachers in the 22-30 age range is higher than the other age groups. When the school level of the teachers is examined, it is seen that most of the teachers (almost half of the sample) worked in primary schools. In terms of years of teaching experience, most of the teachers had up to ten years of work experience. Finally, well over three quarters of the teachers had not received education to postgraduate education level.

Data Collection Tool

In this section, the data collection tool used in the research is introduced. The Curriculum Literacy Scale developed by Bolat (2017) was used to determine the level of curriculum literacy perceptions of the teachers

participating in the study and to examine their perception level according to the variables of gender, age, school level, years of work experience and postgraduate education status.

The Curriculum Literacy Scale

The Curriculum Literacy Scale (EPOYS) was developed and refined by Bolat (2017) by conducting validity and reliability studies and it is stated that this scale is a reliable data collection tool that can be used to determine teachers' curriculum literacy levels. The scale consists of two dimensions, reading and writing, and 29 items. There are fifteen items in the reading dimension and fourteen in the writing dimension. A five-point Likert-type scale ranges across 1: Strongly Disagree, 2: Disagree, 3: Undecided, 4: Agree, and 5: Strongly Agree. The internal consistency coefficient for the whole scale is $\alpha = .94$, with $\alpha = .89$ for the reading factor and $\alpha = .91$ for the writing factor. Within the scope of the current study, the internal consistency coefficient for the whole scale was not calculated as $\alpha = .96$. After factor analyses and correlation calculations, it was understood that the items of the scale were at a sufficient level of validity and that each item was sufficiently related to the scale.

Data Collection and Analysis

The Educational Curriculum Literacy Scale was distributed to the 447 participating teachers by the researcher using the online form version. The data were analysed using statistical software. Before the analysis of the data, erroneous and incomplete data were corrected by means of the software in a way that would not affect the analysis results. The skewness and kurtosis coefficients were used to examine whether the teachers' scores obtained from their responses to the items of the scale showed a normal distribution in the sub-groups of each independent variable. Skewness değerinin -.058, Kurtosis değerinin -1.576 olduğu belirlenmiştir. Skewness ve Kurtosis değerlerleri normallik varsayımını sağlaması için -1 ile +1 arasında ve sıfıra yakın olması beklenmektedir (Çokluk, Şekercioğlu and Büyüköztürk, 2021). It was determined that the data were not normally distributed in the findings of normality related to reading perception, writing perception and curriculum literacy perception. In the analysis of the data in accordance with the purpose of the study, frequency, percentage, mean, U-test and H-test were used.

In order to determine the teachers' reading perception levels, writing perception levels and curriculum literacy perception levels, percentage, frequency, and median calculations were conducted. Perception level ranges were calculated according to the answers given by the teachers to the scale items. Since the intervals were 16 points [(maximum-minimum)/number of intervals= (100-20) / 5=], the perception level ranges were determined as follows:

- 0-35.999: Very Low
- 36-51.999: Low
- 52-67.999: Moderate
- 68-84.999: High
- 85-100: Very High

FINDINGS

In this section, the findings of the study are presented. The findings regarding the teachers' perception of curriculum literacy are given in Table 2.

Table 2. Teachers' Curriculum Literacy Perception Levels

Factors	N	$\bar{X}$	Mod	Median	SS	Level
Reading Perception	447	89,86	100	93,33	9,92	Very High
Writing Perception	447	85,57	100	87,14	12,87	Very High
Curriculum Literacy Perception	447	87,79	100	89,65	10,88	Very High

When the ranges related to perception levels were examined, it was found that the teachers' reading perception ($\bar{X}$=89.86), writing perception ($\bar{X}$=85.57) and curriculum literacy perception ($\bar{X}$=87.79) were all at the very high level.

In line with the second sub-question of the study, the curriculum literacy levels of the teachers were examined according to the gender variable. For this purpose, the Mann Whitney U test was conducted. The findings are given in Table 3.

Table 3. The Curriculum Literacy Perception Levels of the Teachers In Terms Of Gender Variable

Factors	Gender	N	Mean rank	Sum of ranks	Z	U	p
Reading Perception	Female	283	233,61	66112,5	-2,08	20485,5	,038
	Male	164	207,41	34015,5			
Reading Perception	Female	283	238,79	67577,5	-3,19	19020,5	,001
	Male	164	198,48	32550,5			
Curriculum Literacy Perception	Female	283	236,61	66960	-2,71	19638,0	,007
	Male	164	202,24	33168			

As can be seen in Table 3, the curriculum literacy levels of the teachers differed in terms of gender and that this difference was in favor of female teachers.

In line with the third sub-question of the study, the curriculum literacy levels of the teachers were examined according to their age. For this, the Kruskal Wallis H-Test was conducted and the findings are given in Table 4.

Table 4. The Curriculum Literacy Perception Levels of the Teachers In Terms of Age Variable

Factors	Age	N	Mean Rank	Sd	X^2	P
Reading Perception	22-30	261	220,26	9,92	,996	,802
	31-40	121	225,36			
	41-50	48	239,30			
	51-58	16	214,84			
Writing Perception	22-30	261	223,76	12,87	1,826	,609
	31-40	121	221.81			
	41-50	48	238.03			
	51-58	16	188.47			
Curriculum Literacy Perception	22-30	261	222.64	10,88	1,549	,671
	31-40	121	221,81			
	41-50	48	241,16			
	51-58	16	198,38			

As can be seen in Table 4, there were no significant differences between the teachers' reading perception, writing perception and curriculum literacy perception in terms of age according to the Kruskal Wallis H test results.

In line with the fourth sub-question of the study, the curriculum literacy levels of the teachers were examined according to the school level variable. For this, the Kruskal Wallis H-Test was again applied and the findings are given in Table 5.

Table 5. The Curriculum Literacy Perception Levels of the Teachers In Terms of School Level Variable

Factors	School level	N	Mean rank	Sd	X²	P
Reading perception	Preschool	24	192,94	3	3,902	,272
	Primary school	217	234,66			
	Secondary school	109	216,95			
	High school	97	213,34			
Writing perception	Preschool	24	234,13	3	5,785	,123
	Primary school	217	234,70			
	Secondary school	109	221,82			
	High school	97	197,43			
Curriculum Literacy Perception	Preschool	24	214,23	3	4.407	,221
	Primary school	217	235,64			
	Secondary school	109	218,46			
	High school	97	204,09			

As can be seen in Table 5, the teachers' reading perception, writing perception and curriculum literacy perception did not differ significantly according to the school level variable.

In line with the fifth sub-question of the study, the curriculum literacy perception level of the teachers was examined according to their years of teaching, and the findings are presented in Table 6.

Table 6. The Curriculum Literacy Perception Levels of the Teachers In Terms of Year of Work Experience Variable

Factors	Year of work	N	Mean rank	Sd	X²	P
Reading perception	1-10	329	219,17	3	2,806	,422
	11-20	72	236,90			
	21-30	41	240,66			
	31-40	5	162,50			
Writing perception	1-10	329	220,84	3	2,440	,486
	11-20	72	237,57			
	21-30	41	227,52			
	31-40	5	147,63			
Curriculum Literacy Perception	1-10	329	219,96	3	2,447	,480
	11-20	72	236,50			
	21-30	41	235,71			
	31-40	5	155,25			

According to the Kruskal Wallis H test, there were no significant differences in all the sub-dimensions of the teachers' perception of curriculum literacy in terms of their years of teaching experience.

In line with the sixth sub-question of the study, the curriculum literacy perception level of the teachers was examined in terms of their post-graduate education status and the findings are given in Table 7.

Table 7. The Curriculum Literacy Perception Levels of the Teachers In Terms of Postgraduate Education Status Variable

Factors	Postgraduate education status	N	Mean Rank	Sum of Ranks	Z	U	P
Reading perception	Yes	61	240,52	14672	-1,082	10765	,279
	No	386	221,39	85456			
Writing perception	Yes	61	235,22	14348,5	-,733	11085,5	,464
	No	386	222,23	85779,5			
Curriculum Literacy Perception	Yes	61	235,99	14395,5	-,781	11041,0	,435
	No	386	222,10	85732,5			

As can be seen in Table 7, there were no significant differences between the teachers' reading perception, writing perception and curriculum literacy levels according to whether or not they had postgraduate education status.

RESULT and DISCUSSION

In this study, it was found that the reading perception (X=89.86), writing perception (X=85.57) and curriculum literacy perception (X=87.79) of the participating teachers were at a very high level. Their very high level of perception of curriculum literacy is a positive indication that the teachers had a deep understanding of the curriculum which they were teaching and were able to effectively plan and deliver lessons in line with it. When teachers have a high level of curriculum literacy, they are better equipped to create engaging and effective lessons which meet the needs of their students, and ensure that they are meeting the learning objectives set out in the curriculum. The finding of high curriculum literacy perception is particularly important given the critical role that the curriculum plays in shaping what is taught and learned in schools. Teachers who are well-versed in the curriculum are better able to help their students to succeed academically, and can also serve as valuable resources for their colleagues. Previous studies have been conducted on the concept of curriculum literacy using the curriculum literacy scale. As previously stated, a curriculum is defined as a national official program implemented for raising individuals in a way to cope with the requirements of the age. Previous studies have supported the view that the quality of future generations depends on the quality of the teacher as well as the curriculum. Competent teachers have always been needed to implement literacy education in the most effective way. The review of the literature showed that studies have made both similar and different findings. For example, Aslan (2018), Erdamar (2020), Keskin (2020), Şinego and Çakmak (2021), Sarıca (2021), Kuloglu and Tutus (2022) found that the curriculum literacy levels of in-service teachers were at a high level. On the other hand, Kahramanoğl (2019) found that in-service teachers had only a medium level of curriculum literacy. Kauffman et al. (2002), Baştürk and Dönmez (2011) and Öztürk (2019) reported that pre-service teachers had low levels of curriculum literacy, whereas Demir, Yücesoy and Serttaş (2020) concluded that the curriculum literacy of teacher candidates was above average. Overall, therefore, studies of teachers' curriculum literacy levels have produced mixed findings. This variation in findings could be due to a range of factors, including differences in the particular curriculum being taught, the experience and training of the teachers, and the methods used to measure curriculum literacy. In addition, the role of external factors such as education policies, curriculum changes and school leadership cannot be overlooked, as these factors can have a significant impact on teachers' ability to develop and maintain a strong understanding of the curriculum. It is therefore important to conduct more comprehensive studies which take into account these various factors and provide a more nuanced understanding of teachers' curriculum literacy levels. Additionally, professional development programs which focus on improving teachers' curriculum literacy should be designed and implemented to address any gaps in teachers' knowledge and skills related to the curriculum. In this way, teachers can be better equipped to meet the diverse learning needs of their students and ensure that they are prepared for academic success.

It was found that the participating teachers' reading perception, writing perception and curriculum literacy perception changed significantly according to gender and that female teachers' reading, writing and curriculum literacy perception levels were higher than those of male teachers. This is an important finding as it suggests that there may be gender-based differences in the way that teachers approach and understand the curriculum. Although the findings do not provide a definitive explanation for this difference, it is possible that it could be due to a range of factors. For example, female teachers may be more likely to place a greater emphasis on curriculum development and planning in their teaching practice, or they may have received more training or support in this area compared with male teachers. It is also possible that societal expectations and gender stereotypes might play a role in shaping teachers' perceptions of their own curriculum literacy skills, with women potentially feeling more pressure to excel in this area. Further research is needed to explore the reasons for the gender difference in teachers' curriculum literacy perception levels and to identify strategies to promote equitable and effective curriculum development and implementation for all students regardless of the gender of their teachers. Kahramanoğlu (2019) similarly found a statistically significant difference in favor of female teachers in the total and sub-dimensions of the curriculum literacy scale, whereas Aslan (2018), Erdem and Eğmir (2018), Tunçer and Şahin (2019) and Dilek (2020) did not find a significant difference in

terms of gender. Şinego & Çakmak (2021) suggested that the reason for this difference could be the fact that female and male teachers follow the current trends and developments in the curriculum related to their fields.

No statistically significant difference was found between the teachers' age and their reading, writing and curriculum literacy perception levels. This suggests that teachers' age does not have a significant impact on their understanding and perception of curriculum, but here too it is important to note that this finding might be influenced by a number of factors. For example, it is possible that the sample size of the study was not large enough to detect any subtle differences which might exist between different age groups of teachers. Additionally, the study did not provide any information on the specific types of curriculum or subject areas being taught, which might have an impact on the relationship between age and curriculum literacy. It is also possible that factors such as experience, training and professional development opportunities might be more important in shaping teachers' curriculum literacy perceptions than age alone. Further research is needed to better understand the relationship between age and curriculum literacy perception among teachers, and to identify effective strategies for promoting ongoing professional learning and development in this area. Erdem and Eğmir (2018) similarly found that teachers' curriculum literacy levels did not differ statistically in the total mean score obtained from the scale according to variables such as age, education type and gender.

It was found that the participating teachers' reading, writing and curriculum literacy perceptions did not differ significantly in terms of the school level variable. Başar and Berilgen (2021) similarly found that the curriculum literacy levels of school administrators did not show a significant difference according to the type of school. This finding is noteworthy: it implies that regardless of whether a teacher is teaching at an elementary, middle or high school level, their perceptions of curriculum literacy are similar. There could be several possible reasons why the teachers' curriculum literacy perceptions did not differ significantly based on the school level. One is that the basic principles and concepts of curriculum design and implementation are similar across different school levels. Teachers might have acquired the necessary skills and knowledge to develop and deliver the curriculum effectively through their initial training and experience, regardless of the school level at which they are teaching. Another reason could be that teachers might have access to similar resources and support systems, such as professional development opportunities and curriculum guidelines, regardless of the type of school at which they teach. This could have contributed to the similar perceptions of curriculum literacy among teachers across different school levels. It is also possible that the similarity in teachers' curriculum literacy perceptions is due to the standardization of education systems in Turkey. Overall, the reasons for this finding could be complex and multifaceted. Further research could investigate the factors which contribute to the similarity of teachers' curriculum literacy perceptions across different school levels.

It was also found that there was no statistically significant difference between the years of work and the reading, writing and curriculum literacy perceptions of the participating teachers. Consistent with this finding, Aslan (2018), Aydoğan (2018), Aslan and Gürlen (2019), Erdamar (2020), Kahramanoğlu (2019) and Keskin (2020) did not find any significant difference between the curriculum literacy level of teachers and their years of teaching. . This finding suggests that regardless of how long a teacher has been in the profession, her/his level of curriculum literacy might remain consistent. It is important for educational institutions to provide opportunities for continuous professional development and training to improve teachers' curriculum literacy and ensure quality education for their students.

In response to the final sub-question of the study, it was found that there was no statistically significant difference between the teachers' reading, writing and curriculum literacy perception levels and their postgraduate education status. It can therefore be said that teachers who had had a postgraduate education and those who had not had similar perceptions in terms of curriculum literacy. Keskin (2020) also found that the curriculum literacy of teachers did not differ according to the variable of receiving postgraduate education. Based on this finding, it can be said that having a postgraduate qualification does not have a significant impact on teachers' perceptions of curriculum literacy. This could be due to a variety of reasons. For example, teachers who did not pursue postgraduate study could have compensated for this by engaging in in-post professional development opportunities which enhanced their knowledge and skills in curriculum literacy. Overall, this finding suggests that pursuing a postgraduate education might not be necessary to develop strong curriculum literacy skills. Rather, teachers can develop this expertise through various other means such as professional development opportunities or on-the-job training. It also highlights the importance of evaluating the quality and relevance of postgraduate education programs for teachers to ensure that they are receiving the education and training which they need to be effective in their roles. In conclusion, although postgraduate education

might be beneficial in many ways, this finding suggests that it may not be essential for developing strong curriculum literacy skills. Teachers can develop their expertise through other means, and policymakers and educators should consider the quality and relevance of postgraduate education programs to ensure they are meeting the needs of educators.

Based on the findings, the following suggestions are made:

In the study, it was found that female teachers' reading, writing and curriculum literacy perception levels were higher than those of male teachers. Therefore, male teachers should be encouraged to participate in professional development opportunities which focus on curriculum literacy to help to bridge the gap in perception levels. Strategies should be developed to address any gender-based disparities in hiring, promotion and leadership opportunities in education to ensure that all teachers have an equal opportunity to advance in their careers.

Additionally, the findings showed that teachers who had been educated to postgraduate level and those who had not had similar perceptions in terms of curriculum literacy. Therefore, the quality and relevance of postgraduate education programs should be evaluated to ensure that they are providing the necessary skills and knowledge to teachers in the area of curriculum literacy. Moreover, professional development opportunities should be provided for all teachers, regardless of whether they have pursued postgraduate education, to enhance their skills and knowledge in curriculum literacy.

This study was designed as a quantitative study and the findings were drawn from the participating teachers' responses to the scale items. In future studies, teachers' opinions could be explored and mixed-method research designs could be employed. In this study, the subject branches of the participating teachers were not taken into account, so in future studies, the subject branch variable could also be examined in terms of curriculum literacy.

Declarations

Conflict of Interest

No potential conflicts of interest were disclosed by the author(s) with respect to the research, authorship, or publication of this article.

Ethics Approval

The formal ethics approval was granted by the Social and Human Sciences Research and Publication Ethics Committee of Inonu University. We conducted the study in accordance with the Helsinki Declaration in 1975.

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Research and Publication Ethics Statement

The study was approved by the research team's university ethics committee of the Inonu University (Approval Number/ID: 27/01/2021/3-8. Hereby, we as the authors consciously assure that for the manuscript the following is fulfilled:

- This material is the authors' own original work, which has not been previously published elsewhere.
- The paper reflects the authors' own research and analysis in a truthful and complete manner.
- The results are appropriately placed in the context of prior and existing research.
- All sources used are properly disclosed.

Contribution Rates of Authors to the Article

1st author contributed 50%, 2nd author 35%, 3rd author 15%.

REFERENCES

Aldemir, A. (2003). *Bilgiye erişimde yeni yaklaşım: Bilgi okuryazarlığı [New approach to access to information: Information literacy]*. ÜNAK'03: Bilgiye Erişimde Değişen Yollar ve II. Tıbbi Bilgi Yönetimi ve Teknolojileri Sempozyumu, Ankara, Türkiye.

Akkaya, T. (2023). Öğretmenlerin öğretim programına bağlılıklarının incelenmesi [Investigation of teachers' commitment to the curriculum]. *Premium E-journal of Social Sciences*, *7*(28), 288-294. http://dx.doi.org/10.37242/pejoss.4375

Akınoğlu, O., & Doğan, S. (2012, Eylül, 12-14). *Eğitimde program geliştirme alanına yeni bir kavram önerisi: Program Okuryazarlığı [A new concept proposal for curriculum development in education: Programme Literacy]*. 21. Ulusal Eğitim Bilimleri Kongresi, Marmara Üniversitesi, İstanbul.

Akyıldız, S. (2020). Öğretim programı okuryazarlığı kavramının kavramsal yönden analizi: Bir ölçek geliştirme çalışması [Conceptual analysis of the concept of curriculum literacy: A scale development study]. *Elektronik Sosyal Bilimler Dergisi*, *19*(73), 315-332. https://doi.org/10.17755/esosder.554205

Aslan, S. (2018). *The curriculum literacy level of secondary school teachers* [MA thesis]. Hacettepe University.

Aslan, S., & Gürlen, E. (2019). Ortaokul öğretmenlerinin program okuryazarlık düzeyleri [Curriculum literacy levels of secondary school teachers]. *Kırşehir Eğitim Fakültesi Dergisi*, *20*(1), 171-186. https://doi.org/10.29299/kefad.2018.20.01.006

Balcı, A. (2001). *Sosyal bilimlerde araştırma. Yöntem, Teknik ve İlkeler [Research in social sciences. Methods, Techniques and Principles]*. Pegem A Yayınları.

Başar, T., & Berilgen, S. (2021). Determination of curriculum literacy levels of school administrators. *Kastamonu Eğitim Dergisi*, *29*(2), 348-361. https://doi: 10.24106/kefdergi.766360

Baştürk, S., & Dönmez, G. (2011). Examining pre-service teachers' pedagogical content knowledge with regard to curriculum knowledge. *International Online Journal of Educational Sciences*, *3*(2), 743-775. https://iojes.net/index.jsp?mod=tammetin&makaleadi=&makaleurl=IOJES_440.pdf&key=41296

Bolat, Y. (2017). Eğitim programı okuryazarlığı kavramı ve eğitim programı okuryazarlığı ölçeği [Curriculum literacy concept and curriculum literacy scale]. *Turkish Studies International Periodical for the Languages, Literature and History of Turkish or Turkic*, *2*(18), 121-138. http://dx.doi.org/10.7827/TurkishStudies.12103

Bümen, N. T., Cakar, E., & Yildiz, D. G. (2014). Curriculum fidelity and factors affecting fidelity in the turkish context. *Educational Sciences: Theory and Practice*,*14*(1), 219-228. https://doi: 10.12738/estp.2014.1.2020

Cohen, L. Manion, L., & Morrison, K. (2000). *Eğitimde Araştırma Yöntemleri* (5. baskı)[Research Methods in Education (5th edition)]. Routledge.

Çetinkaya, S., & Tabak, S. (2019). Öğretmen adaylarının eğitim programı okuryazarlık yeterlilikleri [Curriculum literacy competencies of pre-service teachers]. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi*, *38*(1), 296-309. https://doi.org/10.7822/omuefd.535482

Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2021). Sosyal bilimler için çok değişkenli istatistik (6.Baskı) [Multivariate statistics for social sciences (6th Edition)]. Pegem Akademi.

Demir, B., Yücesoy, Y., & Serttaş, Z. (2020). Öğretmen adaylarının program okuryazarlık seviyeleri: KKTC örneği [Programme literacy levels of pre-service teachers: TRNC case]. *Uluslararası Türk Kültür Coğrafyasında Sosyal Bilimler Dergisi*, *5*(1), 28-37. https://dergipark.org.tr/tr/download/article-file/1396216

Demirel, Ö. (2020). *Eğitimde program geliştirme kuramdan uygulamaya* (6.Baskı) [Curriculum development in education from theory to practice (6th edition)]. Pegem Akademi.

Dilek, Ç. (2020). *Examining the curriculum literacy levels and pedagogical knowledge and skill levels of preservice teachers* [MA thesis]. Atatürk University.

Ellis, A. K. (2013). *Exemplars of curriculum theory*. Routledge.

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.

Erdem, C., & Eğmir, E. (2018). Öğretmen adaylarının eğitim programı okuryazarlığı düzeyleri [Curriculum literacy levels of pre-service teachers]. *Afyon Kocatepe University Journal of Social Sciences*, *20*(2), 123-138. https://doi.org/10.32709/akusosbil.428727

Erişen, Y. (1998). Program geliştirme modelleri üzerine bir inceleme [A review on programme development models]. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, *4*(1), 79-97. https://dergipark.org.tr/tr/download/article-file/108239

Fraenkel, J.R., & Wallen, N.E. (2006). *Eğitimde araştırma nasıl tasarlanır ve değerlendirilir* (6. baskı) [How to design and evaluate research in education (6th edition)]. New York, NY: McGraw-Hill.

Goodson, I. F. (1994). *Studying curriculum*. Teachers College Press.

Gülpek, U. (2020). *Investigation of the physical education and sports teachers and prospective teachers curriculum literacy and physical education efficacy levels* [MA thesis]. Uludag University.

Karasar, N. (2019). *Bilimsel araştırma yöntemi: kavramlar, ilkeler, teknikler* (38. baskı) [Scientific research method: concepts, principles, techniques (38th edition)]. Nobel Yayıncılık.

Kahramanoğlu, R. (2019). Öğretmenlerin öğretim programı okuryazarlığına yönelik yeterlik düzeyleri üzerine bir inceleme [An investigation on teachers' competence levels towards curriculum literacy]. *Uluslararası Sosyal Araştırmalar Dergisi, 12*(65), 827-840. http://dx.doi.org/10.17719/jisr.2019.3495

Karagülle, S., Varki, E., & Hekimoğlu, E. (2019). An ınvestigation of theconcept of program literacy in the context of applicability and functionality of educational program. *Educational Reflections*, *3*(2), 85-97. https://dergipark.org.tr/tr/download/article-file/880314

Kauffman, D., Johnson, S. M., Kardos, S. M., Liu, E., & Peske, H. G. (2002). "Lost at sea": new teachers' experiences with curriculum and assesment. *Teachers College Records, 104*(2), 273-300. https://doi.org/10.1111/1467-9620.00163

Kawata, A. P. (Ed.). (2020). *Program development*. National Minority Aids Council.

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

Keskin, A., & Korkmaz, H. (2017, Ekim, 26-28). *Öğretmenlerin program okuryazarlığı kavramına yükledikleri anlam [The meaning that teachers attribute to the concept of curriculum literacy]*. 5. uluslararası eğitim programları ve öğretim kongresi. Muğla, Türkiye.

Kızılaslan Tunçer, B. (2019). Öğretmen adaylarına yönelik "eğitim programı başarı testi" geliştirme çalışması [Development of "education programme achievement test" for pre-service teachers]. *Eğitimde Kuram ve Uygulama*, *15*(Özel Sayı 1), 49-58. https://doi: 10.17244/eku.488661

Kuloglu, A., & Tutus, F. (2022). Curriculum literacy levels of english teachers: a mixed method research. *International Journal of Progressive Education*, *18*(4), 191-208. https://doi: 10.29329/ijpe.2022.459.14

Kuyubaşıoğlu, R. M., & Kılıç, F. (2019). Ortaokul öğretmenlerinin görüşlerine göre EBA (Eğitimde Bilişim Ağı) kullanım düzeylerinin incelenmesi [Examining the usage levels of EBA (Information Network in Education) according to the opinions of secondary school teachers]. *Journal of Advanced EducationStudies*, *1*(1), 32-52. https://dergipark.org.tr/tr/download/article-file/727164

MEB (2005). *İlköğretim sosyal bilgiler dersi (4–5.sınıflar) öğretim programı [Primary school social studies course (grades 4-5) curriculum]*. Devlet Kitapları Müdürlüğü Basımevi.

MEB (2017). *Öğretmenlik mesleği genel yeterlikleri [General Qualifications for Teaching Profession]*. MEB Yayınları.

Nsibande, R. N., & Modiba, M. M. (2012). 'I just do as expected'. 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

Oliva, P. F.(2009). *Developing the curriculum* (7th Edition). Ally and Bacon.

Ornstein, A. C., & Hunkins, F. P. (2017). Curriculum: Foundations, PrinciplesandIssues. Vivar: Pearson Education.

Özer, B. , & Gelen, İ. (2008). Öğretmenlik mesleği genel yeterliklerine sahip olma düzeyleri hakkında öğretmen adayları ve öğretmenlerin görüşlerinin değerlendirilmesi [Evaluation of pre-service teachers' and teachers' opinions about the level of having general competences for teaching profession]. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *5*(9), 39-55. https://dergipark.org.tr/tr/download/article-file/183186

Öztürk, Y. Y. (2019). *Prospective english language teachers' knowledge, perceived competencies, and experiences about English language curriculum* [MA thesis]. Hacettepe University.

Richards, J., & Skolits, G. (2009). Sustaining instructional change: The impact of professional development on teacher adoption of a new instructional strategy. *Research in the Schools*, *16*(2), 41-58. https://psycnet.apa.org/record/2010-08001-007

Ryu, M. (2015). Action research on elementary music class by pre-service teachers based on curriculum literacy. *International Journal of u-and eService, Science and Technology*, *8*(8), 65-76. http://dx.doi.org/10.14257/ijunesst.2015.8.8.07

Sarıca, R. (2021). Öğretmenlerin eğitim programı okuryazarlıkları üzerine bir çalışma [A study on teachers' curriculum literacy]. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, *22*(1), 132-170. https://dergipark.org.tr/tr/download/article-file/1224011

Sarıgöz, O., Dönger, A., & Özkartal, Z. (2017, Ekim, 19-21). *Formasyon eğitimi alan öğretmen adaylarının öğretim teknolojilerinin kullanımına yönelik görüşlerinin incelenmesi [Examining the views of pre-service teachers receiving formation education on the use of instructional technologies].* 8. Uluslararası Eğitim Yönetimi Formu. Ankara, Türkiye.

Songer, N. B., & Gotwals, A. W. (2005). *Fidelity of implementation in three sequential curricular units.* Canada

Su, S. W. (2012). The various concepts of curriculum and the factors involved in curricula-making. *Journal of language teaching and research*, *3*(1), 153-158. http://doi:10.4304/jltr.3.1.153-158

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

Süral, S., & Dedebali, N. C. (2018). Study of curriculum literacy and information literacy levels of teacher candidates in department of social sciences education. *European Journal of Educational Research*, *7*(2), 303-317. http://doi:10.12973/eu-jer.7.2.303

Şinego, S., & Çakmak, M (2021). Öğretmenlerin eğitim program okuryazarlık düzeylerinin incelenmesi [Investigation of teachers' curriculum literacy levels]. *Kesit Akademi Dergisi*, *7*(27), 233-256. http://doi:10.29228/kesit.51337

Tunçer, B. K., & Şahin, Ç. (2019) Öğretmen adaylarının eğitim programına ilişkin bilgi düzeylerinin incelenmesi [Pre-service teachers' level of knowledge about education programme analysing]. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, *21*(2), 247-260. https://doi.org/10.17556/erziefd.511367

UNESCO, (2018). UNESCO-Literacy, https://en.unesco.org/themes/literacy.

Yar Yıldırım, V. (2018). Geleceğin dünyasında okuryazarlık [Literacy in the World of the Future], Emel T. İ. (Eds.), 22.yüzyılda eğitim: Eğitimin Geleceği Üzerine Karma Projeksiyonlar [Education in the 22nd century: Mixed Projections on the Future of Education] (pp. 469-488). PEGEM Akademi.

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: 10.17679/inuefd.590695.

Yüceer Öztürk, Y. (2019). *Prospective english language teachers' knowledge, perceived competencies, and experiences about English language curriculum* [MA thesis]. Hacettepe University.

Wang, H., & Cheng, L. (2009). Factors affecting teachers' curriculum implementation. *Linguistics Journal*, *4*(2), 135-166. https://web.s.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=7c178f35-851a-473d-a219-a3fad9a71ee0%40redis