



CURRICULUM DEVELOPMENT STUDIES IN HIGHER EDUCATION: EXAMINATION OF HIGHER EDUCATION CURRICULA IN THE CONTEXT OF TEACHER TRAINING

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Abstract:

This study aims to identify academic studies on the current structure of curriculum development in teacher training undergraduate curriculums of higher education as well as to compile and present them based on certain criteria. In this study, which is based on the survey model, the content analysis method was used for the classification of academic studies. The population consists of academic studies, which were found as a result of the search made with the keyword "teacher training in the higher education curriculum" under the Web of Science and Scopus databases. Each publication was used to represent a unit of analysis, while a secondary data source (Scopus) was used to critically analyze the available literature. The thematic groups of the research were determined and clustered, and then the links between the themes such as the type of research, year, and country of publication were determined through bibliometric methods. The present study was limited to the studies conducted between 1989 and 2022. As a result of the analysis, it was observed that the number of studies in the field of teacher training in the higher education curriculum increased after 2005, studies were mainly conducted in 2017 on a yearly basis, and the USA ranked first in the number of academic studies on this subject. In addition, it was observed that articles were mainly published, curriculum studies and citations were mainly made in the field of educational sciences, and countries speaking the same language had a greater number of studies in the relevant field. From the findings, we can safely say that while curriculum development in higher education is attracting more and more attention, there is a great lack of linkage between ongoing studies. This is the lack of knowledge and the lack of a strong link between studies. In this context, this study pointed to the need for a collaborative and global practice community to improve education and curricula for the future. This study provides opportunities for researchers to gain a versatile and new perspective and have easy access to curricular knowledge.

Keywords: curriculum development, teacher training, higher education institution

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1. Introduction

Higher education institutions have a strong capacity to develop skills and increase knowledge as well as the potential to mobilize educational resources and provide learning opportunities for diverse populations. Many students choose to study or do research at a higher education institution just to gain a reputation (Hieu, 2020; Nusier, 2021; Saiti, 2017). In higher education, individuals enrol in departments and receive training to have a change and development experience in many areas such as knowledge, skills, and socialization. Higher education institutions apply a series of curricula to help students achieve their academic and personal goals throughout their education life (Gable, 2021; Quinn, 2019; Kosslyn, 2017). The curriculum is the fundamental and most distinguishing feature of higher education institutions and encompasses many intertwined special curricula, each with its own specially designed curriculum. According to Green (2018) and Proctor (2020), this aspect of the curriculum has given rise to the development of a new curriculum theory that encompasses pedagogy, psychology, and sociology.

The concept of curriculum in education is broad, including the teaching curriculum, the course curriculum, the school curriculum, and the curriculum itself, and covers all the activities carried out inside and outside the school (İlgün and Altıntaş, 2022). The curriculum, which was used instead of the program in the past, is defined as a plan consisting of individual subjects, a list of courses, and a table showing the course contents (Büyükkaragöz, 1997; İşman & Eskicumalı, 1999 cited in Akpınar, 2015). Until the 1950s in Turkey and until the twentieth century in the world, the word curriculum was used as the equivalent of today's curriculum (Demirel, 1999). According to the dictionary of the Turkish Language Association (TDK), it is defined in different ways such as the syllabus consisting of a schedule showing the courses given on the specified days of the week in schools, extracurricular trips, an indicator showing the activities such as observation, exhibition, ceremonies, etc., and an educational program that shows the order and time of targeted studies (Akpınar, 2015). According to Bobbitt (1924), the curriculum is the range of experiences, indirect and direct, concerned with unfolding the abilities of the individual, or a series of consciously directed training experiences that the schools use for completing and perfecting the individual. Saylor, Alexander, and Lewis (1981) defined the curriculum as a plan to provide individuals with learning experiences. Based on the definitions, it is possible to say that the curriculum is the planning that includes all the activities and practices for the spiritual, social, and professional development of the individual inside and outside the school. The literature review reveals that the beginning of the history of the curriculum is based on Franklin Bobbitt's book "The Curriculum" published in 1918 (Akpınar, 2015).

The developing and changing social structure also expects the change of the human profile it needs. Therefore, the curriculum development process is under the influence of many social, cultural, political, and environmental factors. A lot of work falls on the executives of curricula that develop and change since it is very important that

curriculum implementers internalize and implement the curriculum and increase the sustainability of the curriculum apart from providing feedback on how the curriculum development and change should be over time. In addition to this, it is also important that curriculum implementers update themselves over time. Curriculum implementers are expected to have basic knowledge about their branch, as well as the attitudes, behaviors, and skills required to perform their jobs effectively in the classroom. The desire to train qualified, modern, versatile, well-equipped teachers in higher education along with an increase in the quality of teacher training processes is the main reason for the curriculum development.

A curriculum is a program created by the government or school administration at the official level, in which the purpose, objective, content, method, and assessment are written with teaching carried out according to this plan. Curriculum design is vital to student success. The versatile development of the student is possible with the versatile preparation of the curriculum.

Since education refers to life itself as well as being a preparation for life, it has a wider scope to connect with a philosophical epistemological style and to understand the nature of the curriculum (Beacco, 2016; Chivore, 2012; UNESCO, 2005). The purpose of this study is to show the efforts made to reflect the research data on curriculum development, the constantly changing and developing society and the needs of the student, and the dimensions of the development experienced in the knowledge, learning, and teaching processes (Türkoğlu, 2005). A bibliometric analysis of the literature was conducted to draw lessons from current practices and to place them in the context of contemporary curriculum development. A second aim of the study is to make it easier for current researchers to examine the origins of their academic work to identify aspects that will shed light on future studies. In line with the aims of the research, the following questions were addressed:

- 1) What is the number of publications about curriculum development for teacher training in higher education?
- 2) What is the distribution of publications about curriculum development for teacher training in higher education according to higher education institutions and countries?
- 3) What is the citation distribution at the meso level of publications about curriculum development for teacher training in higher education according to disciplines?
- 4) What is the distribution of publications about curriculum development for teacher training in higher education according to the type of publication?
- 5) What is the distribution of publications about curriculum development for teacher training in higher education according to research areas?

2. Research Model

This descriptive study based on the survey model includes scientific studies conducted between 1989 and 2022. Academic studies in Web of Science and Scopus databases were taken as a basis within the scope of the study. The content analysis method was used for the classification of academic studies. Content analysis is one of the most frequently used methods among qualitative data analysis types. Content analysis is a method mainly used to analyze written and visual data. As part of this method, the deductive path is followed. In content analysis, the researcher primarily determines the classifications related to the research topic. The researcher then determines the words, sentences, and/or pictures in this classification of the relevant data set, and translates them into the coding form (Özdemir, 2010). Once the classifications were determined, the data were presented and interpreted after they were converted into frequency and percentage tables.

2.1 Data Collection and Analysis

Content analysis was used to classify academic studies. In content analysis, the researcher primarily develops categories related to the research topic. The researcher then determines the words, sentences, or pictures that fall into these categories in the relevant data set and codes them into the coding form (Özdemir, 2010). As a result of the coding, the data obtained were converted into frequency and percentage tables and presented and interpreted descriptively.

On the broader subject of curriculum development, four publications were primarily analyzed to understand the subject and determine its dimensions. These are the studies by Hasanefendic (2017), Cardona (2022), Heijer (2022), and Robert (2014). A two-stage process was followed. First, the keywords were entered into the Web of Science search tool, curriculum development, teacher education, and higher education were reviewed methodologically gradually, and second, the keywords were scanned in Scopus. As stated in the literature, scanning the databases together creates a detailed analysis of the literature (Gusenbauer, 2020). Each publication was used as a unit analysis in the light of interpretive philosophy to analyze the available literature data (Taylor, 2013; Taylor, 2012; Rahmawati, 2015; Qutoshi, 2021). Two different literature searches were conducted to compare the analyses: first, additional research on teacher training in higher education curricula to identify the contextual limits of the current study, and second, a specific range of curriculum development in teacher training to conduct a comparative analysis. From an epistemological point of view, the existing literature was also critically examined. Ellis (2015) and Winch (2013) aimed to create emerging theories in curriculum design in their studies. Scientific studies have shown that a researcher also applies interpretation while doing research. By the nature of interpretation, the researcher is subject to bias, and this restriction justifies the adoption of a unified philosophical style according to Denzin (2018), Patton (2002), and Merriam (2009). Pragmatist understanding of knowledge does not seek the truth, but it only deals with

problem solutions. Therefore, education practice is more important than theory (Bakır, 2020).

2.2 Data Collection Tools

Web of Science and Scopus databases were examined for the analysis of literature data. The data obtained were converted into tables in the Microsoft Excel program, and the data were also used in frequency and percentage calculations through the SPSS package program.

3. Findings

3.1 Number of Publications about Curriculum Development for Teacher Training in Higher Education

Table 1: Number of Publications about Curriculum Development for Teacher Training in Higher Education between 1989 and 2022

Years	Number of Publications	Years	Number of Publications	Years	Number of Publications
1989	1	2001	2	2012	102
1991	2	2002	6	2013	77
1992	6	2003	6	2014	111
1993	5	2004	9	2015	93
1994	1	2005	10	2016	122
1995	5	2006	23	2017	189
1996	4	2007	14	2018	155
1997	6	2008	24	2019	160
1998	5	2009	35	2020	181
1999	4	2010	71	2021	149
2000	5	2011	81	2022	134

Table 1 shows that there has been a regular increase in the number of publications since 1991. The review of the two data sources also revealed that the first study on the curriculum for teacher training in higher education was carried out in 1989 (1), there was no study in 1990, and studies were mainly carried out in 2017 (189). Given the annual number of publications, it is seen that there has been an increase in quantity in the number of studies published since 2005. The least number of publications occurred in 1989 (1), 1994 (1), 2001 (1), 1996 (4), and 1999 (4), respectively. On the other hand, the years with the most publications were 2017 (189), 2020 (181), 2019 (160), 2018 (155), and 2021, (149), respectively.

3.2 Distribution of Publications about Curriculum Development for Teacher Training in Higher Education by Higher Education Institutions and Countries

Table 2: Distribution of Publications about Curriculum Development for Teacher Training in Higher Education by Higher Education Institutions and Countries

Country	Number of publications	Higher education institutions	The ratio of publications to higher education institutions
USA	312	2118	0.147
Spain	266	112	0.42
UK	238	248	1.04
People's Republic of China	238	1060	0.224
Republic of South Africa	70	49	0.7
Germany	53	359	0.147
Netherlands	47	70	1.48

Table 2 shows that publications were mainly made in the USA (312), Spain (266), England (238), China (238), South Africa (70), Germany (53), and the Netherlands (47), respectively. Considering the number of higher education institutions, the order from high to low was as follows: the USA (2118), China (1060), England (248), Spain (112), Germany (53), Netherlands (70), and South Africa (49), respectively. Considering the ratio of publications to higher education institutions, the order from high to low was as follows: the Netherlands (70), England (238), South Africa (70), Spain (266), China (238), and the USA (312) and Germany (53) with numbers equal to each other.

3.3 The Citation Distribution at the Meso Level of Publications about Curriculum Development for Teacher Training in Higher Education according to Disciplines

Table 3: Citation Distribution at the Meso Level of Publications about Curriculum Development for Teacher Training in Higher Education according to Disciplines

Discipline	Publications (No.)	Percentage (%)
Education and Educational Research	616	34.43
Nursing	117	6.53
Management	77	4.30
Language and Linguistics	79	4.41
Educational Psychology	64	3.57
Other disciplines	915	51.14

Considering the distribution of citations at the meso level, the order was as follows: Education and Educational Research (616), Nursing (117); Management (77), Language and Linguistics (79), Educational Psychology (64), and Other Disciplines (915).

3.4 The Distribution of Publications about Curriculum Development for Teacher Training in Higher Education according to the Type of Publication

Table 4: Distribution of Publications about Curriculum Development for Teacher Training in Higher Education according to the Type of Publication

Types of Documents	Number of Publications
Article	1141
Proceedings	617
Book Chapters	43
Review Article	37
Early Access	26
Editorial Material	8
Biographical-Item	1
Abstracts	1
Theatre Review	1

Table 4 shows that the quantitative order of publications from high to low was as follows: Article (1141), Proceedings (617), Book Chapters (43), Review Article (37), Early Access (26), Editorial Material (8), Biographical-Item (1), Abstracts (1), and Theatre Review (1).

3.5 The Distribution of Publications about Curriculum Development for Teacher Training in Higher Education according to Research Areas

Table 5: Distribution of Publications about Curriculum Development for Teacher Training in Higher Education according to Research Areas

Research Areas	Record Count	Percentage (%)
Educational Sciences	1099	61.123
Physical Sciences	225	12.514
Social Sciences (Interdisciplinary)	120	6.674
Health Sciences	66	3.671
Public, Environmental, and Occupational Health	61	3.393
Green Sustainable Science Technology	54	3.003
Computer Science Interdisciplinary Practices	51	2.83
Environmental Sciences	49	2.725
Management	44	2.447
Environmental Studies	43	2.392

Considering research areas, the studies were mainly carried out in the fields of Educational Science (1099), Physical Sciences (225), Social Sciences (120), Health Sciences (61), Public, Environmental, and Occupational Health (61), Green Sustainable Science Technology (54), Computer Science Interdisciplinary Practices (51), Environmental Sciences (49), Management (44), and Environmental Studies (43), respectively.

4. Discussion and Conclusion

The number of publications about curriculum development for teacher training in higher education reveals that there has been a regular increase since 1991 with the least number of publications made in 1989 (1) and the highest number of publications made in 2017 (189). The reason for the large increase since 2005 is the increase in the number of students accessing higher education and the number of higher education curriculums. With the increase in participation rates in higher education in the world and the emergence of professions to meet the needs of the age, new departments were established. The increase in the number of higher education curricula since 2005 may be a reflection of this situation since the curricula of the newly established departments are also revised and renewed according to new needs. Every year, a higher number of departments are established in different countries of the world based on the needs of society. Turkey does not differ from the other parts of the world in this sense with new departments and faculties established by the Council of Higher Education (YÖK, 2022).

The distribution of publications about curriculum development for teacher training in higher education taking into account higher education institutions and countries highlights that the USA is ranked first regarding the number of publications. This is possible because the studies on the education curriculum were first made in the USA and subsequently continued to develop. The Yale Report published in the United States of America in 1828, the work of the Committee of Ten in 1893, and the book "The Curriculum" written by John Franklin Bobbitt in 1918 are viewed as the beginning of the field of curriculum (Pinar et al., 1995; Tanner & Tanner, 1990; Kliebard, 1975; Giroux et al., 1981; Jackson, 1992). Considering the curriculum studies conducted in the USA, England, and South Africa, the primary reason could be the ease of access to publications due to the spoken and historically common political and philosophical aspects in education and pedagogy. The number of publications made in these countries is also significant in that it demonstrates the high reputation these countries enjoy as leading education providers worldwide (Mangan, 2012). On the other hand, considering the publication rate of higher education institutions, the USA is in very low ranks. Though the USA is in the leading position in terms of curriculum research publications, the low rank could be ascribed to the saturation of institutions.

Table 2 highlighted that the number of curriculum studies in Asian countries is lower than in countries of Europe and America. A possible consequence of this situation is that the philosophical foundations of education throughout history may have affected the differences in educational approaches between geographical regions when eastern and western education is compared. According to Littlejohn (2021), eastern and western cultures are reflections of philosophical differences and conflicts. In a review study conducted in 2020, Japanese philosophies and the results of these philosophies compared with the traditional western equivalents were interpreted (Komatsu, 2020). According to the research, the strength of the curriculum in the western environment is not as effective as in the eastern environment. The limited number of curriculum studies in Eastern

countries is perhaps related to the dominant style of educational philosophies in the East. Along the same lines, the study suggests that a large number of registered studies on western-based curriculum development may be a natural limitation of the English language, and further research is recommended to identify this limitation.

Table 3 gives insight into the citation distribution at the Meso level of publications about curriculum development for teacher training in higher education, revealing that studies in education and educational research are mainly cited. Naturally, the citations are mostly in the field of educational sciences since the curriculum is a direct part of education. However, when these citation numbers are compared with the number of publications in Table 5, it can be said that the number of citations is quite low compared to the published studies. Citations are also available more in the fields of nursing, management, linguistics, and psychology after educational sciences as these fields possess a large number of students around the world and attract attention. It is striking in Table 3 that the citations for all fields of science are scarce. Possible reasons for this situation are that the studies are in various fields and researchers focus on different structures of the curriculum.

It is clear from the findings regarding the distribution of publications about curriculum development for teacher training in higher education according to the type of publication that the order is as follows: articles, papers, and book chapters and that such studies show a normal distribution when compared with the literature. The remarkable and different types of publications related to curriculum studies are Editorial Materials, Biographical Items, and Theatre Reviews, albeit in small numbers.

Considering the distribution of publications about curriculum development for teacher training in higher education according to research areas, it is natural that research is done mostly in the field of educational sciences since researchers of the relevant field focus directly on educational curricula. It is also observed that when the studies conducted between 1989 and 2022 are evaluated on a yearly basis; the number of studies is less than expected considering many higher education institutions and a 33-year period. Besides, as the fields of Physical Sciences, Social Sciences, Health Sciences, Public, Environmental, and Occupational Health, Green Sustainable Science Technology, and Computer Science Interdisciplinary Practices are popular and attract a great number of students, it is normal to observe many studies being conducted in such fields. In spite of this, it is still recommended that more research be done.

Research results have various practical applications in higher education curricula for curriculum development (Akpınar, 2015). The higher education curriculum development landscape that dominates the literature identifies regions, journals, and publishers that are important for curriculum development, but curriculum development on its own cannot be clearly delineated. On the contrary, curriculum development is intertwined with other specific contexts (such as the health professions, social sciences, and sports sciences). In light of these data, we can easily say that there is a significant lack of cohesion between disciplines at the macro level and that at the micro (institutional) level individuals work largely in isolation. Curriculum development is clearly taking

place, as evidenced by literature data, but evidence from a review of publications shows that the science behind the current supportive approaches adopted is well advanced and has been tested in published research.

Another finding was that the focus of curriculum development for teacher training in higher education curricula is moving very slowly and is far from consensus due to the lack of a significant global community of practitioners working in this field of science. This reflects the broader contextualization of the teacher education curriculum literature. There should be a collaboration of a global practice community consisting of academics testing and evaluating the success or failure of curriculum development processes, professional bodies certifying curriculum design, academics and teachers implementing curriculum content, and professionals controlling quality standards. A national standard should be set. Changes and innovations should be implemented in teacher training through teacher training curricula, such as the curricula of teacher training institutions, education periods, teacher training models, the contents of the curricula, activities to be carried out in cooperation with the global practice community, and education-employment harmony. In higher education curriculum development, teacher training represents a large part of the pedagogical discipline and is only a small percentage of overall higher education curriculum development. In terms of time and duration, it is clear that although teacher education research seems to be on the rise, it is experiencing unpredictable fluctuations. The first studies on curriculum development and science network data in teacher education in higher education started in 1989, but the work of Broyles (1991) can be considered pioneering in this regard. In the later years, an increase occurred in the number of writers including Ünlü (2018), Padmini (2011), Francesca (2018), and Bakah (2012) who discussed curriculum development in teacher education in higher education. In addition, not only publication resources for teacher education are quite extensive but also education for teacher training is very limited and coupled with the low overall impact, this limitation highlights the importance of studies in the field of teacher education. According to the results of this study, curriculum development studies for teacher training curricula in higher education institutions require continuity in integrity.

4.1 Recommendations

Articles and theses made in the field of teacher training in higher education can also be examined through subject and content analysis or specifically in the fields of teaching branches and based on schools, faculties, and departments.

4.2 Limitations

This study is limited to teacher training and curriculum development studies in higher education, to the studies reached in the Web of Science and Scopus databases, and to the databases whose language is English.

Conflict of Interest Statement

The authors has no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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