

Thematic Content Analysis for Curriculum Literacy in Education

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ABSTRACT

This study was conducted to understand the importance of curriculum literacy in education and current trends in the literature. The research covers national and international academic studies published on SCOPUS. Studies on curriculum literacy during this period were examined to determine the contents and trends addressed at different levels of education. Data were collected using thematic content analysis method and analyzed with a qualitative approach. The research design was determined as document review; coding and thematic classification methods were used. The findings obtained in the research show that the role of curriculum literacy in education is increasingly emphasized and the literature in this field is expanding. In addition, it was determined that curriculum literacy studies focused especially on digital literacy, teaching methods and content integration. The results reveal that curriculum literacy is a critical skill for individuals to exist effectively in the digital world. However, since a limited number of databases were examined, a more extensive literature review is needed. In the future, it is recommended that applied and interdisciplinary studies be conducted to increase the integration of curriculum literacy into teaching processes.

Keywords: Algorithmic Thinking, Coding, Content Analysis, Digital Literacy, Programming Literacy.

INTRODUCTION

While literacy has historically been shaped as a concept that only covers writing and reading skills, today it has gained a much broader meaning. Today's literacy includes individuals' access to information, making sense of this information, and using it with critical thinking skills (Aydın and Seferoğlu, 2023). With the innovations brought by the digital age, this concept has evolved even further, and has included skills such as accessing information and using technology effectively. In parallel with this expanding understanding of literacy in education, curriculum literacy also stands out as an important concept. Curriculum literacy includes the skills of understanding the structure of curriculum, evaluating its content, and analyzing its applicability so that individuals can be more effective and efficient in their learning processes (Sur, 2022). In this context, curriculum can play an important role not only in course content, but also in how this content will be presented and evaluated to students.

Educational programs can fulfill a critical function in the development of individuals in a society and in the process of their adaptation to social life. Well-structured educational programs can support individuals' lifelong learning skills by enabling them to make informed decisions. The effectiveness of these programs may depend not only on the knowledge and skills of teachers or educational administrators, but also on how well they understand and implement the educational program. Educational program literacy can have an important place in the process of providing this critical skill for teachers and other educational stakeholders. Because individuals who read and evaluate educational programs correctly can contribute more directly to the development of students.

The development of curriculum literacy has progressed in parallel with the changing needs in education systems and the digital transformation processes of societies. In the 21st century, education is shaped by more technological integration and innovative teaching methods (Bozkurt & Coşkun, 2018; Kazu & Kuvvetli, 2023). This transformation has required teachers to understand how to integrate technology and develop students' digital skills, beyond just mastering traditional curriculum. In this context, curriculum literacy enables teachers to use educational materials effectively. It enables them to adapt and integrate these technologies into their teaching

processes. In addition to improving the quality of education, program literacy can also provide students with a broader learning experience.

This research aims to address the scope, importance and role of curriculum literacy in education. Curriculum literacy can have a significant impact on the development of not only teachers and educational administrators but also students. Students can have a better learning experience through correct and effective educational programs. Therefore, the fact that teachers and educational administrators have acquired curriculum literacy is a factor that will directly affect students' success. Therefore, curriculum literacy is becoming increasingly important today as an important component that increases the quality of education.

Literature Review

Definition and Importance of Curriculum Literacy

Curriculum literacy is a concept that is generally associated with understanding the purpose of educational programs, evaluating their content, and analyzing their applicability. However, different researchers define this concept in different ways. For example, while some researchers define curriculum literacy as the ability to use educational materials effectively (Drake et al., 2014), others emphasize how educational programs can be adapted to the individual needs of students (Cairney, 2002). Both definitions reveal how multifaceted a concept program literacy is. The basic components of curriculum literacy include understanding the content of the program, evaluating teaching methods, analyzing outcomes and learning materials, and evaluating outcomes (Wyse et al., 2016). These components can help educators develop effective programs that are appropriate for the needs of students.

The contributions of program literacy to the education system are quite extensive. Teachers and education administrators being program literate can ensure the development of more innovative practices and an egalitarian teaching approach in education (Çöğmen and Yılmaz Özelçi, 2024). Gaining this skill not only contributes to teachers' own professional development, but also increases students' success. Program literacy allows teachers to create a more flexible, creative and effective teaching process (Ennis, 2015). In addition, increasing program literacy plays an important role in reducing inequalities in education (Berson et al., 2022). Equality in education means supporting each student according to their own learning pace and needs, which can be possible by correctly analyzing and implementing teaching programs.

Lack of Program Literacy in Education

Today, education systems must adapt to changing needs and technologies. In this adaptation process, curriculum literacy stands out as one of the greatest strengths of teachers. However, there are serious difficulties in the development of curriculum literacy around the world and especially in Türkiye. Research shows that teachers' curriculum literacy levels are generally not at the desired level (Aslan and Gürlen, 2018; Demir and Toraman, 2021; Yar Yıldırım, 2020). Similarly, Tuncel and Kazu (2019) emphasize that one of the main reasons for teachers' inadequacies in evaluating success during the instructional process is their insufficient level of program literacy skills. Therefore, they suggest that courses or course contents aimed at developing this skill should be included both in Faculties of Education and in Pedagogical Formation Education Programs. This deficiency is usually attributed to factors such as inadequate teacher training, time constraints, and bureaucratic obstacles. It is based on. In addition, the constant change of the curriculum makes it difficult for teachers to adapt to existing programs. These difficulties are important factors that prevent the improvement of quality in education.

The importance of program literacy is increasingly recognized in the education system. However, the obstacles that prevent educators from acquiring this skill need to be overcome. Providing more education and resources to teachers and providing the necessary environments for teachers to use digital tools effectively will ensure that program literacy becomes widespread. In order to use quality programs in education, teachers need to receive training that meets the needs of students and includes contemporary teaching methods.

Purpose and Scope of the Study

The purpose of this study is to investigate the role and importance of curriculum literacy in education and to reveal the factors that hinder the development of curriculum literacy. The study is based on a current literature review on how well teachers understand and implement curriculum. This study will discuss the basic components and suggested strategies required for teachers to gain curriculum literacy. The scope of the study will not be limited to teachers alone, but will also address the contributions of educational administrators and other educational stakeholders to curriculum literacy. This study aims to develop applicable strategies for a more efficient education system while emphasizing the place and importance of curriculum literacy in education. In this context, the originality of the study is that it contributes to the existing literature and offers suggestions that will increase the integration of curriculum literacy into education systems.

This research addresses and seeks answers to the following questions that have not been adequately addressed in the literature:

1. What is the demographic information of the studies conducted?
2. What is the distribution of common keywords of the studies by year?
3. What is the distribution of academic studies on curriculum literacy by year?
4. What kind of distribution is observed among the topics of the studies on curriculum literacy?
5. What are the common themes of studies on curriculum literacy?

METHOD

Research Design

In this study, thematic content analysis method was chosen. Thematic content analysis is an approach that allows for the systematic examination of qualitative data (Ültay et al., 2021). This type of analysis allows the separation, classification and interpretation of existing text, visual or audio materials into meaningful categories. In accordance with the purpose of the research, the researcher will examine the contents in depth to better understand a particular phenomenon, concept or theme.

Data Collection Tools

In the study, content analysis, one of the qualitative data collection methods, was used as a data collection tool. Thematic content analysis was conducted by using the information in the titles, keywords, abstracts and conclusion sections of the articles. Data were obtained from articles written in English and Turkish, scanned with the keyword "curriculum literacy" through the Scopus database. The contents of these articles were collected and analyzed under certain criteria. Within the scope of the study, main categories such as the distribution of the articles by year, which subtopics were focused on and which countries they were conducted in were determined.

Data Analysis Method

The data obtained were examined using qualitative analysis techniques. Content analysis allows the identification of certain patterns, themes, and categories in the texts (Ültay et al., 2021). Within the scope of this study, each article was classified according to predetermined key categories in order to analyze the distribution by year, distribution by subject, and distribution by country. Then, the data in these categories were presented with descriptive statistics and the trends in the literature were revealed. In the light of the obtained data, it was evaluated in which years, in which sub-subjects, and in which countries the developments in language learning and program development were concentrated.

Reliability and Validity

In order to ensure the reliability and validity of the research, a meticulous method was followed in the data collection and analysis process. Care was taken to carry out the content analysis independently of the researcher's personal interpretations and prejudices. In addition, each article was examined under certain categories, thus increasing the accuracy of the analysis. The validity of the findings obtained during the analysis was evaluated based on previous studies conducted on similar subjects in the literature. As a result, the findings of the research are accepted as reliable and valid.

Inclusion and Exclusion Criteria

This search includes only academic articles written in English on the subjects of artificial intelligence, program development and language learning. Detailed information is provided in Table 1.

Table 1. Inclusion and Exclusion Criteria.

Inclusion Criteria		Exclusion Criteria	
Topic	Articles on Curriculum Literacy	Publication Type	Common types of academic work such as literature reviews, reports, books, conference proceedings
Language	Studies conducted in English and Turkish.	Suitability	Program Studies that make indirect or limited contributions to the field.
Publication Type	Peer-reviewed (refereed) in journals.	Access Status	Accessible (full text) articles
Keywords	Studies were search using the keyword	Originality	Direct to the field of program literacy contributing original research.

"Curriculum literacy.

The articles retrieved from the database were searched with the keyword "curriculum literacy". However, only articles published in accessible, peer-reviewed journals were analyzed. As an exclusion criterion, previously published literature reviews, reports, books, or conference proceedings were not included in the study. In addition, only original studies that directly contributed to the field of curriculum literacy were focused on. After excluding 6 studies that were determined not to be related to curriculum literacy from the 35 studies obtained, the remaining 29 studies were included in the study.

FINDINGS

The bibliometric analysis results obtained by examining the keywords of the studies in the literature are shown in Figure 1.

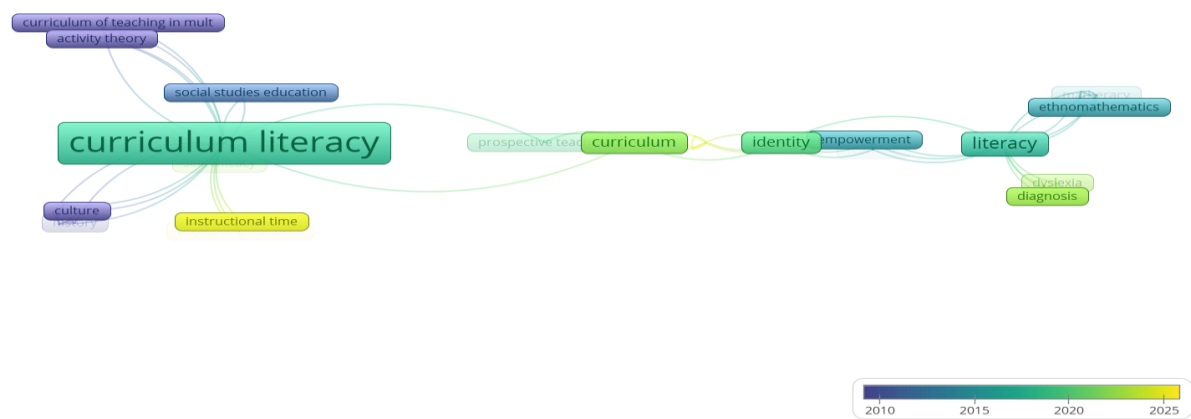


Figure 1. Analysis of the Distribution of Studies According to Keywords

As a result of VOSviewer, in the period 2010-2015, basic concepts such as "curriculum literacy" and "social studies education" come to the fore. In these years, social sciences and The importance of curriculum literacy has been emphasized, and the relationship between social science education and curriculum literacy has been particularly focused on. Research has shown that social science education can be a supportive tool for more effective understanding and implementation of the curriculum (Duckworth & Brzeski, 2015).

Between 2015 and 2020, concepts such as "activity theory" and "culture" began to attract more attention. During this period, studies on activity theory and the integration of cultural elements into education increased. Researchers examined the impact of cultural context on learning processes and focused on how activity-based approaches can support learning (Evmenova & King-Sears, 2013; M. Modiba & Van Rensburg, 2009). Taking cultural diversity into account in education and shaping learning activities accordingly has become an important research topic.

In the 2020-2025 period, terms such as "dyslexia," "diagnosis," and "empowerment" are at the forefront. In recent years, studies on literacy-related diagnosis and learning disabilities have accelerated, with particular emphasis on diagnosing learning disabilities such as dyslexia and supporting practices for these individuals (de Bree et al., 2022). In addition, the goal of empowering individuals and ensuring that they take a more active role in their learning processes has also become an important area of research in this period (Duckworth & Brzeski, 2015).

The distribution of academic studies on curriculum literacy by year has shown a significant increase in recent years. The distribution by year is given in Figure 2.

Documents by year

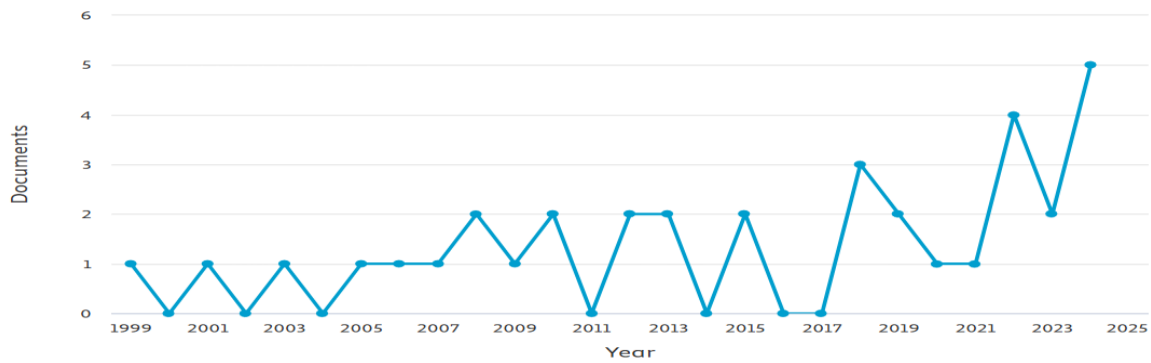


Figure 2. Distribution of Studies by Year

When the distribution of studies on curriculum literacy is examined by year, it is seen that the studies in the period 2000 and before are quite limited. Only a few studies were conducted in these years; for example, only 5 studies were conducted before 2000. A total of 10 studies were reached between 2000-2010. These data are It shows that it did not receive widespread attention in the academic community at that time and that the emphasis was mostly on basic conceptual frameworks.

There was a noticeable increase in the number of studies between 2010 and 2015, and a total of 11 studies were conducted. During this period, it is seen that research aimed at better understanding and implementation of programs came to the fore. The importance of the field has gradually begun to be recognized, but studies have generally remained limited to theoretical and small-scale applications.

It is noteworthy that the number of studies increased rapidly in the period 2015-2020 and reached a total of 26 studies. During this period, more in-depth research was conducted, especially on activity theory, cultural contexts and the effects of educational technologies on program literacy. Digitalization and interdisciplinary integration efforts in education can be considered among the main reasons for this increase.

In the years 2020-2025, research on curriculum literacy has made a leap forward, reaching a total of 89 studies. The focus of the studies conducted during this period has been on current educational themes such as artificial intelligence, digital learning tools and specific learning disabilities. For example, diagnostic studies on specific learning disabilities such as dyslexia and research on empowering individuals in their educational processes are noteworthy. These data show that interest in curriculum literacy has increased steadily over the years and that this field has become central to educational research today. Figure 3 shows the distribution of studies by discipline.

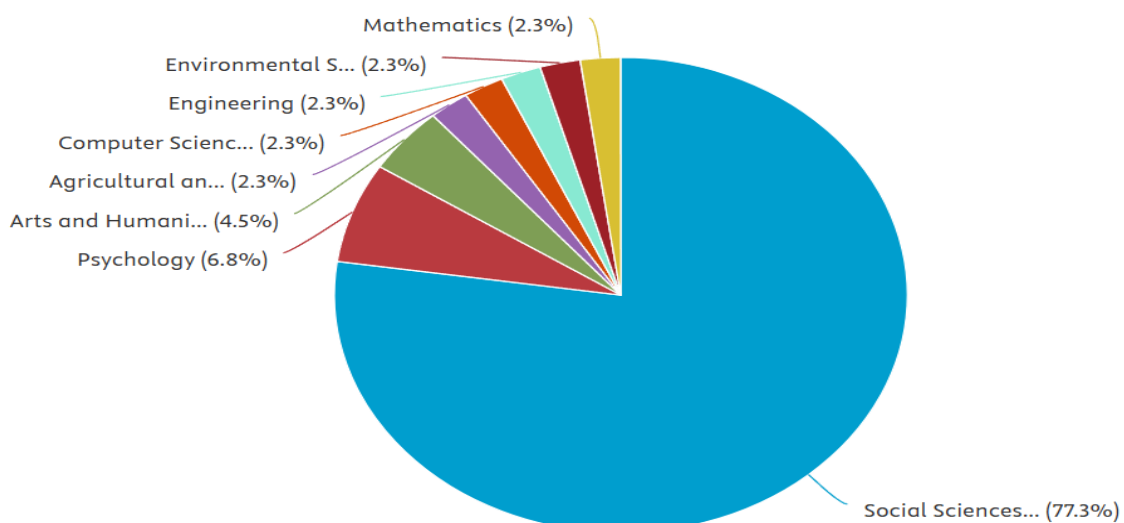


Figure 3. Distribution of Research by Discipline

When the distribution of studies on curriculum literacy is examined according to subject areas, it is seen that the most studies were conducted in the field of social sciences (24 studies). This situation reveals the close relationship between curriculum literacy and education, social structures and the interactions of individuals in social contexts. Social sciences have hosted the most comprehensive studies in terms of the applicability and widespread effects of curriculum literacy.

In the field of psychology, three studies were conducted. This indicates the existence of research examining the relationship between curriculum literacy and individual awareness, learning processes, and behavior. In the arts and humanities, two studies examined how curriculum literacy is related to creative processes and cultural contexts. Other fields, such as agricultural and biological sciences, computer science, engineering, environmental science, and mathematics, were represented by one study each. The limited studies in these fields reflect the interdisciplinary potential of curriculum literacy, but these issues have not yet been addressed in depth.

In general, while a distribution dominated by social sciences is striking, the few studies conducted in other fields point to opportunities where curriculum literacy can be addressed within a broader disciplinary framework. This situation reveals that curriculum literacy can potentially span a multidisciplinary field, but is currently mainly centered on social sciences. Figure 4 shows in which countries research on curriculum literacy issues is concentrated.

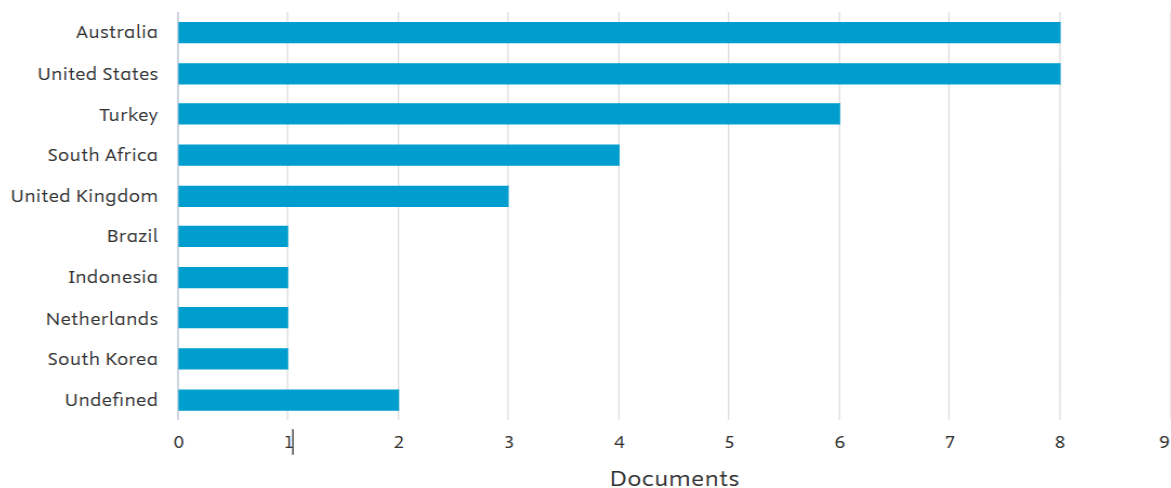


Figure 4. Distribution of Studies by Country

In the distribution of studies on curriculum literacy by country, it is seen that Australia (8 studies) and the United States (8 studies) host the most studies. This situation shows the importance given to curriculum literacy in these countries and the intensity of academic activities in this field. Turkey ranks third with 6 studies, revealing that curriculum literacy is a remarkable research topic in Türkiye as well.

Four studies were conducted in South Africa, indicating that curriculum literacy is considered important in the region's education systems. The United Kingdom was represented by three studies, while Brazil, Indonesia, the Netherlands and South Korea each had one study. The limited number of studies in these countries suggests that curriculum literacy is addressed with varying intensities in different geographies.

In addition, the location of two studies was not specified (not defined). Overall, the geographical distribution of the studies suggests that interest in curriculum literacy is concentrated in certain regions around the world and that this area needs to be explored more globally. While countries such as Australia, the United States, and Turkey have taken a leading role in this area, the paucity of studies in other countries suggests that this area needs to be addressed more broadly, both interdisciplinary and geographically. The frequency percentages of the themes obtained from the studies are shown in Figure 5.

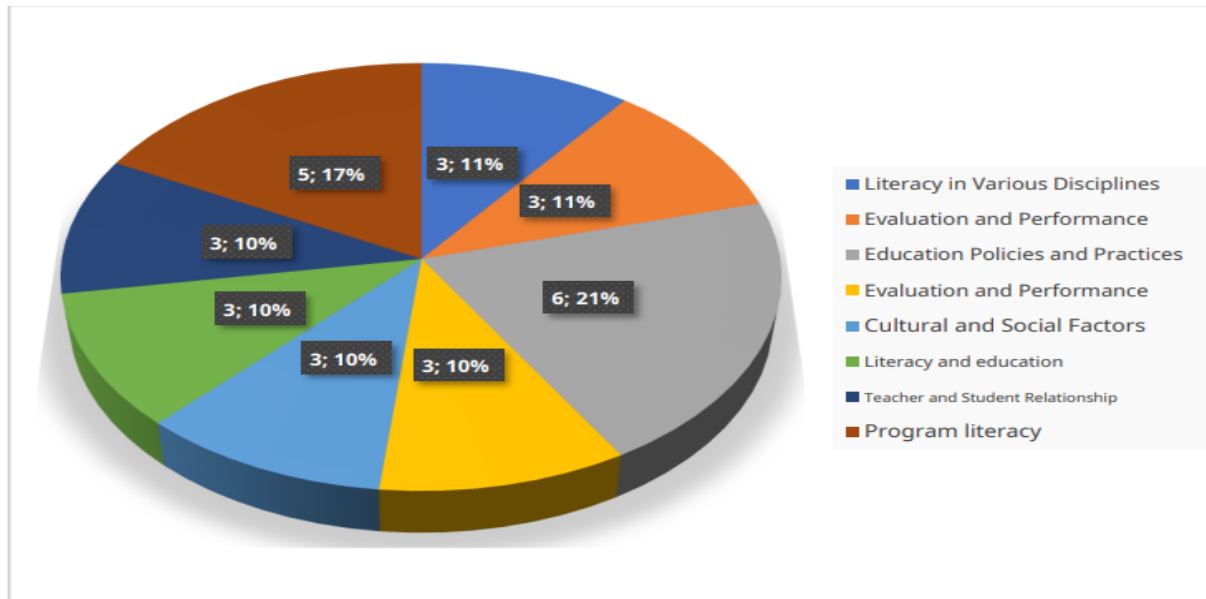


Figure 5. Frequency Percentages of Themes Obtained from Research

The findings of these studies show that developing a deeper understanding of preservice teachers' curriculum literacy and educational policies can greatly affect teaching and learning processes (Erik & Yilmaz, 2024). The role of curriculum literacy in increasing pre-service teachers' relationship with the curriculum and their ability to connect program decisions contributes to the development of their critical reflection skills. In addition, the impact of teachers' curriculum literacy levels and teaching duration on students' conceptual understanding and competence emphasizes the importance of interactive and applied teaching methods in education.

These findings, which show a weak but positive relationship between teacher candidates' digital literacy and technology use levels and curriculum literacy, are of interest to educational policies and This relationship between educators' curriculum literacy and digital technology use presents an important opportunity for teachers to develop their skills in using teaching tools and materials more effectively.

Studies also show the importance of making education more inclusive and equitable, especially for low-income students (Hallman & Kindelsperger, 2018; M. Modiba & Van Rensburg, 2009; Yuan & Grant, 2023). Using creative writing and multimodal opportunities in education can provide these students with a more equitable educational experience (Yuan & Grant, 2023). In addition, it has been found that teachers' ability to critically evaluate instructional materials is associated with pedagogical content knowledge and is critical for the integration of 21st century skills into the teaching process (Schroeder & Curcio, 2022).

The literacy skills that students apply in the classroom produce more meaningful and effective results when aligned with learning opportunities (Miller & Satchwell, 2006). However, if the curriculum is not flexible, these learning opportunities can be limited. Therefore, teachers need to design learning processes by considering students' individual needs and contextual factors. Integrated approaches in education are especially important for the development of curriculum literacy and cultural awareness (de Bree et al., 2022; Hallman & Kindelsperger, 2018; Moon et al., 2021). These studies provide a guide on how social and cultural factors can be integrated into educational processes while developing the literacy skills of teachers and students. The demographic information of the studies is provided in Table 2 below.

Table 2. Demographic Information of the Studies and Thematic Content Analysis Findings

Author	Year	Title	Themes	Method	Sample	Sample Group
(Marek vd., 2024)	2024	A framework for curriculum literacy in initial teacher preparation: Policy, practices, and possibilities	Program Literacy	Literature Review	Access Not Provided	Prospective Teachers
(Mdaka & Modiba, 2024)	2024	Instructional time as social time: Teachers' curriculum literacy and expertise in teaching mathematics	Curriculum Literacy	Quantitative Interview	4	Math Teachers
(Kerimoğlu Altun, 2024)	2024	Backward design in pre-service teacher education to enhance curriculum knowledge	Education Policies	Qualitative Action Research	37	Prospective Teachers
(Lee, 2024)	2024	Developing a college course model for enhancing pre-service English teachers' curriculum development competency via collaboration with in-service teachers	Teacher and Student Relationship	Qualitative Action Research	13	Prospective Teachers
(Erik & Yilmaz, 2024)	2024	Lifelong learning center trainers: What are their perceived curriculum literacy and digital technology usage levels?	Various Disciplines in Literacy	Qualitative	628	Teachers
(Öner & Cırık, 2023)	2023	Exploring curriculum literacy skills: An in-depth analysis through explanatory sequential design	Curriculum Literacy	Mixed	98	Primary School Teachers
(Yuan & Grant, 2023)	2023	Digital storytelling of two “underperforming” and “misbehaving” boys of color in a 2nd-grade classroom	Cultural and Social Factors	Qualitative	2	2 Students
(de Bree vd., 2022)	2022	A stitch in time: Comparing late-identified, late-emerging and early-identified dyslexia	Integrated Approach	Quasi Experimental	116	Dyslexia Students
(Schroeder & Curcio, 2022)	2022	Critiquing, curating, and adapting: Cultivating 21st-century critical curriculum literacy with teacher candidates	Literacy in Education	Quasi Experimental	44	Prospective Teachers
(Yasin vd., 2022)	2022	Self-efficacy of English language teachers with low and high curriculum literacy in Indonesian schools	Teacher and Student Relationship	Scales, Quantitative	251	English Teachers
(Innes, 2022)	2022	History curriculum: Literacies and democracy in NSW syllabuses	Education Policies	Literature Review	Access Not Provided	Official Curriculum (1990s to early 2000s)
(Taylor-Leech, 2020)	2020	Languages	Various Disciplines in Literacy	Literature Review	Access Not Provided	Access Not Provided
(Aslan, 2019)	2019	An analysis of prospective teachers' curriculum literacy levels in terms of reading and writing	Curriculum Literacy	Quantitative Questionnaire	383	Prospective Teachers
(Moon vd., 2019)	2019	Can secondary teaching graduates support literacy in the classroom? evidence from undergraduate assessments	Integrated Approach	Quantitative	393	Prospective Teachers
(Dickens & Lewis, 2018)	2018	The story maker: Helping 4-11 year olds to write creatively	Assessment	Qualitative	Access Not Provided	Access Not Provided
(Sural & Dedeşali, 2018)	2018	A study of curriculum literacy and information literacy levels of teacher candidates in department of social sciences education	Curriculum Literacy	Scales, Quantitative	895	Prospective Teachers

(Hallman & Kindelsperger, 2018)	2018	Reconceptualizing curriculum, literacy, and learning for school-age mothers	Integrated Approach	Qualitative Action Provided Research	Access Not	Parents
(Rosa & Orey, 2015)	2015	A trivium curriculum for mathematics based on literacy, math, and technology: an ethnomathematics perspective	Curriculum Literacy Teacher and Student Relationship Assessment	Quantitative Scientific Advise Qualitative Action Research	Access Not Provided 2	Historical Documents Students
(Duckworth & Brzeski, 2015)	2015	Literacy, learning and identity: Challenging the neo-liberal agenda through literacies, everyday practices and empowerment				
(Nsibande & Modiba, 2012)	2012	'I just do as expected'. Teachers' implementation of continuous assessment and challenges to curriculum literacy		Quantitative Interview Literature Review	Access Not Provided	Primary School Teachers
(Van Kraayenoord, 2012)	2012	Pedagogical practices for the development and improvement of reading	Education Policies		Access Not Provided	Curriculum Literacy Studies on Teachers and Students in Different Contexts
(White & Cranitch, 2010)	2010	Multigrade schools course with richness practices based activity theory effect on pre-service student teachers' self-efficacy	Various Disciplines in Literacy	Quantitative Questionnaire	105	Students
(M. Modiba & Van Rensburg, 2009)	2009	Cultural diversity in the classroom: Implications for curriculum literacy in South African classrooms	Cultural and Social Factors	Quantitative Scientific Advise Qualitative Action Research	Access Not Provided 1	Access Not Provided History Teachers
(M. M. Modiba & Odhiambo, 2008)	2008	Promoting nationhood through teaching: Fallacy or reality?	Cultural and Social Factors			
(Miller & Satchwell, 2006)	2006	The effect of beliefs about literacy on teacher and student expectations: A further education perspective	Curriculum Literacy Assessment	Literature Review	Access Not Provided	Access Not Provided
(Spencer, 2005)	2005	Developing library classroom children's collections in English for a Catalan private school		Qualitative Action Research	Access Not Provided	Access Not Provided
(Wyatt-Smith & Cumming, 2003)	2003	Curriculum literacies: Expanding domains of assessment	Education Policies	Quantitative Scientific Advise	Access Not Provided	Access Not Provided
(McGuinn, 2001)	2001	Sharjets, mage-seamasters and englands of the mind	Education Policies	Literature Review	Access Not Provided	Access Not Provided

When the studies obtained were examined in detail, the following results regarding program literacy emerged. Program literacy is an important skill set that allows teachers to manage educational processes more effectively, use teaching materials more efficiently, and contribute more effectively to students' learning processes (Marek et al., 2024). This skill set covers not only the use of digital technologies, but also a broader area such as how to integrate curricula, how to manage teaching processes, and how to monitor students' development.

Research shows that there is a positive but weak relationship between teachers' digital technology usage skills and program literacy (Erik & Yilmaz, 2024). Teachers who are particularly familiar with digital technologies can integrate educational materials more effectively and interact more efficiently with students. However, the fact that this relationship is not strong reveals that the level of digital literacy needs to be increased and teachers need to adapt more to digital technologies.

The effect of curriculum literacy also shows itself in developing teachers' pedagogical skills and improving students' learning processes (Hallman & Kindelsperger, 2018). Teachers can provide more effective education to their students by understanding their curriculum better and using digital tools. This reveals that teachers can increase their students' success levels by improving their curriculum literacy. However, there is also an important relationship between the content of the curriculum and teachers' curriculum literacy. Teachers may have difficulty using digital tools in line with the curriculum. This shows that teachers need more support in creating content and developing pedagogical strategies (Lee, 2024). For education systems to keep pace with the digital age, they need to transform into a more innovative and technology-integrated structure (Kazu & Kaplan, 2025). Making the curriculum compatible with digital platforms can improve teachers' curriculum literacy and allow them to offer more creative solutions in educational processes. In addition, it has been found that teachers' skills in using digital educational materials are directly related to curriculum literacy (Nsibande & Modiba, 2012). The effective use of these materials contributes to the development processes of students as well as the pedagogical skills of teachers. The role of digital materials in education is important for teachers to use technological tools more effectively, and teachers learning how to use digital materials is a factor that improves program literacy.

DISCUSSION

This research, unlike other studies on curriculum literacy, focuses on digital literacy and interdisciplinary integration. Considering that previous studies (Drake et al., 2014; Çöğmen and Yılmaz Özelçi, 2024) generally focus on issues such as effective use of teaching materials and adaptation to individual needs of students, this study's focus on innovative themes such as digital transformation and artificial intelligence creates a significant difference. This different approach reveals the potential of curriculum literacy to adapt to changing educational dynamics.

The findings of the research obtained through thematic content analysis showed that curriculum literacy focused on digitalization and artificial intelligence integration, especially in the 2020-2025 period. This finding reveals that, despite the limited scope of previous studies focused on social sciences (Duckworth & Brzeski, 2015), it offers a broader perspective. This indicates that curriculum literacy should be addressed with an innovative and inclusive perspective in education.

From a methodological perspective, this study identified important trends in the development of curriculum literacy using thematic content analysis method. While other studies in the literature generally prefer quantitative approaches, this study provided an in-depth look at the subject by offering a qualitative perspective. This method offers significant added value for understanding the different dimensions of curriculum literacy. In addition, the study examined the global distribution of curriculum literacy and showed that intensive research in this area has been conducted in certain countries such as Australia, the USA and Turkey. However, the limited number of studies conducted in different geographies reveal that studies in this area should be addressed with a broader global perspective. This study has the potential to fill this gap with the findings it presents in the context of Türkiye.

Finally, this study highlighted the importance of considering curriculum literacy from an interdisciplinary perspective and suggested that more research should be conducted in different areas. In particular, the integration of digital technologies and artificial intelligence into educational programs suggests that curriculum literacy will be a critical area for future studies.

CONCLUSION

The research findings once again emphasize the critical role of curriculum literacy in educational processes. Curriculum literacy stands out as a basic skill set that allows teachers to use digital technologies and pedagogical strategies effectively. It has been demonstrated that this skill enables teachers to communicate more effectively with students and provide solutions appropriate to individual learning needs. Indeed, Özdemir and Kazu (2010)

revealed that university students have low levels of readiness in using basic information technologies, highlighting the need for these processes to be carefully monitored and supported.

The positive but weak relationship between digital literacy and curriculum literacy indicates that teachers' digital skills need to be developed. This situation reveals the importance of education policies providing teachers with more digital resources and training. In addition, adopting an interdisciplinary approach in the development of curriculum literacy will contribute to making educational processes more inclusive and effective.

The research suggested that curriculum literacy should be expanded outside of social sciences. Studies in different disciplines such as technology, engineering and art can provide a broader perspective on this field. This diversity will help to adapt educational programs to the needs of the age. Equity and inclusiveness in education stand out as an important factor in the development of program literacy. In particular, making educational programs for low-income students more equitable and inclusive is a critical step in spreading this skill. In this context, Teachers need to be further supported to improve their curriculum literacy.

In conclusion, this study reveals the critical role of curriculum literacy in education and its potential for development. Educational policies and practices should be rearranged to support the spread of this skill. In this way, teachers' pedagogical and digital skills can be improved and students can receive a more qualified education.

SUGGESTIONS

The emergence of curriculum literacy as a fundamental skill in teacher education reveals the necessity of teacher candidates receiving training on digital platforms and teaching materials. Such training will help teachers better embrace the digital transformation in education and provide the best education to their students. Student participation is also a factor directly related to curriculum literacy. By improving their curriculum literacy, teachers can encourage students to participate more actively in educational processes. This allows teachers to communicate more effectively with students and to be more involved in learning processes. Students taking an active role in education can be considered an indicator of curriculum literacy. Finally, there is a strong relationship between teachers' ability to use innovative teaching methods and curriculum literacy. By improving their curriculum literacy, teachers can create more creative and effective teaching strategies. This enriches students' learning experiences and ensures more effective results in education. Curriculum literacy is not only about the skills to use digital tools, but also a process that improves teachers' pedagogical skills.

Educators receiving training in curriculum literacy will enable teachers to play a more productive and effective role in education. As a result, curriculum literacy is a skill set that improves teachers' pedagogical and digital skills and is an important part of the transformation in education. This literacy will provide more effective results in education and help teachers manage their education processes more efficiently. Developing curriculum literacy will enable teachers to provide higher quality education to students and contribute to the digital transformation process in education.

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