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Editorial

Ali Ersoy¹ 

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Dear editors, authors, reviewers, academicians, and readers

I am delighted to announce the publication of the inaugural issue of “*Qualitative Inquiry in Education: Theory & Practice (QIETP)*” under the umbrella of **EDU Publishing**. It’s a great pleasure to reconnect with you through this new journal. QIETP, being the first thematic journal in its field in Türkiye, builds upon the experience I gained during my 10-year tenure (2013-2023) as the founding and chief editor of the *Journal of Qualitative Research in Education (ENAD)*. I aim to advance this experience further in QIETP. I am fully confident that, with the support of our valued authors, reviewers, editors, and readers, QIETP will soon earn a respectable position in the field. The first issue of QIETP comprises 5 articles: 4 research articles and 1 review study.

The first study in this issue, “A critical view to educational technologies in the context of social inequalities,” comes from Fatma Akgün, Cem Çuhadar, and Şenay Ozan Deniz of Trakya University. The authors have examined the use of technology in the learning-teaching process from a phenomenological perspective regarding social equality.

The second study, “A critical overview of Turkish research on 21st-century skills in education: 2017-2022,” is authored by H. Ferhan Odabaşı, Elif Akyol Emmungil, Elif Atabay, and Melkaç Değer Demir from Anadolu University. This article evaluates studies conducted in Türkiye between 2017 and 2022 on 21st-century skills in education through meta-synthesis.

The third study in this issue is “How to integrate sustainable development in English lessons: Reflections from teachers, students, and academicians,” conducted by Yasemen Şanal, Sena Sezgin, Seden Doğa Döker, Furkan Yavuz, and Gülçin Mutlu from İzmir Democracy University. In their qualitative descriptive study, the authors aimed to examine the characteristics of a middle school foreign language curriculum that incorporates the concept of sustainability.

The fourth study of this issue, “How phenomenological are phenomenology studies in educational-social sciences: A sample from TR Dizin,” is a research article by M. Emir Rüzgâr and İbrahim Sözcü. The authors have evaluated how much the phenomenology studies published in the national TR Dizin index in Türkiye adhere to the assumptions of phenomenology. Although the study’s findings are presented from a quantitative perspective, it was deemed worth publishing in QIETP as it directly evaluates phenomenological studies.

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The only review article in this issue is “Educational science traditions and qualitative research” by Ali Yıldırım from the University of Gothenburg. In this article, Yıldırım presents the relationship between qualitative research methods and two main traditions in teacher education: the Anglo-American and the Continental European. This informative work discusses both the teacher training in these traditions and their relation to qualitative research.

I am grateful to many esteemed individuals who have shown their close interest and support throughout this process. I extend my endless thanks to all colleagues who have been part of QIETP’s boards and provided technical support. I feel indebted to thank Prof. Ali Yıldırım, a pioneer in the field of Qualitative Research Methods in Türkiye, for his role in forming the international editorial board and supporting the publication of articles in the first issue.

Looking forward to meeting you in the 2024 issues of QIETP.

Professor Ali Ersoy
Editor-in-Chief

Keywords

Qualitative Inquiry in Education: Theory and Practice, editorial, education

A Critical View to Educational Technologies in the Context of Social Inequalities

Fatma Akgün¹  Cem Çuhadar²  Şenay Ozan Deniz³ 

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Abstract

Equality of opportunity in education refers to the right of students to access compulsory education and to have equal opportunities in the process of education. In addition to offering many solutions to ensure equality of opportunity in education, there are also many obstacles. As a matter of fact, educational technologies are considered as an option in terms of having an effect on individuals having equal opportunities in the education process. Educational technologies can be seen as a solution to existing inequalities in order to provide equality of opportunity in education. From this point of view, in this study, it is aimed to determine the thoughts on the use of educational technologies in the education-teaching process in the context of social inequalities. In the study, the qualitative research design of phenomenology was used and ten teachers working in different branches in private and public schools were interviewed. Semi-structured interview technique was used as the data collection method and the interviews were conducted online with the teachers. Deductive analysis method was used to analyze the data. In the study, first of all, literature review was made in the context of social inequalities and themes were determined within the framework of the literature. The themes revealed were discussed as gender, socioeconomic level, parental education level, technology use proficiency of teachers and students with special needs. Within the scope of the themes obtained, teachers' opinions and suggestions regarding the impact of educational technologies within the framework of the concept of equality of opportunity in education were included.

Keywords

social inequality, equal opportunity in education, educational technologies, teachers' views, phenomenology

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Introduction

The education that begins in family life continues in a planned and programmed manner and within the scope of certain goals and achievements in the pre-school period and the following academy steps. The educational and instructional knowledge and skills gained can affect the lifelong education process in various contexts. Individuals are more likely to be closer to the goals and opportunities they want to have owing to the education they receive. In addition, they can influence the society by socializing within the framework of the education they have received (Meyer, 1977). Individuals need to know the rights they should have in order to take an active role in their social lives and live in harmony with the society. The right to education is at the forefront of these rights. One of these rights, the right to education, is very important in terms of knowing and using other rights (Akgül, 2019; Robyns, 2006). Education, which is also the main key of economic, social and cultural life, is one of the fundamental rights of the individual as a humanization process according to the egalitarian view (Bajaj, 2011; Ömür et al., 2017). As a matter of fact, as the quality of education, which determines the living conditions of the individual, increases, the benefits obtained increase and healthier social conditions can be provided (Mercik, 2015; Nowak, 2001). Although education is a human right in itself, it is seen as an indispensable element of realizing other human rights (Singh, 2014) and a necessity to unlock other basic human rights (Broderic, 2018).

It is necessary to provide equal educational opportunities and equal opportunities to all members of a society without discrimination. The concept of equality of opportunity is defined as the equality of access to or utilization of resources (Akgül, 2019), the same chances for all types of members to achieve goals (Roemer & Trannoy, 2013), equal conditions and opportunities among participants in an initiative or an election in any field (Polat & Özdan, 2020), and the ability to achieve equal results even among students from different social backgrounds (Gamoran & Long, 2007). The concept of equality can generally be considered as equality of opportunity and possibility (Tabak, 2019). Equality, which is the basic concept of equality of opportunity in education, is not about all students being at a high level of success, but about providing equal opportunities for all students to reach a high level of success (YeğiTek, 2012). Providing students with the opportunity to have a good education regardless of the economic, social and cultural situation they are in is the essence of the concept of equality in PISA. Mercik (2015) stated that equality does not mean “providing one and the same education to everyone” in a qualitative sense, what is meant here is the provision of qualified education services that will enable each individual to reach their development potential at a level where they can achieve the life conditions they want. However, equality in education includes both equality of opportunity and the concept of equality of opportunity, which can be considered the source of inequality, and these two forms of equality cannot be considered independently of each other (Canbay & Çuhadar, 2020).

Bourdieu, one of the main thinkers of the 20th century, is one of the important names that comes to mind when the concepts of equality of opportunity or equal opportunity in education are expressed. Bourdieu (1986) emphasized equality of opportunity in

education with his Capital Theory study. Bourdieu, “The Theory of Capital” defines it as social environment and social relations (social capital), accumulation based on education and family experience (cultural capital), and transformable assets owned (economic capital). Cultural capital is generally defined as the competencies acquired in the family and school, and indicates that school education is based on cultural capital acquired from the family. Therefore, it bases the issues of equal opportunity or inequality in education on cultural capital. However, the issue of equality and/or inequality in education has been considered as one of the most important issues in the sociology of education (Dekker, 2007). Regarding the concept of inequality in education, Coleman et al. (1966) stated that the differences in average resources between schools were not as large as expected and the effect of school resources on student achievement remained in the background compared to the importance of students’ family backgrounds. However, Çelikkol and Avcı (2017) emphasized that the problem of inequality in education should be addressed in the context of “equality of opportunity” and “equality of possibility” in education in general, and commented that inequality of opportunity and opportunity in education causes inequality among members of society in terms of access to economic and social opportunities. In addition, while the majority of the debate on equality in education focuses on how to equalize the access and participation of different social groups in formal education, a more holistic and integrated approach may be needed to ensure equality in education in order to make schools egalitarian institutions (Lynch & Baker, 2005). In his book *Sociology of Education*, Tezcan (1985) describes the situations that cause inequality of opportunity in education as follows; economic factors (family income and occupation, economic power of the state), geographical factors (settlement pattern, regional differentiation), social factors (gender discrimination, religious discrimination, language factor, racial factor, population factor), educational imbalances (adequate teacher profile), political factors (education policies changing according to the governments), functional factors (differences arising from intelligence and abilities) and free boarding, scholarship and aid support (the possibility of boarding in some schools). Gamoran and Long (2007) commented on the importance of providing equal opportunity to individuals within the scope of the right to education, and noted that decades of research have been conducted on school effects, the impact of socioeconomic status on achievement, and racial and ethnic disparities in academic achievement in terms of equal opportunity in education. Equal opportunities to compete should be offered to everyone, regardless of their social origin or other attributes attributed to them (Hallinan, 1988). However, in today’s society, various factors such as the socioeconomic and cultural characteristics and educational levels of families, as well as the perspectives and competencies of teachers regarding the use of educational technologies can make the situation more unsolvable in the context of inequalities rather than equality of opportunity.

Important Factors Affecting Equal Opportunity in Education

In terms of the gender factor, it can be stated that in terms of the meaning attributed to girls in some societies, girls can be left behind in their various educations, professional lives, use of technology and even in the fields of art and sports throughout their upbringing.

It is thought that the gender factor, which is accepted among the criteria of equality (Işık & Bahat, 2021; Subrahmanian, 2005), is an element related to equal opportunity in education and is considered as an obstacle to the implementation of equality of opportunity (Akgül, 2019; Mercik, 2015; Stromquist, 1997). Kabeer (2005) and Tusinska (2020), emphasized that gender equality and education are two interconnected concepts and that this situation is of critical importance for a healthy society and economy. Zeng et al. (2014) commented that gender equality not only contributes to the increase of productivity of the current generation, but also contributes to the improvement of the next generation's results and will allow for improvement in education. In the literature, it has been stated that the gender factor is considered within the scope of causing inequality of opportunity in some studies (Bilgin & Erbuğ, 2021; Canbay & Çuhadar, 2020; Işık & Bahat, 2021; İnan & Demir, 2018; Polat & Özdan, 2020; Subrahmanian, 2005; Tusinska, 2020; Zeng et al., 2014).

In terms of inequality of opportunity, the disability of an individual can also be considered as an important factor (Robeyns, 2006; Terzi, 2005; Toboso, 2011). Bilgin and Erbuğ (2021) drew attention to the access of individuals with disabilities and special needs to qualified education, the change in the perception of the disabled in society, and the preparation of the necessary infrastructure for them, within the scope of every citizen's right to receive education. Terzi (2005) explained that the Warnock Report (DES, 1978) on the education of children and young people with disabilities emphasized the importance of common educational goals for all individuals regardless of their abilities and disabilities and introduced the concept of 'special educational needs' to identify students who face difficulties. Çelik (2017) draws attention to the issue of being able to benefit equally from the opportunities of society without being subjected to any discrimination based on gender, physical disability or any other reason within the scope of existing as equal members of society. Therefore, in the context of social equality, the differences of each individual should cause unity, not discrimination by the society.

The socio-economic level of the family also emerges as a very important factor in the education, lifestyle, social and cultural opportunities of the individual, and even in his plans for the future. The economic resources of parents, especially family income, have been the main focus of educational research (Nam & Huang, 2009). In some studies covering this issue, it is stated that factors such as socio-economic status and cultural characteristics of families play a decisive role in the education of their children (Ferreira & Gignoux, 2010; Master, 1969; Mercik 2015; Nam & Huang, 2009; Tabak, 2019; Tezcan, 1985; Yaşar, 2016; Zhang & Eriksson, 2010). Schulz (2005) emphasized that the socio-economic status of families is considered as an important variable in explaining student achievement and may affect learning outcomes in various ways and mentioned financial support and home resources for individual learning. Similarly, Schuetz et al. (2005) emphasized the diversity of the family's economic income and the opportunities to provide students. Polat and Özdan (2020) made statements that the socio-economic status of families can have negative consequences on the education process, and that there are great differences in terms of equality of opportunity and opportunity with the spread of private schools. On the other hand, Ergün (1994) stated that the socio-economic status of the individual is related to his educational status, occupation and

income level, and commented that as industrialization and modern society increase, the interdependence of these factors will also increase. As a matter of fact, in order to ensure equality of opportunity in the studies to be carried out, it is necessary to consider the imbalances regarding the socio-economic differences that may arise between the regions (Tezcan, 1985).

Another factor leading to the inequality of opportunity in education is the educational status of the family; it is stated that the child's academic success is closely related to his attitude towards the use of technology and his interest in the educational process (Dinçer & Uysal Kolaşın, 2009; Erten, 2019; Ferreira & Gignoux, 2010; Gamboa & Waltenberg). Family education is accepted as the motivating force that paves the way for the future of the child (Khan, Iqbal, & Tasneem, 2015). Within the scope of the National Evaluation of Educational Progress (NAEP) report, it was observed that students who reported higher parental education levels tended to have higher average scores (Campbell et al., 2000). Khan et al. (2015) emphasized that the higher the parental education level, the higher the academic achievement of the students. It is seen that the level of parental education can also lead to an inequality of opportunity in terms of student academic achievement tendency. As a matter of fact, Ferreira and Gignoux (2010) commented that the low educational level of parents may be an obstacle in terms of inequality of educational opportunities among students.

Another factor in the inequality of opportunity in the social sense is the competence of teachers regarding their knowledge and skills on any subject. Equipping teachers with competencies that will not cause any meaningful difference with respect to each other is of great importance in terms of equality of opportunity to be provided in education in the social sense. The qualifications of teachers and administrators are among the conditions for each student to receive a qualified education regardless of which school they are in (İnan & Demir, 2018). As a matter of fact, Tabak (2019), Gürültü and Alıcı (2020) emphasized the importance of this situation in the process by drawing attention to the element of teacher among the basic qualifications that ensure equality of opportunity in education. Shields, Newman and Satz (2017) mentioned that educational resources such as books, materials, physical facilities and teachers are important in terms of equality of opportunity and that getting training from more qualified teachers will contribute to the success of the individual in the academic and business process.

When the factors that cause inequality of opportunity are examined, it can be seen that these factors have/may have an important effect on ensuring equality of opportunity in the educational process. In addition, educational technologies can be accepted as another element in order to provide equality of opportunity in education for making the course more effective and efficient in the education process, enable students to actively participate in the process, concretize learning and realize many other applications easily and quickly. As a matter of fact, one of the basic concepts for more effective, efficient and qualified processing of education is educational technologies. Educational technologies are one of the most basic tools for students and teachers in structuring and concretizing information, in easy access to information without the concept of time and space, in interaction, creativity and innovation. It has been an important requirement

for students to access the right to education, especially during the pandemic period. However, rather than the technology itself, the qualifications of the individuals who will use this technology are also very important in the effect of educational technologies on ensuring equality of opportunity. In some cases, these qualifications cause the use of educational technologies in the process to lead to equality of opportunity, while in other cases, the use of these technologies may cause inequality of opportunity. As a matter of fact, in such cases, educational technologies cannot fulfill the constructive function expected from them. Moreover, it can become an implicit way of perpetuating existing inequalities. This situation, which was expressed during the pandemic process, has become even more evident. In pandemic conditions where educational technologies are used intensively and sometimes only distance education is realized, the educational opportunities that children will receive can be determined by the socioeconomic level of the family, the educational level of the family, the gender of the child, the disability status of the child and the teacher's competencies in educational technologies. Regarding this issue, Erten (2019) emphasized that the income level and education level of families can have a positive effect on students' attitudes towards digital technology in his study to determine the attitudes of generation z towards digital technologies. Işık and Bahat (2021) stated that some students and teachers do not have or cannot use the necessary technologies, resulting in inequality of opportunity.

In addition to emphasizing the importance of educational technologies, Yıldız and Akar Vural (2020) emphasised that with the increase in educational technologies, a division that can also be expressed as a "digital divide" has emerged between those who can access information and communication technologies and those who cannot access them. As a matter of fact, the inability of individuals to access such technologies, which causes this digital divide, can be a major obstacle in terms of equality of opportunity among individuals. Comments that these factors may have an effect on causing inequality of opportunity in the effective use of educational technologies in the process can also be seen in some literature studies (For example; Akgül, 2019; Bourdieu, 1986; Canbay & Çuhadar, 2020; Coleman et al., 1966; Çelikkol & Avcı, 2017; Ferreira & Gignoux, 2010; Işık & Bahat, 2021; Ömür et al., 2017; Polat & Özdan, 2020; Yaşar, 2016). Therefore, within the framework of this view, the use of educational technologies in the context of social inequalities has been examined in this study. In this context, within the scope of the study, it is aimed to determine the opinions of teachers about the possibility of using educational technologies to provide equality of opportunity in the society or to cause/ may cause inequality of opportunity.

Method

Research Method and Data Collection Tool

In the context of social inequalities, this study, in which teachers' thoughts on the use of educational technologies in the process are tried to be determined, was designed appropriately by using phenomenology, one of the qualitative research designs. Phenomenology focuses on phenomena that we are aware of but do not have an in-depth and detailed understanding of. Facts can occur in various forms such as lived

events, experiences, orientations, perceptions, concepts and situations (Yıldırım & Şimşek, 2011). Semi-structured interview technique was used as a data collection tool. In this context, an interview form developed by the researchers was prepared. In order to ensure the content validity of the questions to be included in the interview form, the relevant literature was examined and a draft interview form was prepared. In the evaluation of the open-ended questions in the draft interview form, the opinions of the field experts working in the Department of Computer and Instructional Technologies Education and working in the Department of Turkish Language Teaching were obtained, and necessary updates were made on the questions. After the updates, interviews were conducted with the participants in the online environment and recorded with the permission of the participant.

Study Group

The participants of this study consisted of ten teachers working in different branches in private or public schools and attending a master's programme at a university. The branch of one of these teachers is Preschool Education, four of them are English Education, one of them is Special Education, one is Classroom Education, one is Mathematics Education, one is Physical Education and one is Industrial Technology Education. Information Technologies teachers were not included among the participants. Since Information Technologies teachers are educated in a field related to technology and have the necessary knowledge and skills in the use of technology, it is aimed to reveal the perspective of teachers from different branches on the subject. Eight of the participants work in state schools, while the others work in private schools. Two of the participants who worked in a state school also worked in a private school before. The professional experience of these teachers ranges from 2 to 14 years. Among the participants, four teachers have school administration experience. In addition, all participants received training on educational technologies both within the scope of the FATİH Project and within the scope of professional development. The demographic information of the participants is presented in Table 1.



Table 1

Demographic Information of Participants

Participant	Branch	Tenure of Office	Type of School	Technology Education	Administrative Duty
P1	Industrial Technology Education	11 years	State school	Yes	Yes
P2	English Language Education	8 years (6P+2S)	State school	Yes	No
P3	Physical Education	5 years	Private school	Yes	No
P4	Classroom Teaching	2 years	State school	Yes	No
P5	Math Teaching	5 years	Private school	Yes	No
P6	Special Education Teaching	14 years	State school	Yes	Yes
P7	English Teacher	10 years	State school	Yes	Yes
P8	English Teacher	16 years	State school	Yes	No
P9	English Teacher	9 years (4P+5S)	State school	Yes	No
P10	Pre-school Teaching	13 years	State school	Yes	Yes

P: Private school S: State school

Participants of the study were determined on a voluntary basis. Before the interview, the participants signed the consent form and were informed about the purpose of the research. Assurance has been provided that the collected data will be used for scientific purposes and will not be accessible by other people. While presenting the data and findings in this research report, pseudonyms were used instead of the real names of the participants.

Data Analysis

The data obtained in the research were analyzed using qualitative data analysis approaches. According to the literature, there are different approaches in qualitative data analysis, and although the definitions of these types of approaches are the same, it is seen that they are named differently according to different researchers. In this study, the deductive approach according to the definition of Creswell (2013) and the descriptive analysis approach according to Yıldırım and Şimşek (2011) were used. According to Creswell (2013), in deductive analysis, researchers check whether there is enough data

on existing themes. Yıldırım and Şimşek (2011), on the other hand, define descriptive analysis as summarizing and interpreting the data obtained in a similar way according to predetermined themes. In addition, Yıldırım and Şimşek (2011) stated that “*the data can be organized according to the themes revealed by the research questions, or it can be presented by considering the questions or dimensions used in the observation and interview processes*”. Within the scope of this study, themes were obtained as a result of the literature review on inequality of opportunity. For qualitative data analysis, the interviews were transcribed and the researchers checked the correct transfer of the data and organised the data. The researchers analysed the transcribed data and interpreted the themes and tried to include direct quotations related to the themes. The findings were obtained by interpreting the themes. Explanation, association and interpretation of the findings obtained from the interviews were carried out in line with the purpose of the research. Maxqda22 program was used in the analysis of qualitative data. In the study, in order to ensure validity and reliability, inter-coder consensus calculation was used by the researchers to calculate reliability. As a result of the inter-coder consensus calculation formula, the reliability coefficient was found to be .94 and as a result of this value, it was accepted that the coding was reliable (Miles & Huberman, 1994). Finally, the findings were reported and presented in the findings section of the study.

Results

In the light of the literature studies on the effect of educational technologies on equality of opportunity/inequality and the findings obtained, the themes of gender, disability status, socio-economic level, family education level and teacher competence regarding equality of opportunity in education were formed (Figure 1) In the study, the opinions expressed on each theme were evaluated in general and direct quotations were given for the participant opinions.

Figure 1

Themes Related to Equal Opportunity in Education



Investigation of the Use of Educational Technologies in the Context of Equal Opportunity

The general views of the participants on the effect of using educational technologies on reducing or increasing inequality of opportunity were examined. Some participants expressed the view that the use of technology in education would provide equality of opportunity, in other words, it would reduce existing inequalities. Some participants, on the other hand, expressed the view that in addition to the emergence of inequality of opportunity for some students, it could be very beneficial for students with opportunities. The striking finding here is that while the participants argued that it would reduce inequality of opportunity, they also expressed the fact that it would create inequality in many cases. Regarding the fact that using educational technologies provides equal opportunity and its use is beneficial, P9 said that; *“educational technologies add a plus to each individual in that environment. It helps one to close the gap between one and the other, in short, to close the gap between them. In other words, using technology in education definitely supports the educational process, supports it in every sense”*. The following words from the participants directly that it is an undeniable fact that the use of P6 educational technologies reduces inequalities, but on the other hand, it will create new problems: *“Necessarily. I would say it reduces inequalities in my branch. Because in this way, we benefit students who cannot access technology. I think it reduces inequalities in English. As much as I apply it in my classes, I think it reduces inequality of opportunity. But on the other hand, it can be accepted as an undeniable fact that it can create new problems”*, P10 expressed his views on the fact that the concept of inequality of opportunity is already a fact of life, and that the use of educational technologies can cause inequality of opportunity, as well as providing great benefits to those who have the opportunity.

Educational technology, I mean, I think it provides equal opportunity for both the family and the child. It is beneficial in many ways. On the other hand, some get more while others don't get any. I mean, this is really a fact of the world. Life is already unfair for people living in difficult conditions. We also see this.

Two of the participants argued that the use of educational technologies would further increase the inequality of opportunity between individuals. P7 thought *“I mean, as I said, I find the use of technology useful for my own branch. I mean, I find it very useful in terms of teaching in order to teach more enjoyable lessons, but I wish everyone had equal opportunities, then it would be better. I mean, it is a fact that it creates and/or magnifies inequality”*. While expressing these thoughts, he stated that he could see that he had this view more clearly through the questions asked in the interview. P8 expressed his thoughts as follows:

Unfortunately, I also experienced this situation. The child was not in a good economic situation. I provided the child with a computer, but of course not everyone could afford a computer. There are many students without computers. Even if they have a computer or a tablet, they may not have internet access. What about internet access? What about equal opportunity? So there are many elements that need to be balanced. Equality cannot be achieved just by giving tablets. Unfortunately, it doesn't, I wish it did, but it doesn't.

Two of the participants did not give a definite opinion on whether the use of educational technologies would increase or decrease inequalities. Both participants stated that they could not make a complete decision and that the use of technology would serve both situations. Both participants firstly stated that educational technologies will provide equality of opportunity considering the opportunities offered by educational technologies, on the other hand, they stated that educational technologies may also cause inequality of opportunity when they consider that individuals with low socio-economic status cannot have many technological opportunities.

Investigation of the Use of Educational Technologies in the Context of Gender

The opinions of the participants regarding the ability of individuals to benefit from educational technologies according to their gender are divided into three. Three participants stated that there was no difference between men and women, one participant stated that the difference was in favor of women and six participants stated that the difference was in favor of men.

Three of the participants stated that there is no difference in using educational technologies according to gender. P7, one of these participants, stated that there is no gender difference in the use of technology in the new generation, so both genders benefit from educational technologies equally. While the other two participants argued that there was no difference in the use of educational technologies, they stated that there was social inequality in the use of technology. The participants stated that in the society they live in, male individuals are given more opportunities to use technology, while women are left behind in this regard. However, the participants acknowledged that this difference existed until they started primary school and that they came to school with different readiness, but stated that this difference disappeared when they started school. However, they argued that they benefit equally from the use of educational technologies. P9 expressed this situation with the following expression:

...Therefore, at this point, we can say that the girl child is more disadvantaged than the boy child at the beginning, but in the educational process, that is, if you ask me after that, you know, readiness until the first grade, girls definitely start at a disadvantage in terms of gender, but after they start primary school, come to the classroom and sit at the desk, I think that it is the socioeconomic level that makes the real difference.

Six of the participants stated that there is an inequality in favor of men in the use of educational technologies. All of these participants stated that there is inequality in the use of technology in society, so this inequality continues in the use of educational technologies. One of the participants argues that this difference is innate according to gender, and that men are more interested and predisposed to technology than women. Other participants, who make up the majority, stated that these people are assigned different roles as men and women by the society, that the use of technology is given to boys as a right and they are given more opportunities. P2 said that *"If there is a girl and a boy from the same family, the boy has more technology knowledge than the girl. Because the male child is usually prioritized in the family."* expressed in this way. P6 stated that girls are more shy in using technology in education with the following words:

For example, there are some activities on the smart board, such as writing words, and the ones who are willing to come more, in short, the ones who participate more are male students. I try to make it compulsory for female students to participate in the lesson. I feel that female students hesitate because they think that they will encounter some problems on the smart board and cannot solve them.

Therefore, it has been concluded that men and women are in different readiness in educational environments and due to this difference, they experience inequality in benefiting from educational technologies. Only one of the participants expressed an opinion in favor of girls in benefiting from educational technologies. While expressing his opinion, this participant stated that boys have more interest and skills in using technology, but girls benefit more when using educational technologies. In this case, it is seen that the use of educational technology does not create a privilege in favor of girls in providing equality of opportunity, but rather the situation of benefiting according to the purpose of use.

Investigation of the Use of Educational Technologies in the Context of Disability Status

All participants stated that individuals with special needs face inequalities in the use of educational technologies. Participants agreed that individuals with special needs do not benefit from educational technologies at the same rate as individuals without special needs. The opinion of P9 from the participants was *“Absolutely they could not be injured. So at that point, I can say with confidence that they certainly did not benefit from it. Because they tried to offer the same environment for people with disabilities. That didn’t go very well either.”* expressed as. P10 said, *“So when we use technology, we can’t include them too much in the classroom environment. In other words, it is obvious that they are not benefiting from it. This is a fact”*, he made statements regarding this situation. One of the participants, P5, said, *“It’s like they can be more emotionally sensitive. They can also be a little bit more backward in terms of having things. The approach in the classroom is very important.”* and emphasized that even the perspective of the classroom environment for disabled students can lead to inequality of opportunity in the use of educational technologies by the individual concerned. As a matter of fact, in line with the findings, it can be stated that in educational environments where individuals with special needs and individuals with normal development are together and in many situations where educational technologies are used, individuals with special needs cannot benefit equally from the benefits offered to other individuals. Therefore, it can be concluded that there is a need to be more careful in such environments in terms of ensuring that individuals with special needs receive education at an equal rate and competence in the education process.

Investigation of the Use of Educational Technologies in the Context of Socioeconomic Status

Participants think that the status of benefiting from educational technologies varies according to the socioeconomic status of the individuals’ families. It has been stated

that individuals with families with low socioeconomic status have less technological opportunities than others and have to cope with many impossibilities. However, it is thought that they are introduced to such technologies later than individuals with a better socioeconomic level. Therefore, it was stated by all the participants that there is an inequality of opportunity in this regard. The following statement of the participant P3 exemplifies this situation:

If I compare a child who goes to a public school with a child who goes to a private school, the child who goes to a private school has an iPad in his/her hand, there is a smart board in the classroom, the teacher uses technology as much as possible and the child can do everything there easily. It will not be enough, when the lesson is over, he will come home and repeat it on the iPad. Most children who go to public school don't have an iPad. Yes they don't. What will the child do? He has a chance, either he will learn there or he will lose the chance to practice when he comes home.

P4, on the other hand, expressed the situation that the use of educational technologies in socio-economic terms may create inequality of opportunity with the following words.

There is a big difference. For example, a child from a rich family can easily use a technological tool such as a computer at home since they were born, and they can use it properly. But those with a slightly poor socioeconomic status are not like that. Some of them don't have a computer at home or those who have one can't use it for some reasons. For this reason, the difference is as noticeable as possible.

Therefore, in these explanations, it is seen that children from families with low socioeconomic status do not benefit equally when educational technologies are used in schools. However, the participants who mentioned such a difference between individuals studying in public schools also stated that the main difference is between individuals studying in public schools and individuals studying in private schools. P10 expressed this situation as “*When we look at the difference between private schools and public schools, it is then that an inequality of opportunity emerges*”. Participants also stated that private schools have more technological infrastructure and equipment than public schools. The following statement of P2 best exemplifies this situation.

We only have smart boards in our schools. In private schools there are projections, there are smart boards. Again, the curtain is a very important factor. I know this very well. They have dark curtains. In us, in public schools, there is only one smart board. And when you try to turn on the smart board, there are situations like viruses etc. Private schools don't waste time with these things. Yes, they don't waste time. For example, they expose the child to many factors. For example, they can make them listen to a video or animation, or they can make them watch something with visual animation. In our public school, we have a lot of trouble until we turn on the animation. For example, there will be no light to see the screen, it will be dark.

Participants also stated that private schools have teachers who have the competence and desire to use these technologies. P8 stated that teachers who can teach courses such as robotic coding are recruited to private schools, while P10 stated that teachers receive continuous on-the-job training. In addition, P3 and P2 stated that the class sizes in private schools are not as crowded as in public schools, and that more qualified education is received in classes with fewer class sizes. In addition, it was stated that students come from families with a certain socioeconomic level and therefore they are a

homogeneous group with a certain level of readiness. For these reasons, it is concluded that students studying in private schools benefit from educational technologies much more than those studying in other schools and that the inequality of opportunity between them and individuals studying in public schools can reach great dimensions. As a matter of fact, P5's opinion also supports this situation.

I can definitely say that there is a difference. For example, I used to work in a vocational high school where there were smart boards in only a few classrooms and I was very happy. For example, when I saw the smart board there, I thought that the students here could try what it was like and how to use it. I wanted to turn on the smart board, but the students told me "it won't work". I asked them "why doesn't it work?" and they told me "because there is no update". We could never use the smart board, the smart boards had these rails on them. We always used only the board with the rail on it. I mean, I definitely could not benefit from the smart boards during the time I was working.

Investigation of the Use of Educational Technologies in the Context of Family Education Status

All of the participants defended the view that there is an inequality of opportunity between individuals with high educational status and technology-conscious families and others. P6, one of the participants, stated that the children of families who are conscious about the use of technology are more fortunate. This situation means that "*A conscious family is perhaps most important because it can set certain rules and control the use of technology. In short, it means that they will be able to set certain limits or a certain framework for where the child uses technology, what they use it for, or how long they use it.*" exemplified as. On the other hand, P1 participant expressed the view that parents' profession and attitude towards technology are very important in the child's learning and development with technologies. P1 emphasized that the education level and profession of the family have an impact on the child's ability to use technology correctly and stated that:

The occupation of the parents affects the student's use of technology. A child of a farming mother or father has a very poor use of technology. I say this because I work as a teacher in a village. This opportunity is not provided to the student. "I am not saying that the student has no talent. In fact, these children have talent, but they are very unfamiliar with technology. On the other hand, while their classmates are three or four levels ahead of them, these children are just at the beginning of technology."

P10, on the other hand, emphasized the awareness of the family's level of education and the use of technology and stated that the children of these families use technology for education and training purposes. In line with this statement, the idea that there is a significant inequality of opportunity between children from families with high levels of education and other children was dominant. The statements of P10 best exemplify this situation.

A child who does not know how to count, for example a five or six year old child. They are not kindergarten students, they are five-six year olds in the kindergarten classes of primary education. Children come to these classes without knowing numbers. For example, we used to start teaching them at once, but children whose parents are conscious have learned concepts and numbers with

technology. So their readiness is incredibly different. For example, a three-year-old child knows colors in English. I don't know what to say, he also knows numbers. So their readiness, perception and learning capacities are also more advanced. In short, children of families who use technology more appropriately and efficiently are more advanced.

Investigation of the Use of Educational Technologies in the Context of Teacher Knowledge/Skills Competence

All of the participants stated that teachers with high technology proficiency and who employ educational technologies in teaching environments also make a difference on students. They stated that there is an inequality of opportunity between the individual who receives training from a teacher with this qualification and the individual who does not. P4, one of the participants, stated this situation as the students of teachers who never use educational technologies or can not use them well are unlucky. As a matter of fact, P5 stated that a teacher with high technology competence will make his/her students active in the lesson and will be more competent. P10, on the other hand, stated that this was one of the reasons why he worked as an administrator in kindergarten:

The reason why I wanted to work as a kindergarten administrator was to support the use of technology in education. Because when I was teaching in primary school, I always saw the difference caused by the use or non-use of technology. My conscience was not comfortable with this difference for the students. While I was using technology in my classroom and seeing the happiness of the children, it was a sad situation that the children in the other class could not experience this happiness and went to their classrooms with a sad face, turning their necks. For example, these are the bitter situations that I experienced inside me, stated as.

Participants agreed that there is no equality of opportunity in terms of utilizing educational technologies within the scope of teacher training, and that even if the classrooms or schools are equipped with similar technologies, the fact that they are not used effectively in the process can lead to inequality. P7 stated this situation as follows.

In other words, of course, the competence of teachers to use information and communication technologies also creates a great inequality. You know, equipping the classrooms with the same technology is not enough in this respect. When we look at schools, all classrooms have smart boards. There is internet. But you know, on one side, maybe the smart board is never turned on all day long. It is not used at all, or it is only left for children to use. We also observe these. But on the other hand, the teacher who uses the right technology, who chooses the right resources for the lesson, will definitely benefit.

P9 talked about what a teacher with high technology competence and an interest in the use of technology can do and exemplified the inequality of opportunity as follows.

For example, in disadvantaged schools, although the parents are in a bad socio-economic situation, you look at what the class teacher has done. For example, we usually make school visits. Sometimes I see that some teachers have provided many opportunities to the class. I ask the teacher "how did you provide these facilities, teacher?" The teacher says "I bought two tablets from the mayor of the city, two tablets from the chamber of commerce". The teacher goes and asks for these tablets from many institutions. He provides facilities for his class. In fact, the teacher subconsciously has the need to access this technology and offer it to his/her students. The teacher demands this. They provide the technology to their classrooms, but teachers who do not experience this poverty or do not demand this technology do not demand it. They don't want to learn either. The teacher does

not develop himself/herself at this point. As in the classical education model, he says “I go to class and teach”. Does the teacher explain the lesson “yes”. There is no problem in terms of legislation. But isn’t the student in the other class more advantageous because of the use of technology, while the student receiving education within the scope of the classical education model is more disadvantaged? It would not be very fair to say that they are not, that’s for sure.

Within the scope of the study, the participants argued that the use of educational technologies would be beneficial in ensuring equality of opportunity in education, and in this direction, they commented that the effect of some social qualities is also very important in the process of using instructional technologies.

Discussion and Conclusion

There are many different opinions on whether the use of technology in education can provide an equal opportunity in terms of the education process or reveal an inequality of opportunity. As a matter of fact, it is also known that the use of educational technologies is very important for both students and teachers in order to teach more effective and efficient lessons in the learning process. On the other hand, the use of educational technology only by itself cannot create an effect, but the various characteristics and possibilities of individuals using these technologies may cause these technologies to be evaluated in the context of equal opportunities or inequality of opportunity. Within the scope of the study, when the teachers’ views on the use of educational technologies in the context of social inequalities are examined, some of the teachers stated that the use of technologies in terms of social aspects can be very beneficial for students in the education process. In addition to this, some teachers commented that educational technologies can create equality of opportunity, but may cause inequality, especially for students who do not have socioeconomic opportunities. It is known that the use of such technologies in the process contributes to both the teacher and the learner. For example, Jacob et al. (2016) emphasized that the use of technology can reduce differences in peer groups, have an equalizing effect among teachers, help students achieve academic benefits, and reduce inequalities in resources between schools, while Marrow (2014) emphasized that the implementation of technology in classrooms contributes measurably to students and teachers, and therefore, this technology should provide all schools with the same opportunity and equal opportunities to experience technology in an educational way. The use of educational technologies has benefits not only for education but also for equalizing conditions in many other aspects. In particular, contemporary research emphasizes the leading role of technology in improving social equality and living conditions (Skare & Porada Rochon, 2022). In general terms, the educational and social contribution of the correct, effective and equal use of such technologies cannot be denied. However, the economic situation for owning technology and the negativities and inadequacies in terms of knowledge, skills, attitudes and perspectives for effective use can be seen as major obstacles to the equal opportunity of these technologies.

Regarding gender, teachers think that male students are more advanced in the use of technology than female students, which may even lead to academic differentiation when using educational technologies. In the opinions expressed in terms of the gender

factor, the majority of teachers stated that there is a difference between male and female students in terms of inequality of opportunity and that female students are generally negatively affected by this situation. Because of boys' innate interests which cause their predisposition to these technologies. In addition, it can be argued that boys may have more knowledge and skills in the use of technology because they are provided with more opportunities to use educational technologies than girls. However, since different roles are assigned to girls in some segments of society, it has not been possible for them to meet or use technological tools at an early age. As a result, this situation may prevent the development of girls' competencies in the use of technology. In fact, in the teacher opinions expressed in relation to being exposed to inequality in terms of gender factor, this situation was also expressed in terms of keeping female students in the background compared to male students even in terms of receiving education. As a matter of fact, Zeng et al. (2014) stated that gender inequality in access to education exists, especially for rural students. Similarly, Ferreira and Gignoux (2010) emphasize that women are in a more resilient inequality trap than men in relation to inequality of opportunity and that even in economically disadvantaged situations, there is a prevailing belief in society that girls drop out of school earlier than boys. Although gender discrimination in society is considered to be quite rare in today's modern societies, it can still occur in some rural areas and in conservative societies that are not open to innovation.

Regarding another factor in the study, teachers agree that individuals with special needs do not have equal opportunities and that this gap cannot be closed with educational technologies. Participants think that there are inequalities in the use of technological opportunities, and that even if all these conditions are equalized, this situation will separate children in this respect as long as their educational technology competencies are not equalized. On the other hand, there is also the idea that individuals with special needs do not receive the same share of the benefits offered to other individuals. As a matter of fact, due to prejudices and inadequate evaluations of people with disabilities, their access to technological devices has also been an obstacle (Hoppestad, 2007).

However, many individuals with disabilities make great use of technological resources to ensure their quality of life and to function in society (Toboso, 2011). When we look at the developments in educational technologies, there are actually many assistive technologies for the use of individuals with special needs. In the field of special education where individual differences are important, the use of computer and internet technologies in the educational process should not be ignored (Çuhadar, 2010). Kandemir (2014) emphasized the dissemination of distance education applications including information technologies within the scope of studies to be carried out to increase the university education of students with special needs. Therefore, the effective use of these technologies in the process, ensuring that these individuals are active in the process and the trainings to be provided to them are very important for the learning of individuals with special needs.

Opinions were obtained from the teacher participants regarding the important factors that may cause digital divide in the use of educational technologies within the scope

of social inequalities. Considering all the opinions received, the teachers argued that children from families with low socioeconomic status and education level do not benefit equally from the use of educational technologies. In various empirical studies, it has been emphasized that family income is one of the strongest determinants of children's contribution to the educational process (Nam & Huang, 2009). In this regard, Fraillon et al. (2014) emphasized the importance of addressing various factors related to the student's competence in information and communication skills and computer and information literacy. It was stated that the socio-economic status of the family and the educational status of the family were among the important factors addressed. Similarly, Ferreira and Gignoux (2010) drew attention to the low income level of the family and the low level of education of the parents in terms of inequality of opportunity and commented that it should be considered as an important issue. It can be stated that parents' education level and family income are important factors in the education of their children and that there is a direct proportion between them (Masters, 1969). Similarly, in the interviews, teachers emphasized that depending on the socio-economic status of families, the opportunities they provide to their children may also change. It was stated that it is much more difficult for children from families with low socio-economic status to have technological tools than those from families with better socio-economic status. In fact, even if it is not only about having technological tools, it is thought that they struggle with impossibilities in many aspects. Some teachers even emphasized that the main difference regarding inequality of opportunity in education is between private and public schools. The smaller class sizes, more technological and physical facilities in private schools were seen among the reasons for the significant difference. In addition, it was emphasized that private schools have more economically homogenous student groups and students have more opportunities to benefit from technological opportunities (such as robotic coding trainings), which is a situation of inequality of opportunity.

In general terms, the socio-economic status of the family is very important in terms of meeting the needs of the students and providing the necessary educational materials and/or technological tools. Children's possession of these technological tools may also contribute to the development of their competencies to use these technologies. Having technological tools may also contribute to the formation of their awareness and even increase their academic achievement during the education process. As a matter of fact, Yaşar (2016) emphasized that the income level and cultural capital of the family can be effective on the educational success of the child. However, he also commented that this situation may have an impact on educational achievement and may also affect the issue of equality of opportunity. Tabak (2019) made explanations that socio-cultural development in a society brings along economic development and that the resulting economic development affects socio-cultural development. Again regarding socio-economic status, Schleicher (2009), in his study on educational status in PISA exams, stated that the difference in the decline in average performance is due to the performance of socio-economically disadvantaged students. Zhang and Eriksson (2010) stated that parental income is an important factor in causing inequality of opportunity in individuals and that the increase in income inequality largely reflects the increase in inequality of opportunity. In this context, in order to ensure equality of opportunity in education, the quality of education to be provided to individuals should be independent

of the socio-economic status of families and the studies to be carried out to solve the inequality of opportunity arising from this situation are very important.

The educational status of the family is also an important factor in causing inequality of opportunity for students. Gamboa and Waltenberg (2012) commented that parental education is one of the important factors of inequality of opportunity in education, while Ergün (1994) commented that the occupation of the father and mother in the family can affect the future roles of children and even the professions they will choose. Similarly, Gamoran and Long (2007) stated that according to the information in the Coleman report, the differences in average resources between schools were not as large as expected and that the impact of school resources on student achievement was emphasized to be less important compared to the importance of students' family background. Khan et al. (2015) emphasized that there is a fact that children from educated families are more confident, experienced and resourceful than children whose parents are not educated. Considering these statements, it can be stated that students are exposed to inequality of opportunity in the education process due to the educational level of their families. Considering all the opinions received from the teachers, it was commented that the children of families with a high level of education and conscious in the use of technology have awareness in the education process compared to others, and that these children can be more knowledgeable, more controlled and academically more advanced.

Another factor in the inequality of opportunity for the effective use of educational technologies in the context of social inequality is the teacher's competence in the use of technology. In addition to all other factors, this factor can also be considered as an important situation that needs to be addressed. Özabacı (2005) stated that home and family environment ranked first among the reasons for students' school failure, followed by individual characteristics, peer group, school and teacher factors. Equipping teachers with the necessary knowledge and skills to use information and communication technologies in the educational process is very beneficial for effective delivery of educational innovations and easy implementation of educational innovations (Pelgrum, 2001). As a matter of fact, with the inclusion of technology in the learning process, the role of the teacher in the learning process has become critical. In order to increase the quality of learning, it is very important for teachers to ensure the integration of information and communication technologies into the learning process (Arkorful et al., 2021; Başaran et al., 2020; Buza & Mula, 2017; Goh & Sigala, 2020; Malik et al., 2019). Therefore, in order not to expose students to any inequality of opportunity in the education process, it is important to equip each teacher with the knowledge, skills and competencies required by the age. In particular, the competence of teachers in this regard is of great importance in terms of utilizing the equal opportunities offered by educational technologies. Teachers' competence in using information and communication technologies should be considered as one of the main factors that will directly affect the principle of equality in terms of ensuring equality in education (Canbay & Çuhadar, 2020).

As a result, it can be argued that the use of educational technologies today may lead to the continuation of inequalities, since in reality individuals are offered unequal opportunities.

For this reason, the use of educational technologies in the educational process may play a role in deepening the equality and/or differences between individuals within the scope of the characteristics and qualities of individuals, rather than equalizing the educational opportunities of individuals. For this reason, providing the basic conditions that will turn technology into an opportunity for each individual with the right to education and creating a change in this direction should be among the primary goals. In this context, some suggestions can be made:

- In order for individuals to have equal opportunities in terms of equality of opportunity in the education and training process by using educational technologies, it is necessary to offer similar equality to some of their characteristics and qualifications.
- In order to prevent the negative attitude towards gender, which still exists in some societies in terms of gender, efforts can be made to raise awareness of the society in order for parents to ensure that girls have the right to education, that boys are not separated from the various technological opportunities they have, and that they become more effective individuals in society.
- In terms of the education of individuals with special needs, both teachers and families should have knowledge about the assistive technologies that can be used in the education of these students and integrate them into the education process and use them. The educational process should be supported with technological applications appropriate to the special needs of the student.
- In terms of socio-economic level, teachers can provide support from school administration, various public institutions and/or non-governmental organizations for students with low socio-economic status.
- Regarding the educational status of parents, school administration and teachers should inform parents about the importance and benefits of using technology in education. In addition, parents should be trained and made aware of educational applications for the use of technology for educational purposes.
- Teachers should be given importance to have knowledge and skills in terms of effective and efficient use of technology in education. Teachers should be provided with in-service training by the school administration in line with their needs and demands and they should be provided with the necessary competence. Teachers should be encouraged to apply the in-service trainings they have received correctly and effectively in the teaching process.

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A Critical Overview of Turkish Research on 21st Century Skills in Education: 2017-2022

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Abstract

In the world and in Türkiye, the 21st century skills have occupied a very large place and many studies have been conducted. Although the 21st century skills have emerged with the expectations of the business world, the training of the manpower expected by the business world depends on the education that people receive. This has led to the research on the educational aspect of 21st century skills. While there are many studies on 21st century skills related to education in Türkiye, there is no comprehensive study on 21st century skills associated with education. In this study, the years and purposes of the studies on 21st century skills related to education in Türkiye, the data collection methods used, the 21st century skills that were addressed in the studies, and the results that were reached are analyzed in detail. It is expected that the analysis will shed light on those who work and will work on 21st century skills.

Keywords

The 21st century skills, meta-synthesis, Türkiye, skills

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Introduction

One of the aims of education is to facilitate the daily lives of individuals, to help them adapt to society and to grow in a healthy way, and to train the necessary workforce for the business world (Taşkın, 2014; Yalçın, 2018). Instead of just providing information to individuals, education should enable individuals to make sense of information, to choose what is important for them among the pieces of information, to associate it with the situations they encounter in daily life, and to use information correctly in this process (Harari, 2018). In every age, individuals in society are faced with constantly changing situations with developing technologies, political and economic situations and the expectations of the business world. This change shows that each age groups needs individuals with different skills than the previous age (Kalemkuş & Bulut Özek, 2021). In the 21st century, people's lives are undergoing change and development in parallel with technological developments. This is not only about the habits in our daily lives or the differentiation of the technological tools we use. Technological developments especially lead to the diversification and restructuring of business life (Anderson, 2008). The change in the business world and system has begun to require individuals to change in accordance with the new conditions. Individuals may not be able to adapt to the ever-changing situations they face with the cultural characteristics of the society they live in by acquiring traditional skills such as reading, writing and mathematics (Çetin & Çetin, 2021). If the education received in school and out-of-school learning activities prepare students for their future adult roles as citizens, employees, managers, parents, etc., children in schools today can meet future challenges and adapt to changing situations (National Research Council [NRC], 2012).

The Secretary's Commission on Achieving Necessary Skills (SCANS) report published by the United States Department of Labor in 1991 explained the skills that the business world expected and what employers and educators can do to ensure that employees have these skills (Eryılmaz & Uluyol, 2015). Today, the business world needs employees who produce knowledge, are creative, work collaboratively, adapt to flexible conditions and solve the problems they face. In addition, the globalizing world expects individuals to communicate with individuals anywhere, work in cooperation and solve the problems they will face (Çetin & Çetin, 2021). Especially since the Covid-19 Pandemic, the dramatic imperatives in change have begun to emerge even more clearly. The process of integrating established systems around the world with technology has accelerated. The rapid operation of all systems through digital platforms has led to a rapid change in the usual order and the need to prepare individuals for this new situation. The business world has started to investigate what kind of characteristics employees should have in accordance with new business environments, new business structure and new job descriptions. In this process, the world of education has conducted studies on what kind of vocational or general knowledge, skills and trainings the individuals of the future may need in order to survive in the new social order. As a result of these studies, changes are made in education programs to provide human resources with the skills expected by the business world (Çoban et al., 2019; Partnership for 21st Century Skills, 2019).

Even though the education systems of countries aim to raise the level of education of individuals in order to carry the development level of their society, culture and civilization

levels further, they also try to meet the needs of the business world in the current world economic system for trained qualified personnel. The abilities, skills, education level and characteristics of qualified employees vary according to the economic and financial structure of the period, the technological structure and sophistication of production and business environments (Bates, 2019). It is estimated that the definition and characteristics of qualified employees required by the new business environments formed according to the change and transformation in the First, Second and Third Industrial Revolutions and the definition and characteristics of qualified employees required by the industrial transformation defined as Industry 4.0, which will be shaped a little more today and, in the future, will be very different. For this reason, it is necessary to train individuals equipped with new knowledge and skills that can respond to the needs that the change in job structure and definition will bring. The traditional education approach to knowledge acquisition cannot meet the skills that employers expect from their employees (Kennedy & Sundberg, 2020). In recent years, states such as China, Japan, the USA and Finland have made updates in their education systems in order to provide these skills to education programs, especially in the early childhood education period (Çetin & Çetin, 2021).

In the 21st century, the change in expectations for the qualifications of the individuals needed due to social, economic, political and technological developments also affects the education system and reveals the situation of making some compulsory changes in the knowledge and competencies to be gained to individuals (Cansoy, 2018). Adaptation to these changes that educational institutions face will fundamentally affect educational institutions. In this sense, individuals need to interpret the events in the world, produce original ideas and products, and learn to live together with different languages and cultures (Kenan, 2005). Developments in the 21st century include technological advances, political developments in the world, economic changes, globalization and multiculturalism. In addition, situations such as easy access to information, proliferation of communication channels, and increased use of technology that cause the problems we face today, which we call the digital age, to have a complex structure (Booth, 2013; Sayın & Seferoğlu, 2016). The 21st century skills are needed to cope with these complex structures of problems and to easily adapt to the relevant situations (Üzümcü & Bay, 2018). As of the 21st century, new generations are demanded to have high-level skills such as producing and transferring knowledge to different fields, actively using digital technologies, problem solving, producing, processing and using data instead of protecting traditions and values, citizenship awareness and mass production (Uçak & Erdem, 2020).

The World Economic Forum (WEF), which was conducted by the business community in 2020, reported the skills demanded in 2022 as analytical and innovative thinking; having active learning strategies; creativity, originality and initiative; ability to design and program new technologies; critical thinking and analysis; ability to solve complex problems; leadership and social influence; emotional intelligence; reasoning, problem solving and quick comprehension; and systems analysis and evaluation. In the same report, the top 15 skills that the business world expects for 2025 are analytical thinking and innovation; active learning and learning strategies; complex problem solving; critical thinking and analysis; creativity, originality and initiative; leadership and social influence; technology use, monitoring and

control; technology design and programming; flexibility, stress tolerance and resilience; reasoning, problem solving and idea generation; emotional intelligence; troubleshooting and user experience; service orientation; systems analysis and evaluation; persuasion and negotiation (WEF, 2020).

In the 2020 World Economic Forum, the skills reported for 2020 and 2025 are similar to 21st century skills. In the literature, AASL (American Association of School Librarians), Wagner, Organization for Economic Co-Operation and Development (OECD) and Partnership for 21st Century Skills (P21) have identified various the 21st century skills. The Framework for 21st Century Learning was developed by teachers, education experts and business leaders to realize the learning outcomes of the 21st century and to provide students with the knowledge and skills they need to succeed in work, life and citizenship (P21 Leadership States 2017). The Partnership for 21st Century Learning (P21), a strategic education project implemented in 21 states in the United States and supported by 33 institutions (P21 Leadership States, 2017), is a valuable example of the application of 21st century skills in curriculum and instruction. They have developed a shared vision to help teachers and schools, as practitioners in teaching, to integrate academic subjects. The framework includes the skills, knowledge and abilities that students need to have to be successful in the world of work. The framework is a blend of content knowledge, mastery of essential learning skills, and language competencies. These the 21st century skills enable the development of key knowledge and understanding among all learners. This knowledge and understanding is built on critical thinking and effective communication. In today's world, students need to learn the basics of critical thinking, problem solving, communication and collaboration in the context of these key competencies. When a school or system is built on these key competencies, students are actively engaged in the learning process and become graduates who are prepared to succeed in today's global economy (Gelen, 2017). P21 divides the 21st century skills into three main categories: *Learning and Innovation Skills*, *Information and Technology Skills*, and *Life and Career Skills* (P21, 2019a; P21, 2019b).

Purpose of the study and research questions

In the literature, AASL (American Association of School Librarians), Wagner, Organization for Economic Co-Operation and Development (OECD) and Partnership for 21st Century Skills (P21) have identified various the 21st century skills. The aim of the study was determined as a meta-synthesis of the research on 21st century skills conducted in Türkiye and the research questions posed for the study are as follows:

1. What is the distribution of the topics studied?
2. Which data collection tools are used for targeted purposes?
3. Which the 21st century skills are addressed?
4. What is the distribution of 21st century skills by years?
5. What kind of results have been achieved?

Importance of research

In the world and in Türkiye, the 21st century skills have occupied a very large place and many studies have been conducted. Although the 21st century skills have emerged with the expectations of the business world, the training of the manpower expected by the business world depends on the education that people receive. This has led to the research on the educational aspect of 21st century skills. While there are many studies on 21st century skills related to education in Türkiye, there is no Comprehensive study on 21st century skills associated with education. In this study, the years and purposes of the studies on 21st century skills related to education in Türkiye, the data collection methods used, which the 21st century skills were addressed in the studies, and which results were reached will be analyzed in detail. It is expected that the analysis will shed light on those who work and will work on 21st century skills.

Limitations of the study

The research covers the studies conducted in the field of 21st century skills between 2017-2022. The limitations of the study are as follows:

- *The studies were written in Türkiye and in Turkish.*
- *Worked with the supervisor and published in peer-reviewed journals accepted for thesis and associate professorship.*
- *The research method is qualitative.*
- *The research sample is students.*

Method

Research Design

According to the criteria determined by the researchers, a meta-synthesis study was used because it was aimed to illustrate the results of the research on 21st century skills and to integrate the results of the findings obtained from the primary studies, indicating the similarities and differences. Qualitative research is a holistic and realistic research method in which methods such as observation, interview, and document review are used in the natural environment (Yıldırım, 1999). Meta-synthesis is a methodological research method that includes a systematic comparison used to illustrate the results of studies on the same subject, analyzing and combining the results, interpreting and synthesizing them with a critical eye by creating themes (Kaleli Yılmaz, 2015; Chrastina, 2018; Polat & Ay, 2016; Yıldırım & Gelmez-Burakgazi, 2020). The aim of meta-synthesis studies is to reveal the similar and different aspects of the studies with a conceptual analysis (Sözbilir & Gül, 2015). According to Sandelowski & Barroso (2003), meta-synthesis is a kind of integration study in which qualitative research findings are combined. According to Chrastina (2018), meta-synthesis

focuses on answering why and how questions and understanding existing knowledge. Its aim is to go beyond summaries and integrate the results of findings from primary studies to reveal new results (Chrastina, 2018).

Data Collection

In the meta-synthesis study, the seven steps identified by Chrastina (2018) for meta-synthesis studies were followed. Of these steps, those related to data collection are expressed as follows.

- *Step 1: Identifying research questions.*
- *Step 2: Identifying keywords appropriate to the subject of the study and conducting a literature review.*
- *Step 3: Sourcing, reviewing, identifying and evaluating resources.*
- *Step 4: Determining the inclusion and exclusion criteria and selecting the studies to be evaluated.*

Three doctoral students and the instructor of the course first determined the research topic and then the research questions. With the keywords “The 21st century skills” and “The 21st century skills” determined by the researchers, it was decided to look at the studies that were conducted within the borders of Türkiye and written in Turkish, and to search these studies in the Council Of Higher Education Thesis System, which includes graduate theses with an academic advisor, and TRDİZİN database, which includes national refereed journals included in Associate Professorship applications by the Interuniversity Board in Türkiye. As a result of the search in the relevant databases between 2017 and 2022, 119 articles and 106 theses were listed and 10 studies were included in the scope of the research in line with the inclusion criteria below: the 21st century skills, Qualitative research methods, participants as only students and Written in Turkish

Table 1

Studies Included in the Study

Operation code	Imprint	Purpose of the study	Sample
X1	Külegel, S. (2020) (Thesis)	The effect of E-STEM activities on the development of 21st century skills in gifted students and their perceptions towards the environment	17 students with special talents (5th and 6th grade)
X2	Erdoğan, Ö.(2019) (Thesis)	The effect of robotic lego education using LEGO sets according to science course outcomes on pre-service science teachers' the 21st century skills	6 pre-service teachers in the 3rd year of Science Education at Amasya University
X3	Yavrutürk, A. and İlhan, T. (2022) (Article)	Examining the opinions and experiences of secondary education students who went abroad within the scope of Erasmus+ Program about their achievements within the scope of 21st century skills	10 students who went to Greece as part of the student mobility program
X4	Baki, Y. (2021) (Article)	Evaluation of the basic competencies that Turkish teachers should have in the 21st century from the perspective of prospective teachers	34 pre-service teachers studying in the 3rd grade
X5	Selçuk, G.(2020) (Article)	To examine the metaphorical perceptions of prospective elementary mathematics teachers towards the 4C field within the scope of 21st century skills	49 pre-service mathematics teachers
X6	Baysal, E., Ocak, G. and Ocak, İ. (2020) (Article)	To reveal the opinions of students who received coding and Arduino trainings about coding, Arduino and STEM based on the skills they gained after these trainings	16 high school students within the scope of Afyonkarahisar Erasmus+ K229 project
X7	Toklu, E. and Şentürk, A. (2020) (Article)	Gifted students' opinions about scratch and code game lab programs most frequently used in game design and coding education courses	In Bursa province, 20 10-year-old students with reported giftedness
X8	Akbas, Y. and Aydin, M. (2019) (Article)	To reveal the project perceptions of pre-service social studies teachers who do not have enough experience in project	145 people consisting of 3rd year prospective teachers
X9	Orhan, E. (2017) (Article)	Teacher education in Türkiye based on the views of prospective teachers	43 final year student teachers
X10	Özçelik, A. and Akgündüz, D. (2017) (Article)	To evaluate the gains achieved by students through STEM education for gifted/talented students	25 middle school students diagnosed as gifted/special talented who have not received STEM education

The aim of the master's thesis published by Küleğel (2020) is the effect of E-STEM activities on the development of 21st century skills in gifted students and their perceptions towards the environment. Seventeen students in the 5th and 6th grades from a private secondary school participated in the study. Semi-structured interviews, focus group interviews, the 21st century skills perceptions form, environmental perceptions questionnaire, observation form and daily self-assessment form were used as a source of document analysis and content analysis was performed.

The aim of the master's thesis published by Erdoğan (2019) is to observe the effects of robotic lego education using LEGO sets on 21st century skills of pre-service science teachers. Six pre-service science teachers in the 3rd grade of Amasya University, Department of Mathematics and Science, Department of Science Education participated in the study. Student diaries, mind maps, semi-structured interview forms were used in the study and analyzed with NVivo 9 program.

The aim of the article published by Yavrutürk and İlhan (2022) is to examine the opinions and experiences of secondary education students who went abroad within the scope of the Erasmus+ Program regarding their achievements within the scope of 21st century skills. Ten students who went to Greece within the scope of the student mobility program participated in the study. Semi-structured interview technique was used in the study and analyzed by constant comparative analysis method.

The aim of the article published by Baki (2021) is to evaluate the basic competencies that Turkish teachers should have in 21st century from the perspective of prospective teachers. A total of 34 3rd grade pre-service teachers studying in the department of Turkish Language Teaching participated in the study. A semi-structured interview form consisting of open-ended questions was used in the study and content analysis was conducted.

The aim of the article published by Selçuk (2020) is to examine the metaphorical perceptions of prospective elementary mathematics teachers towards three basic skill areas categorized as "learning and innovation skills", "information, media and technology skills", "life and career skills" within the scope of 21st century skills. 49 prospective mathematics teachers participated in the study. A data collection tool consisting of open-ended questions was used in the study and metaphor content analysis was conducted.

The aim of the article published by Baysal, Ocak, and Ocak (2020) is to reveal the opinions of students who received coding and Arduino trainings about coding, Arduino and STEM based on the skills they gained after these trainings. Sixteen high school students who received coding and Arduino trainings within the scope of Erasmus+ K229 project at Afyonkarahisar Fatih Anatolian High School participated in the study. A semi-structured interview form was used in the study and descriptive analysis was performed.

The aim of the article published by Toklu and Şentürk (2020) is to reveal the opinions of gifted students about scratch and code game lab programs, which are most frequently used in

game design and coding education courses. Twenty 10-year-old students in Bursa province, whose giftedness was determined by a report, participated in the study. A semi-structured interview form was used in the study and content analysis was performed.

The aim of the article published by Akbaş and Aydın (2019) is to reveal the project perceptions of pre-service social studies teachers who do not have enough experience in project. A total of 145 pre-service teachers studying in the 3rd grade of the Faculty of Education participated in the study. Mind maps and a questionnaire consisting of open-ended questions were used in the study.

The aim of the article published by Orhan (2017) is to evaluate teacher education in Türkiye in terms of students' admission to the program, the degree to which they acquire teaching skills and the 21st century skills, and the dimensions of the education they receive based on the views of pre-service teachers. Forty-three pre-service teachers studying in the last year of the Faculty of Education participated in the study. An interview form was used in the study and descriptive analysis was conducted.

The aim of the article published by Özçelik and Akgündüz (2017) was to evaluate the gains achieved by students with STEM education for gifted/talented students. Twenty-five middle school students diagnosed as gifted and talented who had not received STEM education participated in the study. Activity evaluation form was used in the study and descriptive analysis was performed.

Data Analysis

Step 5, one of the seven steps identified by Chrastina (2018) for meta-synthesis studies, is related to data analysis. This step was followed for data analysis.

Step 5: Analyzing the selected studies, creating common themes and sub-themes, and identifying their similarities and differences.

In the data collection phase, 225 studies found as a result of the search were examined according to the exclusion criteria. As a result of the review, 10 studies that met the purpose and research criteria were found (Table 1). For meta-synthesis studies, 10 or 12 primary studies are considered sufficient (Chrastina, 2018). In this context, a sufficient number of studies were reached for the study. The 10 studies were read and reviewed one by one by the researchers. In addition, each author analyzed the studies and created themes. Then, the authors came together and talked about the themes that each other made and created common themes and sub-themes. The common theme of the 10 studies included in the study was created and presented in the findings section.

As evidence of the validity and reliability of the meta-synthesis study, exclusion criteria were determined, and the reasons why a study was not included in the study were recorded on the exclusion table. The three doctoral students and the course instructor, who were the



researchers of the study, read the studies repeatedly according to the problem “Can a framework be created for 21st century skills studied?” and common themes were decided. The whole process was carried out with the confirmation and consensus of the three doctoral students and the course instructor.

Results

In this section, the findings and interpretations obtained as a result of the data analysis are presented according to each sub-problem respectively.

Among the seven steps identified by Chrastina (2018) for meta-synthesis studies, Step 7 is related to findings. This step was followed for the findings.

Topics

In order to seek answers to the questions related to the sub-objective “What is the distribution of the topics addressed for 21st century skills?”, the topics and the study code were tabulated together. In this way, it was tried to clarify the problem situation “can a framework be created for the topics covered?”

Table 2

Topics and Working Codes

Topics	Operation code
STEM	X1, X6, X10
The 21st century skills	X1, X2, X3, X4, X5, X6, X7, X8, X9, X10
Erasmus	X3, X6
Coding and Arduino	X6
Robotic Lego training	X2
Teacher competencies	X4, X8
Teaching skills	X4, X9
Teacher training	X9
Game design (Scratch and game lab)	X7
Coding (Programming)	X2, X6, X7
Gifted/Special talented student	X1, X7, X10
Student cross-cultural experience	X3

As seen in Table 2, it is seen that most of the topics on 21st century skills are studied on “The 21st century skills”. This is followed by topics on “STEM and gifted/talented students and teacher competencies”. Although proportionally low in number, there are also some studies on “Erasmus, Coding and Arduinio, Robotic Lego education, Teacher skills, Teacher training, Game design, Coding programs and Student experience”.



Findings from the theme “Data collection tools”

In order to seek answers to the questions related to the sub-objective “How do the data collection tools used for the objectives targeted for 21st century skills show a distribution?”, the data collection tools were tabulated together with the sub-theme, theme code and study code. In this way, “can a framework be created regarding the data collection tools used?” problem situation was tried to be clarified.

Table 3

Findings related to Data Collection Tools

Data collection tools	Operation code
Semi-structured interviews	X1, X3, X6, X2, X4, X7
Focus group interview	X1
Observation form	X1
The 21st century skills perceptions form	X1
Student diaries	X1, X2
Self-assessment form	X1
Open-ended questionnaire	X5, X8
Environmental perception form	X1
Mind maps	X2, X8
Individual interview form	X9
Activity evaluation form	X10

As seen in Table 3, it is seen that “Semi-structured interviews” are the most preferred data collection tools used for targeted purposes for 21st century skills. This was followed by “Student diaries and Mind maps” respectively. However, the least used data collection tools were “Focus group interview, Observation form, the 21st century skills perceptions form, Self-assessment form, Environmental perception form, Open-ended questionnaire, Individual interview form and Activity evaluation form”.

Distribution of 21st Century Skills

The 21st century skills were tabulated together with the sub-theme, theme code and study code in order to seek answers to the questions related to the sub-objective “How do the 21st century skills show a distribution?”. In this way, it was tried to clarify the problem situation “Can a framework be created for 21st century skills studied?”.



Table 4

Findings related to 21st Century Skills

21st century skills code	21st century skills	Operation code
B1	Creativity and renewal	X1, X2, X4, X5, X6, X7, X8, X9, X10
B2	Critical thinking and problem solving	X1, X2, X4, X5, X6, X7, X8, X9, X10
B3	Communication and cooperation	X1, X2, X3, X4, X5, X6, X8, X9, X10
B4	Information literacy	X1, X2, X5, X6, X9, X10
B5	Media literacy	X1, X9
B6	ICT literacy	X1, X2, X4, X6, X7, X9
B7	Flexibility and adaptability	X1, X2, X6, X10
B8	Entrepreneurship and self- direction	X1, X3
B9	Social and intercultural skills	X3, X6, X9
B10	Productivity and responsibility	X1, X2, X6, X7, X10
B11	Leadership and responsibility	X1, X2, X6, X10

As seen in Table 4, it is seen that “Critical thinking and problem solving, communication and collaboration” are the most studied the 21st century skills. In addition, “Creativity and innovation, Social and intercultural skills, Media literacy, ICT literacy, Information literacy” were identified as the other most studied skills by the researchers. This is followed by “Flexibility and adaptability, Entrepreneurship and self-direction, and Productivity and responsibility”. However, the least studied the 21st century skill was found to be “Leadership and responsibility”.

Distribution of 21st century skills by years

In order to seek answers to the questions related to the sub-objective “How do the 21st century. skills show a distribution according to years?”, the skills specified in Table 4 were tabulated together with the sub-theme and years according to years. In this way, it was tried to clarify the problem situation “Can a framework be created on 21st century skills discussed according to years?”



Table 5

Findings Obtained from Skills by Years

Year published	Skills Theme Code
2017	B1, B2, B3, B5, B9
2018	-
2019	B1, B2, B3, B6, B10
2020	B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11
2021	B1, B2, B3, B4, B5, B6, B7, B9
2022	B3, B4, B5, B6, B8, B9

As seen in Table 5, it is seen that the 21st century skills were mostly studied in “2020” (f=11). In addition, the years “2021 and 2022” were also determined as the most studied years by the researchers. This is followed by the years “2019 and 2017” respectively. In the year “2018”, it was determined that there were no studies on 21st century skills in accordance with the inclusion criteria.

Results of studies on 21st century skills

How do the results obtained on 21st century skills show a distribution? In order to seek answers to the questions for the sub-objective, the results of the study were tabulated together with the sub-theme, theme code and study code. In this way, it was tried to clarify the problem situation “can a framework be created on the results obtained?”.

Table 6

Findings Obtained from the Study Results

Study results	Operation code
Increased awareness/sensitivity towards nature	X1
Designing a product with group work	X1, X2, X6, X10
Realization of effective learning	X1
Development of 21st century skills	X1, X2, X3, X6, X7, X10
Development of teachers’ design skills	X2
Improving teachers’ use of technology	X2
Increased motivation of teachers	X2
Increased student acquisition of 21st century skills	X1, X3, X6, X10
The 21st century competencies that teachers should have	X4, X5, X9
Development of pre-service teachers’ technology literacy	X2
Students’ game coding program preferences/expectations	X7
Determination of teachers’ perception of 21st century skills project	X8
Prospective teachers’ views on teacher education	X9
Problems in teacher education	X9
Increased student achievement with STEM education	X10, X1

As seen in Table 6, it is seen that the general results obtained from the studies on 21st century skills are mostly focused on the results of “developing the 21st century skills, increasing student acquisition of 21st century skills and the competencies that teachers should have in the the 21st century”. This was followed by the result of “increasing student achievement with STEM education”. However, the least achieved results were “Increased awareness/ awareness of nature, Designing products with teamwork, Effective learning, Improving teachers’ design skills, Improving teachers’ use of technology, Increasing teachers’ motivation, Improving teachers’ technology literacy, Students’ coding program preferences/ expectations, Determining teachers’ perception of 21st century skills project, Opinions of prospective teachers and Problems in teacher education”.

Discussion and Conclusion

In this study, a systematic and in-depth evaluation of the studies on 21st century skills in the literature, written in Turkish and in Türkiye, with a sample of only students and a qualitative research method, was conducted within the framework of meta-synthesis research steps.

Changes and developments in parallel with social and technological developments in today’s world have led to the diversification and restructuring of business life, rather than just the differentiation of habits in daily life or technological tools used (Anderson, 2008). The change in the business world and system has begun to require individuals to change in accordance with the new conditions. While the business world is investigating what kind of qualifications employees should have for new work environments, new job structures and new job descriptions, the education world is working on what kind of professional or general knowledge, skills and training future individuals may need in order to survive in the new social order. Even though education systems aim to raise the level of education of individuals in order to further the level of development of their societies, culture and civilization, they also try to meet the needs of the business world in the current world economic system for trained personnel. The abilities, skills, education level and characteristics of trained employees vary according to the economic and financial structure of the period, the technological structure and sophistication of production and business environments (Bates, 2019; Chalkiadaki, 2018). The skills that are thought to be required for individuals who can respond to the needs brought about by the change in the future job structure and definition and who can take their place in the social order in the world of the future are considered as the 21st century skills in the literature.

In this framework, based on the “Subject” themes in the studies included in the research, the research question “What is the distribution of the subjects studied?” was tried to be answered. It was found that more studies were conducted on STEM, Coding-Programming, and Gifted/Special Talented Students, and when the details of the studies were examined, it was seen that the perceptions and opinions of Gifted/Special Talented students regarding the development of 21st century skills they acquired as a result of STEM activities and coding-based practices were examined. It was found that coding education and STEM-based activities were in parallel with the studies on the relationship between problem solving skills and creativity in the literature (Fessakis, Gouli, & Mavroudi, 2013; Kim & Choi, 2012). The second most studied subject themes were Erasmus, Teacher Competencies and Teaching

Skills. When the details of the studies are examined, the status of teacher competence and efficacy in terms of providing the 21st century skills to students was tried to be examined in line with the views of pre-service teachers. Looking at the literature on the studies included in the research, the importance of teacher competence in teaching the 21st century skills to students was observed (Altınpulluk & Yıldırım, 2020). According to the detailed sub-clustering of the studied subject themes, it was concluded that the studies focused on the examination of activities to develop the 21st century skills and teacher competence that can apply these activities to students.

The 21st Century Skills Framework Theme includes various disciplines and themes such as “mathematics”, “science/science”, “language acquisition”, “reading”, “language arts”, “world languages”, “art”, “geography”, “history” (Gelen, 2017). However, it is seen that the majority of the studies are numerical-based science, science, technology-oriented studies such as STEM, coding, programming. It was determined in the included studies that problem solving-based product development project activities used by researchers to ensure skill acquisition and development were used and preferred more with numerical-based science, science, technology content topics such as STEM, coding, programming. It is observed in Table 1 that the subject themes that can be defined as social science such as “language acquisition-foreign language”, “reading”, “language arts”, “world languages”, “culture”, “art”, “geography”, “history” are very few in the included studies.

When the theme of “Data collection tools” in the studies included in the research to the research question “Which data collection tools were used for the targeted purposes?” is examined, it is seen that “Semi-structured interviews” are more preferred. This was followed by “Student diaries and Mind maps” respectively. The least used data collection tools were “Focus group interview, Observation form, the 21st century skills perceptions form, Self-assessment form, Open-ended question form, Environmental perception form, Open-ended questionnaire, Individual interview form and Activity evaluation form”.

When we look at the theme of “the 21st century skills” in the studies included in the research in response to the research question “Which the 21st century skills are addressed?”, it is seen that “Learning and Innovation Skills (4C)” are more focused on. This is followed by “Information, Media and Technology Skills” and “Life and Career Skills” respectively. When these skills are analyzed in terms of their detailed content, it can be said that the product development-based activities used in the studies are more involved and the participants play an active role in the activities as a group. As mentioned in the “Subject” themed classification, it can be accepted that STEM and coding-based activities may have increased the impact of participants’ “Critical thinking and problem solving skills”, “Creative thinking and innovation application skills”, “Communication skills”, “Collaboration skills”, “Information literacy”, “Information and communication technologies (ICT) literacy”, and “Productivity and responsibility” skills in the studies. Compared to other skills, “Media Literacy”, “Entrepreneurship” and “Social and intercultural” skills were found to be included in fewer studies. It is thought that the fact that the problem-solving-based product development project activities, which were determined in the subject theme contents of the studies included in the research, include problem solving, product creation, cooperation in group work and communication skills within the group, caused the “Learning and Innovation Skills (4C)” to be included more in the studies. “Entrepreneurship” and “Social and intercultural” skills, which were found to be included in

fewer studies compared to other skills, are more closely related to the theme of “Erasmus”. It is also stated by various sources that the aims of Erasmus student exchange programs are to contribute to the development of intercultural interaction, entrepreneurship, information literacy and foreign language skills (European Commission, 2019; Yavrutürk & İlhan, 2022).

When the theme of “Skills by years” in the studies included in the research on the research question “What is the distribution of 21st century skills by years?” is examined, it is seen that the most studies on 21st century skills were conducted in “2020”. Then, the years “2021” and “2022” were determined respectively. This is followed by the years “2019 and 2017” respectively. In “2018”, it was determined that there were no studies on 21st century skills that met the inclusion criteria.

When the theme of “Study results” in the studies included in the research in response to the research question “What kind of results were obtained?” is examined, it is seen that most of the studies focused on the result of “developing the 21st century skills”. Then, the intensity of the studies on “Designing products with group work” and “Increasing student acquisition of 21st century skills” and “Competencies that teachers should have in the 21st century” are observed, respectively. When the result themes of the studies included in the research are examined in detail, it can be said that the studies focus on the examination of activities to develop the 21st century skills and teacher competence that can make students do these activities.

It was found that project-based activities such as group work and problem-based product development were used more in the studies mainly on “developing the 21st century skills”. However, most of these project activities were carried out with extracurricular activities; it is thought that more studies that include the results of research conducted within the course or within the curriculum can contribute to the literature. In addition, the majority of the students who participated in the studies on “developing the 21st century skills” were gifted/ talented students, Science High School students and students selected within the scope of Erasmus student mobility. It is thought that conducting studies with student groups from different school types and levels, in which the success status of the participant students is diversified, can make an important contribution to the literature.

In the meta-synthesis study, it was seen that the Learning and Innovation skills, also referred to as the 4Cs, are the most researched and desired skills to be acquired by students. In addition, it was observed that less research has been conducted on life and professional skills expected by the business world. Considering that the emergence points of 21st century skills is the demand from the business world, more research on life and professional skills will ensure the training of the workforce in accordance with the expectations of the business world. The studies conducted were generally realized within the scope of a course. In order to apply the 21st century skills to the education program, the status of students’ the 21st century skills and how this situation can be improved with courses can be investigated. In this regard, more studies with the 21st century skills will reveal the current situation, the missing aspects will be identified and planning can be better integrated into the education system.

In order for the planning of 21st century skills courses to be productive for both students and teachers, teachers must first have sufficient knowledge and equipment. Therefore, the

competencies of teachers in terms of knowledge and equipment that can provide these skills can be investigated. The 21st century skills, especially information and communication technology skills, are important for both teachers and students to keep up with the rapidly developing age of technology. In the process of integrating ICT skills into the education system, suggestions can be developed on how teachers can plan their lessons.

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How to Integrate Sustainable Development in English Lessons: Reflections from Teachers, Students and Academicians*

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Abstract

This qualitative descriptive study as one small part of a big project sought to examine the opinions and recommendations of different stakeholders (i.e. students, teachers and academicians) as to the basic characteristics of a middle school English language course integrating sustainable development content. Three different interview schedules for each group of participants were developed by the researchers to elicit participants' ideas about a sustainable development-oriented English course to be developed. Qualitative data were analyzed by means of content analysis and the main components of a course, that is, course aims, course content, learning-teaching experiences and course evaluation practices were utilized as themes to analyze the data. The results from this analysis indicated that the participants from each of these different stakeholder groups all appeared to appreciate and support the education for sustainable development. Their recommendations often pertained to course content that would include real-life videos and materials centering on the real-life issues already put forth by the 17 Sustainable Development Goals of the United Nations' 2030 Agenda for Sustainable Development. The utilization of technology and collaborative activities were recommended by all participants as an important dimension of teaching-learning experiences of this course. All stakeholders also emphasized the dominance or popularity of ecological dimension of sustainable development framework within their current experiences pointing out the lack or insufficiency in terms of including the economic and social dimensions of sustainable development for the teaching of English. Teachers and academicians mentioned some psychological conditions like students' developing ecophobia and losing hope for future and they warned that these should be seriously taken into consideration in the course design process. Several constraints were also reported by teachers and students against the optimal utilization of foreign language teaching irrespective of the integration of sustainable development content.

Keywords

sustainable development, sustainable development goals, education for sustainable development, English language curriculum, qualitative descriptive study, course design

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Introduction

Sustainable development (SD) is a concept that emerged in the 1980s in response to the need for a balance between economic and social progress, environmental sensitivity and the protection of natural resources. The report entitled “Our Common Future” published by the World Commission on Environment and Development in 1987 plays an important role in the spread of the concept and its use in the literature. In this report, sustainable development is defined as the state or process of meeting the needs of the people currently existing in the world in a way that does not destroy or disrupt the ability of future generations to meet their needs (Bruntland Commission, 1987). In this sense, although the concept of development is based on the basic principle of meeting and satisfying human wants and needs, this should be realized in such a way that the environment and natural resources we live in can be provided adequately and effectively for future generations as well as today.

The aforementioned concept of “sustainable development” was used in the context of a focus on “sustainable use of resources” at the United Nations Conference on Environment and Development (UNCED), known as Earth Summit, held in Rio de Janeiro in 1992 (Brinkmann, 2021). The most important outcome of this important meeting in Rio de Janeiro in 1992 was the production of a report or a document, expressed as Agenda 21 (United Nations, 1992), which contains a set of principles and guidelines for world governments and all other important social communities to plan their development and progress in the 21st century in a way that does not harm the environment. Chapter 36 of Agenda 21 focuses entirely on the concept of education and gives special emphasis and encouragement to educational institutions such as schools and universities to incorporate the concept of “Education for Sustainable Development” into their curricula. “Education for Sustainable Development” was identified as a core and key area of practice at the Johannesburg World Summit on Sustainable Development in 2002 (United Nations, 2002). Inasmuch that, following this meeting, the United Nations declared the period between 2005-2015 as “The UN Decade of Education for Sustainable Development”. The fundamental principle in this process is to ensure that everyone acquires and learns the basic awareness, thoughts, values, behaviors and norms necessary for a sustainable future and a sustainable world under equal and quality educational conditions (Jutvik & Liepina, 2009). Perhaps the step that made the concept of Sustainable Development more concrete and understandable can be considered to be the adoption of a total of 17 “Sustainable Development Goals” (SDGs) by the heads of states, world leaders, senior UN representatives and non-governmental organizations at the 70th Session of the United Nations General Assembly in 2015. In this respect, with the active support of UNESCO, 17 Global Goal areas were agreed upon for the next 15 years following 2015, and this new era is referred to as the “United Nations 2030 Agenda for Sustainable Development” (United Nations, 2015).

Given the 17 concrete goals identified, it is seen and clearly stated by decision-makers that one of them, that is Goal 4, is expressed under the main heading of “Quality Education” and it is a special goal that will be instrumental for the other 16 goals, which is to say that it is an intermediary and special goal for the realization of other goals (United Nations, 2015). In this respect, theoretically, there is a need for future studies that will serve the main goal area of quality education in sustainable development. When the studies carried out in the

field of educational sciences and social sciences are examined, it is seen that the sustainable development framework which has a history of twenty years in the world, has been studied especially at European universities, perhaps especially with the insistence and encouragement of the United Nations on the “Decade Plan for Education for Sustainable Development”. In the context of Türkiye, this subject area has been addressed by Turkish researchers, especially in terms of studying the ecological and environmental aspects, yet it has not become a fully comprehensive subject where all its dimensions are applied to educational environments and research (TTGV, 2022). It was only in 2018 that it was included as a new course in the compulsory teacher training curriculum to be offered by the Turkish faculties of education (Council of Higher Education, 2018). In this regard, it is our main responsibility, especially as a member state of Agenda 30, to investigate the topic of sustainable development, especially within Türkiye, and further adapt it to all levels of education and educational settings.

Within the scope of the national literature accessible to researchers of this paper, studies that address the ecological dimension of sustainable development, especially in geography and social studies courses are striking (Şahin & Göcen 2021; Kaya & Tomal, 2011; Demirbaş, 2011; Demir & Atasoy, 2021). In addition to qualitative studies like the above seeking to understand participants’ perceptions of sustainable development as to the ecological concerns of sustainable development, an instrument development study in Türkiye was also conducted by Akgül and Aydoğdu (2020) to determine students’ awareness of sustainable development, which represented a study utilizing a different research design beyond the dominance of qualitative studies. When the relevant literature on how and in what ways the concept of sustainable development and its related values have been incorporated into foreign language studies and teaching practices is examined, it is seen that the number of studies conducted on this subject in the context of national literature seems limited based on the literature accessible to researchers (Arslan & Curle, 2021; Bedir, 2021). It can be stated that the studies within the scope of the literature accessible to the current researchers were conducted in the context of determining or investigating the current situation as to perceptions of sustainable development and what it refers to, and beyond this, there were no attempts to implement a design and development study in which the data from such perceptions were used to determine some contextual characteristics to guide the design process. In his study, Bedir (2021) found that English teachers lacked knowledge and experience on how to integrate sustainable development into their lessons. In this context, there is a need for future studies to be designed in a way that will guide both teachers and students and enable them to acquire the basic mentality of sustainable development. Furthermore, in a document analysis study conducted by Arslan and Curle (2021), the researchers examined the extent to which the concept of sustainable development was reflected in a textbook, and it was found that the level of representation of this high-school-level English course resource towards the development and inclusion of sustainable development outcomes was limited and insufficient. Arslan and Curle (2021) also emphasized that high schools try to teach the concept of sustainable development within the scope of values such as responsibility, justice and respect. Based on this finding, it would be wise to consider sustainable development as a sort of value in the minds of students, and a course can be designed with both language and value (content) dimensions, just like in values education, to gain awareness in addition to the academic aspect of the course.

Within the scope of international literature, it is seen that the studies conducted were often carried out in the form of examining and evaluating sustainable development practices or courses that were currently being carried out (Bagoly-Simo, 2013; Pauw et al., 2015; Kater-Wettstädt, 2018). At this point, no study has been found in Türkiye that discusses sustainable development dimensions other than the environmental (ecological) dimension in terms of the implementation and evaluation of a course or course activity. In this context, there is a need for future research that will aim to put this sustainable development idea into practice in the form of courses or course activities. Among the sub-targets under the heading of “Key Goal 4: Quality Education” in Agenda 30, there is a very clear and precise statement that all curricula, regardless of disciplines, should be improved and developed to raise awareness and values of sustainable development. Therefore, for a more sustainable world and future, educating and supporting students at all school levels in the context of “sustainability” and “sustainable development values” is an inevitable area of need. More precisely, we need ways and methods to explain to our students that “we inherited this world from our ancestors, and we are borrowing it from our children” and in light of these values, we are going to inform them about what we need to learn and do ecologically, economically and socially for a more sustainable world. Guided by such concerns to promote education for sustainable development, the researchers attempted to develop a course for secondary school students (Grade 7). The research reported here was one small part of this course development study and involved one of the needs assessment tools on the way to course design.

Based on this need to empower the sustainable development idea in our curricular activities and teaching-learning environment at schools, as was already reported above, this study aimed to investigate the needs and conditions required to include the sustainable development idea in the arena of foreign language teaching. To evaluate and understand these conditions, this study sought to examine the perceptions and recommendations of different stakeholders regarding the fundamental characteristics of a middle school English course to be designed with sustainability content based on the assumption that such a new idea for the context of Turkish educational life deserves a detailed examination of the ideas of different stakeholders experienced with different dynamics of one big whole, that is, a foreign language classroom. Guided by the above concerns, this study aimed to answer the following main research question:

What should be the main characteristics of a middle school foreign language curriculum that will involve the concept of sustainable development? (in terms of course aims, course content, learning-teaching processes and evaluation)

This main research question was better dealt with the guidance from the following sub-research questions:

- What are the expectations, wishes and needs of middle school foreign language students regarding the sustainable development-oriented English course?
- What are the experiences and suggestions of middle school English teachers who have a certain degree of awareness for the sustainability concept regarding the sustainable development-oriented English course?

- What are the experiences and suggestions of academicians with a certain degree of expertise in the sustainability concept regarding the sustainable development-oriented English course?

Method

Research Design

This study utilized a qualitative descriptive design as the research reported here is aimed at examining and identifying several recommendations and perceptions of the study participants to determine the main characteristics of a secondary school English course. As the aim was to seek and determine these recommendations and ideas in an everyday conversation with the people around rather than receiving the direct experiences of the participants in a detailed manner as often sought in phenomenology studies (Sandelowski, 2010), the researchers wanted to name this current research as a qualitative descriptive design study. To put it differently, the researchers wanted to gain a basic, direct, and quick understanding of the different participants coming from different stakeholder groups regarding the main characteristics of an English course with sustainability content to be designed and this is this quick, easy and chat-like nature of the data collection process that makes it a qualitative descriptive type of qualitative inquiry, which was also previously put forth by Lambert and Lambert (2012).

Participants of the Study

Participants of this study can be grouped into three: a) seventh-grade state school students, b) English teachers who are on active duty, and c) academicians who have been conducting research or who have expertise in sustainable development framework. In the research, six secondary school students from Grade 7, five English teachers, and five academicians were interviewed (Tables 1, 2 & 3) with the help of an interview schedule prepared by the researchers. Throughout the research, these three groups were interviewed to investigate what should be done for the inclusion of SDGs and to promote education for sustainable development in the English lessons. Part of the aim in the interviews was to understand the current position of SDGs in English classrooms as reported by the teachers and students.



Table 1

Characteristics of Participating Students

Participant	Age	Gender	Participation in a Project related to SD
Student 1	12	Female	No
Student 2	13	Male	No
Student 3	13	Male	No
Student 4	13	Male	No
Student 5	13	Female	No
Student 6	13	Female	No

Table 2

Characteristics of Participating Teachers

Participant	Age	Gender	Years of Service	Attained Graduate Qualification (Master or Doctoral Degree)	Involvement in a Project related to SD (Researcher/Coordinator)
Teacher 1	46	Female	21	No	No
Teacher 2	61	Female	36	No	Yes
Teacher 3	38	Female	12	No	No
Teacher 4	26	Male	3	No	No
Teacher 5	27	Male	3	No	No

Table 3

Characteristics of Participating Academicians

Participant	Age	Gender	Nationality	Field of Specialization
Academician 1	44	Female	Turkish	International Relations
Academician 2	46	Female	Turkish	Landscape Architecture
Academician 3	43	Female	Spanish	Education and English
Academician 4	39	Female	Turkish	Educational Sciences
Academician 5	29	Female	Turkish	English Language Teaching

Data Collection, Analysis and Reliability Procedures

Qualitative interviews were held with a total of three different stakeholder groups, and in the light of the awareness and information gained from the previous review literature by the researchers, three different interview schedules were developed to elicit data from these three different groups of participants. Expert opinions ($n= 2$) were also sought for the

interview schedules, and a pilot study was carried out for three different forms with a few participants with similar characteristics to the main participants. A couple of corrections were performed in the interview schedules regarding the wording, word choice and order for several questions.

Analysis of qualitative data was carried out using content analysis method via deductive coding strategy in that the characteristics of an English course involving sustainable development content were examined as to four main analysis themes (i.e., course aims, course content, course learning-teaching processes, and course evaluation processes). The data obtained and recorded were first transcribed and then read again by the researchers. The data were analyzed in four subsequent stages: a) coding of the data, b) determining the themes and the categories of the coded data, c) confirming and organizing the codes and themes, and finally d) identifying and interpreting the findings. In the process of coding of the data and determining the themes (categories) for the coded data, the findings were double-checked by the peer researchers. A reliability check, referred to as “members check” by Miles and Huberman (1994), was performed by having the participants read the data and obtaining their approval regarding the accuracy of the data transcribed. Practices related to validity and reliability in qualitative research were especially taken into consideration in data analysis, data collection, and development of interview schedules. Obtaining expert opinions and members checks are seen among some of these reliability practices (Miles & Huberman, 1994; Yıldırım & Şimşek, 2008).

Results

Which Skills Should be Integrated into the Objectives of the Sustainable Development-Oriented English Course?

The results from the interviews with Grade 7 students showed that the students wish to see not only receptive skills (vocabulary, grammar, and listening), but also productive skills (speaking, writing, and pronunciation) in their current foreign language education curricula. Some of the statements of the study participants related to this are presented in the following:

In this unit, when we look at a book, I can't see much that is wrong, but as I said, words are too few, and explaining the meanings of these words in English instead of translating them into Turkish improves our English. Because an English word does not have a single Turkish meaning, but an English word can have more than one English meaning. (Student 1)

I will have difficulties in my future business life. I want to be able to have a dialogue and talk. (Student 2)

I mean, I would like to develop more in terms of speaking rather than memorizing. For example, I know the subject well, but I don't exactly know if I can have a dialogue with a stranger when I come across one. So, it would be better if it was more conversation based. (Student 3)

I think my teacher should teach grammar rules and words but in a more fun way.” (Student 6)

Teachers who were currently working at Turkish state schools at the secondary level, on the other hand, stated that although both receptive and productive skills were actively allocated

time in the class, because of the insufficiency of allocated time and lack of linkages among different skills of the target language in the curricula, teachers had some trouble connecting these productive skills with the other main or sub-language skills or the concepts of the lesson of the day. To compensate for these problems, teachers, as a strategy on their own wishes, had to repeat grammar rules and structures only try to promote speaking strategies (but no writing as a productive skills) in their classrooms. Some of the teachers pointed out these issues as in the following:

We try to speak a little bit... But because it's crowded, it's a lot... Our book already contains relevant sections, but sometimes there are no details, so there are times where I have to add things myself on the spot and move on. (Teacher 2)

After all, you have to follow the curriculum. Because we have a certain book we have to finish. I have certain learning outcomes set and we have to achieve these outcomes. When we think on the basis of a theme, the first target is 'speaking'. Although it seems like speaking, unfortunately, the main goal is the high-school entrance exam. (Teacher 1)

The academicians suggested that students should practice speaking skill with the help of an expert or perhaps any other more advanced peer due to the difficulty of understanding for the concept of sustainable development. They especially highlighted that without an expert, students would struggle in speaking and be discouraged. Writing was another productive skill that was reported to be developed in line with sustainability understanding on the part of the students. Below presents some of the ideas by academicians:

Yes, speaking. Speaking and practicing. Dialogue. So, I think the most basic problem of this subject is when you leave the student alone with the subject. Because it's hard for them to understand, since it's technical stuff. Yes. And they always feel; 'Is this what he means?' It's actually a conversation with a guide. So, it's not like you're talking. It's a place to brainstorm. I think it would be very useful. Very simple writing. Because when you try to make them write about such SDGs, maybe there is something along the lines of memorization logic. It must be prevented. I think speaking is much more effective with examples. (Academician 1)

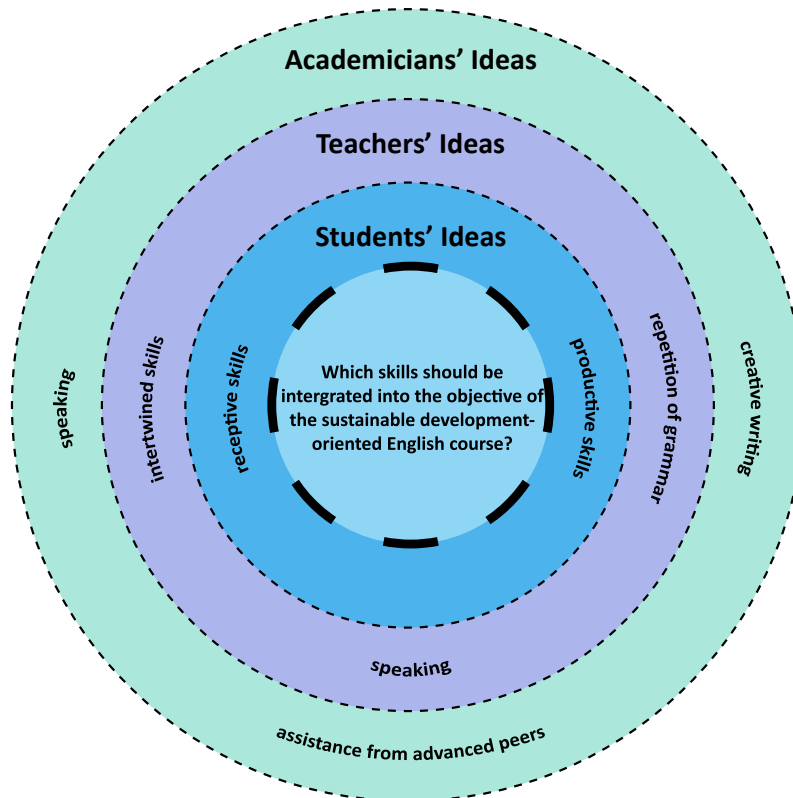
Moreover, they highly recommended that especially with young learners, creative writing should be included into tasks. Students enjoy creative writing because it enhances their imagination and writing skills. They love anything unexpected. We do a lot of creative writing assignments. They can write a letter, an imaginary postcard to an author and so on. They like that kind of ideas a lot. (Academician 3)

Overall, given the recommendations as to which skills should be integrated into the objectives of the sustainable development-oriented English course, it is seen that students preferred an emphasis on productive skills of the target language in addition to the receptive ones. Both teachers and academicians agreed with the students on the point that productive skills should be included in this course. Teachers supported the idea that language skills should be practiced in an integrated manner in the sense that they should be presented together with other skills while academicians mentioned the importance of guidance and assistance from a more advanced participant in the classroom (peers or guest speakers etc.) to understand the tough content of sustainable development more effectively (Figure 1).



Figure 1

Recommendations for the Skills to be Integrated into the Objectives of the Sustainable Development-Oriented English Course



Which Content Should be Integrated into the Sustainable Development-oriented English Course?

After the analysis of the interviews, it was seen that most of the students highlighted the importance of learning daily-life language in the lessons. Students reported on the importance of real-life and real-life topics as follows:

...But unit words are not suited for our everyday speech. So, it's not very daily stuff... I think we should study it separately, like daily-life and so on. (Student 2)

For example, there are aspects about the environment that affect both my English study and my daily life. (Student 3)

My expectation is not to memorize something like it's a straight rule, but to study it with a few examples or, for example, in terms that we can use in real life, and then somehow put it into reality. (Student 4)

General cultural knowledge was one of the recurring ideas in students' responses from the interviews. They expressed their concerns about their insufficient knowledge regarding the target culture or other cultures. Their main concern was that they felt distant to recent changes in both their culture and the target culture. Some students stated as follows:

We can learn stuff about... Famous painters, painters, artists, maybe their life stories or something. (Student 2)

Learning about what other people around the world are doing, how they are dressed or what festivals they have seems very interesting to me. I wish we had more of these in our classrooms. (Student 3)

Teacher participants stated that in their current teaching they mostly value academic success and plan their content around the mandatory high school entrance exam. However, they strongly stated that they sometimes tried to integrate general cultural information and social skills in their lessons as much as possible. Teachers also advocated the belief that encouraging such sort of cultural piece of information and thus increasing students' awareness should be among the course aims to promote sustainable development.

So, I try to let children speak more. I choose a topic, a topic often related to world problems or sustainable development maybe and tell them to create a dialogue about the topic. I ask them to choose a partner and give them some time. Then, the ones who created the dialogue among themselves present their dialogue comfortably. (Teacher 3)

Of course, our main request is to get them to A1 or A2 level in daily life. We want them to be graduated with a B2 level. However, we need to follow the curriculum of the Ministry of National Education. We have a book to be finished and objectives to be acquired. We have to give these objectives to students. The main aim seems to be speaking but it is not; it is LGS (high school entrance exam), unfortunately. That is a fact. (Teacher 1)

I want to increase students' knowledge in different subjects, that is my main goal, but I also try to improve their vocabulary because they need vocabulary for the high school entrance exam. (Teacher 5)

Academicians supported the idea that students need to understand environmental issues such as ecological changes, environmental degradation and limited sources of the world. That is, the English course with a sustainability focus needs to encompass these issues related to ecological decline and degradation.

For example, when they buy a cup of coffee, they should know what impact it has on the rainforest. When they buy a phone, they need to understand the impact on the mining industry when you extract the metals in it. That resource is not unlimited, it is a finite resource, and accessing that resource can sometimes be very costly and very damaging. When they use it, when they consume it, that's fine, but then when they throw those products away, instead of icebergs, mountains of plastic start to appear. They need to understand this cycle. You know, there is a system of buying, buying, using, throwing away, which is not a cycle according to them. I think they need to have an understanding of how it actually is and how it can be. (Academician 2)

While our students live by nature or are very much dependent on the nature or mother earth to live and survive, they do not really recognize or have an understanding concerning the harm they give to nature. They should be informed about the fact that there is this reality of environmental decline. (Academician 4)

It is important that they are more sensitive to the environment. For example, they should be more aware of the use of water and energy in their daily lives. As an individual, I find it important for them to evaluate these SDGs within the scope of good citizenship. (Academician 1)

The academicians also highlighted that teachers should teach students such ecological concerns and sorrowful environmental trends; however, it would be likely that these students

could develop ecophobia, or in other words, eco-anxiety or even show adverse behaviors due to this feeling of pervasive worry over alarming environmental changes and conditions. For this reason, teachers are also required to help them to see how to cope with this feeling and instill hope. The following presents some of the sentences uttered by these academicians related to the above account:

This recognition that the environment is under constant decline can also provoke antipathy or pessimism towards the outside environment, but this type of content should be taught to the students in any case. They can feel fear; but without feeling this fear, these students cannot take any action to reverse this ecological decline. To take action, these students or kids should be encouraged by giving some hope about the positive influence of taking action to change things. (Academician 4)

Right now, the climate crisis, thirst... These are such big problems. What I see especially in young people is the idea that we cannot deal with them. These are not problems that we can oppose with our individual actions. Young people think that the world is going to end anyway, so whatever we live is good. In other words, because they think that they cannot cope with a problem, people start to shift towards lifestyles that are actually very bad for the solution of that problem. In order to maximize in the short term. But actually, at this point we need to slow down, calm down and be less. That's why I think eco-phobia is one of the issues that should be addressed, especially for young people, children and young people. We may never be able to solve these problems. You know, the world is really going to disappear. Ten years from now we will be in a very different place. But common concerns will not take us anywhere. Only if we can create a common hope, if we can develop a spirit of struggle together, if we can break that phobia a little bit, if we can connect it with hope, only after that point, I think we need to provide that unity towards a solution. That's why I think there should be a content that will foster hope. (Academician 2)

Academicians also stated that real life experiences have a crucial role in SDG learning. If the students experience real life situations, their learning can be more permanent. However, they suggested that the topics to be covered and its relevance to the SDGs should be carefully chosen before exposing students to real situations.

Maybe, it's necessary to talk about some beautiful examples from the world... like, they should be fed with case studies to support them... (Academician 2)

You can go to the seaside with your students to pick up litter and plastics. While doing it, you can teach them the vocabulary right there and maybe differences between water animals and so on. Instruction should be practical, not theoretical. (Academician 3)

Given the content to teach to promote sustainable development idea in English classrooms, the academicians participating in this study also shared the idea that cultural and creative content should be integrated in the lessons with the help of technology. They said that technology helps them to understand the terms and real situations that they cannot imagine on their own and enhance their attention towards the lesson. As their attention towards the course increases, their creativity in the tasks will increase in parallel terms. The statements uttered by the academicians are in the following:

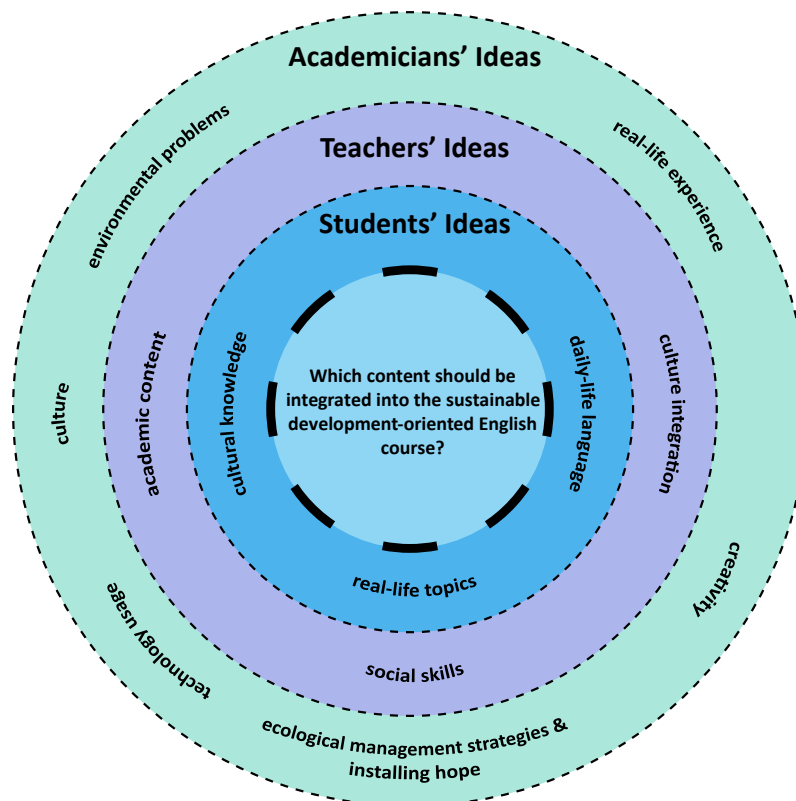
Surely, students' digital skills or other skills are built in other classes, but those skills can be integrated into this class, too. For instance, they can create a campaign on social media about Sustainable Development Goals. They're really good at using social media. So, what's happening in the end? In this way, you may collaborate both their digital skills and the objectives of the course. This is my suggestion. (Academician 1)

Let's say, there is a one-square-kilometer garbage island on the ocean... They should be aware of and see it. That's why I think that these kind of video contents are really important. Even if it is not possible to visit it, there are many video contents in English to show them. You can support your classes with those videos, too. (Academician 2)

In general, given the recommendations as to which contents should be integrated into the sustainable development-oriented English course, students appear to be interested in learning a language that they can actively use in their daily lives. They also prefer to be taught topics that are relevant to real life and new topics that will enhance their cultural knowledge. The teachers also mentioned the importance of cultural knowledge and stated that it could be incorporated into different activities while developing students' social skills. The academicians appear to share the same views as the students. They stated that topics related to real life and cultures should be taught. They suggested that students should be presented with real-life experiences and that could be performed through the help of technology or experiences. They also mentioned the importance of providing environment for students to use their creativity, utilize technology and find solutions to ecological problems, while at the same time providing environment for them to develop ecological management strategies and raising their hopes for the future (Figure 2).

Figure 2

Recommendations for the Content of the Sustainable Development-Oriented English Course



How Should Teaching and Learning Process be Organized in the Sustainable Development-oriented English Course?

From the responses of the students, it was understood that Grade 7 students enjoy group-work and feel the need to take part in exciting and entertaining activities with their peers. Of these types of activities, the most favored ones were those with a competitive nature.

Both we understand the topic better and we share more with our friends because we spent more time together. Also, everyone wants to speak more when there is competitive environment. (Student 2)

As I told you, it might be more possible to study it in English if there are more speaking or game-based activities. For example, we try to solve a problem in Math class. Who will solve it faster? How is it going to happen? So, it's more fruitful when there's a competitive environment. (Student 4)

In group work, not only do we comprehend a topic better, but we also share more because there is a unity in terms of our friendships. Also, when there is an atmosphere of competition, everyone wants to speak more. Although there should be individual work, I think something done in a group and a team is more fun and more productive. (Student 5)

During these activities, students voiced the need for using out-of-class materials to enhance their learning. Most of them highlighted that technology usage in language lessons has a positive effect on them, thanks to multiple applications or websites, and it makes the learning more permanent. In addition, the students also constantly stated that they wanted to see instructional materials or media which are related to their daily life and experiences more often in their classrooms. Generally, they suggested some videos from YouTube, up-to-date movies, and popular television series.

Then, there was a cartoon with short episodes named as Pink Panther. We were watching it; it was really fun! Then, the teachers were asking questions to us and we were responding like an oral exam. (Student 4)

Then, there was one more word... It was in the quiz today. There is someone in the classroom and they pronounce it like it's written. There are some applications on Internet. Or, maybe in YouTube... Foreigners pronounce the words to show how to read it. There're many videos like this in YouTube. (Student 5)

More catchy games or apps like Kahoot are more memorable. For example, there are many things that I remember from today when we use this technology in the class. (Student 3)

For example, in the sports units, our teacher can demonstrate sports through drama and then open a video from the smartboard. In this way, we can see a real-life example. (Student 6)

Another common problem of the foreign language classes, that is, the target language use, was also mentioned by the students; but, it was interesting to see that almost all the students reported they had problems with translation during the lesson and that they preferred English-medium classes instead of Turkish explanations for instructions, activities and so on.

They usually teach by speaking in Turkish, which is normal, but like, if the teachers started to lesson teaching in English from the beginning it would be more beneficial for use even though the sentences were inverted sentences. I wish the meaning of the words were told to us in English instead of Turkish. (Student 1)

For example, it's better to play games in English. Because, it's better to learn an English word's meaning in English. For instance, there's a word in English and it's meaning in English as well. We don't need to struggle with translating it. As I know, it's better to learn it in English, not in Turkish. (Student 5)

The teachers mentioned that because many students who come from different backgrounds and families are gathered together in the same class, a common level could not be determined and there were different problems while teaching the lesson. They stated that students who received more support from their parents, following their family environment, had higher motivation levels and stronger relations with their friends were more willing to participate in the lesson and were more likely to improve themselves.

Is there any effect of families? Yes, they have an effect, too. So, we have 9 classes in the 6th grade in this school. You can calculate how many students we have. Each class has 30 students. Probably, 75% of their families are not that much consciousness. You can do whatever you want here. No matter what you do, it doesn't work if you don't have the support of students' families. (Teacher 1)

We can't have a healthy response or effective relationship from students with low expectations when you consider their educational background or family background. However, I see many expectations from students whose families support them or students who has a better educational background. They're already more eager to participate in the class and they ask more questions. They do more research, and they learn more naturally. (Teacher 4)

Apart from these above factors, the teachers also stated the issues related to physical factors. For example, classrooms were reported as not suited to the number of students in a class and materials as being insufficient for possible activities and the classroom hours as not sufficient for effective learning.

The number of students is too much in many classes. It's hard to control them as well. (Teacher 4)

The number of students in our classes changes between 30 - 35. Naturally, we can't apply all the activities that students prepared before class. Even if you spend only 1 minute per student, it'll take 35 minutes. The class duration is 40 minutes, which is impossible to implement an activity in one minute. (Teacher 1)

The teachers mentioned that they try to keep students engaged and focused during the lessons with different types of activities, challenging questions, and real-life materials which they can enjoy themselves. They suggested the usage of technology and social media in the teaching and learning process.

I let them visit many museums and art galleries by using internet connection and smart boards that available in the class. Especially during the COVID-19 pandemic, they created many online museums, trips, tours, and these kinds of activities. There are more online resources now. I think that this is a positive effect of the pandemic. That's why, there are more digital materials now. (Teacher 4)

There are some game websites that I use often. One of them is called science activity. There are competitions in English as well even if the name of the activity is science. The games get the children move. The back shouts for example. Come on Ayşe, come on Ayşe, come on you can do it. They give directions like "Look, that can happen". You know, sometimes maybe there is a little too much noise, but I think it has a positive effect on their learning. So, we try to do more game-based lessons. (Teacher 1)

Academicians defended the importance of learning by doing for this age group. In particular, they suggested that if teachers had the chance, they should take students to real-life areas to observe the things in their real settings.

A student cannot understand something that s/he cannot imagine, it's not that much possible. For instance, I like "dump" activity. The saying "you're throwing your rubbish and it's done" is not a solution. It's more effective when we took them to visit a dump because they feel the disgusting smell and they want to leave immediately. It's more effective to let them understand the situation. (Academician 2)

I think learning by doing and experiencing activities is always the most permanent. Lessons should be designed to allow the student to do certain tasks around a topic rather than giving the information directly. Of course, there will be theoretical parts, but for the majority of the lesson, the student must be active. (Academician 5)

The academicians also stated that lessons should be student centered because when they are in the center of the lesson, they feel important and included. It further helps them to engage in the lessons. The main point of the lessons should be raising awareness towards the world's problems and SDGs and the output of these lessons should be changes in the behaviors. Some academicians reported as follows:

It should be a piece of content that is not that much technical. You can talk about the goals (SDGs) if the students are at a higher education level. They can understand it. However, in primary-level education, it should be more about gaining a point of view about Sustainable Development Goals, at least related to five of them. It should be more about awareness raising and improving consciousness about the topic. I think that it is so valuable. ... Children may do some activities related to the environment. For example, we can give a topic to students. School's student policy or gender-equality policy... Does the school care about those policies? These kinds of fields might be chosen and those targets may give to the students to improve some ideas. Some suggestions might be created by students. (Academician 1)

"Students can decide on the activities or topics. They have to debate, take part in the lesson and represent their ideas." (Academician 3)

Academicians shared the same idea with the teachers in terms of designing activity-based lessons. Since activity-based lessons make the learning permanent and fun to students, course developers should prefer different types of activities to enhance learning of the students.

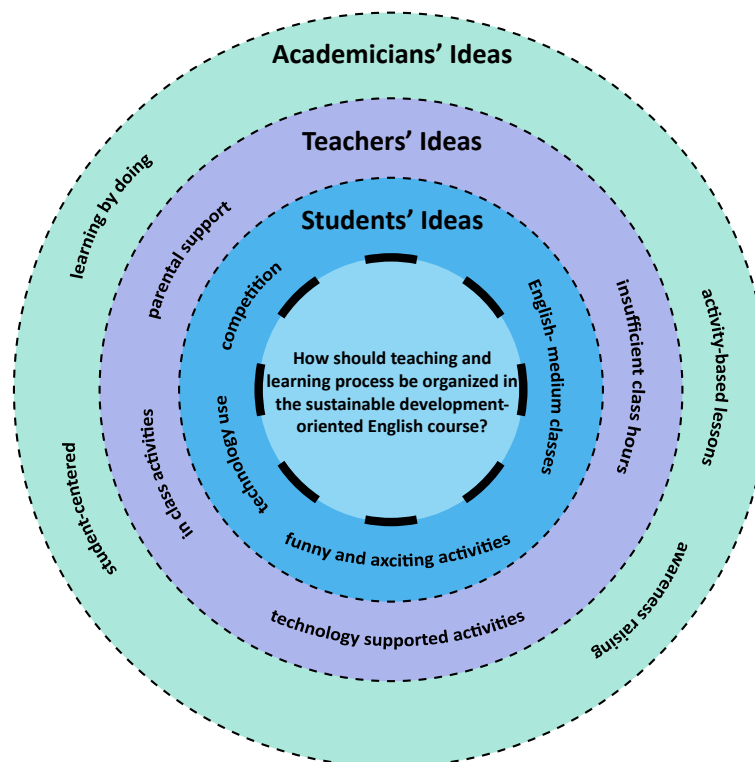
For instance, role playing is a must. It helps students to wear someone else's shoes and understand them. They are learning by doing and this way is very interesting for them. (Academician 3)

I can recommend the apple activity. For the activity we give students an apple and a knife. We say this is your world. Your world that you can eat for lunch. But how much of the world do we use? First of all, about seventy-five percent of the earth's surface is oceans and deserts. So, let's cut an apple into quarters. We divide the apple. We are left with one slice. Therefore, this is the part of the world that human beings can actually use. You think you have an apple. No, you don't have an apple, you don't have a world. You actually have a quarter of it. But you can't use the inside of it either. Because with mechanisms, we can drill up to a kilometer. Therefore, that inside is also a resource that we cannot access. We also have it extracted. They are left with a tiny piece of that quarter of an apple slice and we say, "yes, this is all you can use from the earth". This is your lunch. Enjoy your lunch. We don't know if you're going to be full or not. Then you can decide what to do or what to ask. (Academician 2)

Overall, given the recommendations as to how teaching and learning should be organized in the sustainable development-oriented English course, the students expressed that they liked competitive games, fun and exciting activities involving technology. They also made it clear that they preferred English-medium classes, which they felt were more beneficial for them. Teachers mentioned that they tried to provide students with a variety of learning experiences through different classroom activities, but they could not get the desired efficiency due to insufficient class time. Although they stated that they tried to provide their students with information on different subjects with technology-supported activities, they could not realize effective teaching because they could not get support from parents on various issues. Academics also emphasized the importance of activity-based teaching and explained the effectiveness of learning by doing. They argued that teaching should be student-centered and students' awareness of SD should be raised through activities (Figure 3).

Figure 3

Recommendations for the Teaching and Learning Process of the Sustainable Development-Oriented English Course



How Should the Outcomes of the Sustainable Development-oriented English Course be Assessed?

In the interviews, the students did not clearly share what they think about this subject. However, it was understood that rather than taking a big test, the students prefer short quizzes proctored and dispersed at different time periods throughout the year or they prefer to see various assessment tools for course evaluation purposes.

For example, when the teacher asks questions that most people may not know but only a few people know, the teacher may give an extra plus to those who know. This, in turn, can affect their oral grades. (Student 4)

Quizzes are being held to determine the grades for the report card. The teacher does it accordingly. But I don't think it should be like that. There should be more class participation. (Student 3)

Our teacher may evaluate us based on our speaking and writing skills. If we make a mistake, our teacher should grade us accordingly. (Student 6)

English teachers think that traditional assessment methods such as question and answer, fill-in-the-blanks, multiple choice and written exams should be used together with alternative ones like homework, in-class assessment, student projects, drama and alternative exams. That is, most of the teachers shared the opinion that process-based and formative assessment methods should be part of the assessment system. Examples of the comments on this issue are in the following:

There are several ways to do this. While the unit is still being processed, we expect some verbal answers and reactions from them based on each unit at work. In fact, it is different, or rather a challenger that will challenge them by posing different questions. By giving in-class tasks instantly, we want them to complete them as necessary or to give the necessary answers. We say that a student who can do it without problems and easily has already acquired the necessary gains and does not have any difficulties anymore. It is an intermediate level with some difficulty. If we can't get along at all, or if he has trouble understanding even the given task, if he has trouble completing it, we say that his level is low yet. We say that the student is low in gaining and understanding that subject. Apart from that, we have assignments. After class, that's what we call homework. We can evaluate that the performance of students who successfully complete them and do them regularly is good, on the contrary, the performance of those who fail at work or those who cannot or do not do it is bad. Finally, there are the exams that we already do regularly. There are written exams. Those exams have already documented the success of children in an objective and concrete way. We evaluate them in different ways all the time. In other words, we regularly check them in class, after class and even with exams. Evaluation is not something that actually ends. Evaluation is always there. It just changes shape. (Teacher 4)

I try to use more modern methods such as in-class participation, group activities, drama, but since the classes are crowded and our weekly class hours are limited, I have to use traditional methods. For example, last lesson I tried to have group work and although I planned it as one lesson, it took two lessons, so I had to process my next lesson faster. But as much as I can, as I said, I try to use more alternative methods. (Teacher 5)

The academicians like teachers suggested using alternative process-based assessment tools and various methods of assessments in combination to assess the outcomes of the lesson. In terms of traditional assessment, they suggested writing; but, they also said that

creative writing tasks were beneficial to students. In addition, alternative assessments such as student projects, making dialogues and lots of speaking activities can be used in the assessment process.

I do not like exams but because of the traditions, we have to do it. My ideal assessment technique is projects. Students can work in groups to make projects and this way is more beneficial. Please do not give children a test. Because the issue of sustainable development is not like what the third goal said, what did it aim for, what did the fifth say, define it. It should be a training module without a written exam. (Academician 3)

Children can work in teams on a project until the end of the year. So, in my opinion, this is the best measurement method. They present their projects. While presenting their projects, their teachers also evaluate features such as whether they have an awareness of sustainable development goals, whether they have been able to implement this subject or whether they have been able to present and research it correctly in their current lives. So, for example, what we call a project can be a social responsibility project, they will use SDGs. It can be given to students. Here, of course, it is very important how the teacher will give that question and project. But teachers should not leave the children alone too much and should explain which subject they should research and how, through teamwork and making a presentation together at the end of the year, if possible, by applying it in real life. (Academician 1)

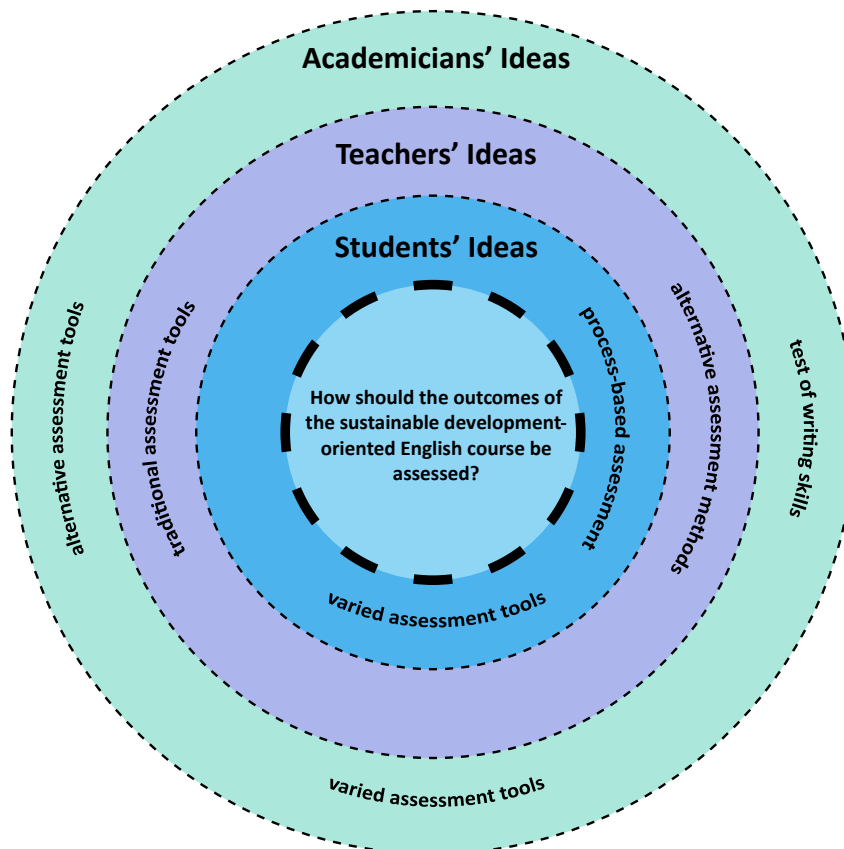
For example, students may be asked to write, discuss, speak, or make presentations in certain areas. For example, we just talked about it, and it is necessary to evaluate it with creative projects and activities. (Academician 2)

You can think of a portfolio system where they prepare a task every week. Our aim here is to observe not only their language development but also their attitudes towards sustainable development and the change in their level of knowledge. You can make your evaluation with a portfolio in which they write their daily reflections, maybe they will put documents confirming that they have completed the task you will give them, archive their short stories or other writings. (Academician 5)

In summary, the qualitative results pertaining to how the outcomes of the sustainable development-oriented English course should be assessed indicated that teachers, students and academicians agreed on the use of various assessment tools for this course. That is, it appears that all participant groups supported alternative assessment methods and formative assessment in the evaluation of sustainable development-oriented English course (Figure 4).

Figure 4

Recommendations for the Assessment Procedures of the Sustainable Development-Oriented English Course



Discussion and Conclusion

The qualitative interviews with students, teachers and experts provided valuable insights into the characteristics of a course that incorporates sustainable development content. Although the students provided limited data on the inclusion of SD content and values to the interviewers because of the advanced academic or perhaps abstract dimensions of this issue, which requires more expertise beyond the level of the students and their concrete thinking abilities, they shared the characteristics of a course that interests them most sincerely. In the interviews, they stated that they preferred group work, they thought that examples from daily life should be the subject of the lessons, they wanted to see more effective use of technology in the lessons, and they wished to be subjected to alternative assessment as well as traditional assessment. Students also provided implicit information about the inclusion of SD content and values and stated that they wanted to gain cultural and environmental awareness in their lessons. In this respect, the interviewees concluded that the social dimension of SD should be included at least as much as the ecological dimension. The results of the interviews with teachers are in line with the students' responses. Teachers were aware

of the importance of technology and thought that it should be included in the teaching and learning process. At the same time, teachers stated that alternative assessment methods are less stressful for students and suggested that this method should be utilized more in the assessment phase of the lessons. Finally, teachers stated that in lessons supported with SD, productive skills should be prioritized, and students should be improved in this direction. Academicians, on the other hand, provided the interviewees with much detailed information about the characteristics of an English lesson that incorporates SD content and values. While some academicians suggested focusing only on a specific SDG, others said that all SDGs should be covered throughout the semester. Apart from the disagreement on this issue, the experts emphasized the importance of raising students' awareness about SDGs through student-centered activities. They emphasized that activities in which students can use their creativity should not be ignored while planning the lessons, and they also stated that the promotion of students' productive language skills is one of the most important outcomes for English lessons. Arguing that traditional assessment is often contrary to the essence of the course, the academicians stated that process-based assessment practices would be the most appropriate assessment method for a course in which the content and principles of SD were included.

Sustainable development framework or formally speaking Agenda 30 agreed upon by the world governments with the leading encouragement of the United Nations is a common agenda and a sort of obligation of all member countries around the world, and in this context, this study could be interpreted as a sort of attempt to work towards and achieve an indicator of "Quality Education" (SDG 4) in the sense that this goal requires education for sustainable development should be achieved in national policies, curricula, teacher education practices, and student assessment (United Nations, 2016). To put it differently, this study served the requirement that education for sustainable development (ESD) should be reflected when designing curricula and assessing students based on these curricula. However, as previous studies mentioned ESD implementation in education has not reached the desired level although there have been improvements (Walls & Kieft, 2010). However, on the way to achieving education for sustainable development indicators, this study generated results about four main elements of curricula, course aims, course content, teaching and learning experiences, and lastly course assessment. The results implied that teachers should be trained to promote a sustainable development framework in their classrooms as their responses often included difficulties in teaching a foreign language in a general sense mostly lacking a particular consciousness and knowledge of teaching for sustainable development. However, the perspectives put forth by the academicians included more detailed, concrete, and reliable ideas and recommendations for integrating sustainable development into English lessons. Therefore, expert opinions especially from those who have done research related to sustainable development and education for sustainable development should be consulted in a more detailed manner for future course design studies.

The relevant literature emphasizes the shortcomings or inaccuracies of curriculum development studies conducted at the desk and disconnected from the basic needs and expectations of both the target student population and the current world agenda (Mutlu & Yildirim, 2021). Hence, this current study aimed to conduct a sort of needs assessment

as a previous step for a research-based course design and curriculum development study that would include the concept of sustainable development. Furthermore, there is a major trend in the literature to conceptualize sustainability firstly as environmental sustainability and to study this environmental sustainability concept (Jutvik & Liepina, 2007). However, as Macer (2004) emphasizes in his metaphor of the “chair of sustainable development”, sustainable development has economic, social, and cultural legs (dimensions) in addition to its environmental/ecological leg, and this chair cannot be balanced without the other three legs in addition to the environmental leg. This one-dimensional conceptualization or popularity of one particular dimension over the others was also detected in this study in the reporting of all groups of participants, thus showing us the need to consider the current curricular practices again and add to the lack or insufficiencies in terms of the composite consideration of sustainable development with all four dimensions in school curricula.

It is also known that there is a recent surge of interest in investigating sustainable development education (Yıldırım, 2020); however, in the Turkish context, most of these studies appear to examine the ecological dimension of sustainable development (Bulut & Çakmak, 2018) and thus appear to develop more insights as to environmental education. Accordingly, further research is needed in Türkiye to explore the economical, social and cultural dimensions of sustainability and also to investigate some teaching ideas and methodologies for sustainability education emphasizing all of the dimensions of sustainable development

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How Phenomenological are Phenomenology Studies in Educational-Social Sciences: A Sample from TR Dizin*

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Abstract

The main purpose of this research was to examine phenomenological studies in the field of social sciences and educational sciences, published between 2015 and 2023 in the TR Dizin database, in order to evaluate to what extent these studies meet the requirements and characteristics of the phenomenological research. We utilized the descriptive research model to achieve the research purpose in this study. We located 1048 research papers in TR Dizin that used phenomenological model. Then, we employed stratified sampling technique and chose 84 studies as the sample. Moreover, we created the Phenomenological Research Examination Form. The aforementioned form was used by two raters in addition to researchers. Reliability coefficient between four raters was found to be .91. We have found that a significant number of the studies in the sample collected their participants' opinions, perspectives or perceptions. In terms of research questions of studies in the sample, we determined that a significant portion of the questions aimed at describing the consequences of the experience (opinion, perspective, perception, etc.) rather than understanding and making sense of it. The average number of participants in the phenomenological studies we examined was 55. Only a few of the research studies used observation as a data collection technique. We conclude that phenomenological research should be conducted by employing qualitative research understanding instead of quantitative one. Additionally, in phenomenological research, experience should be prioritized and studied instead of studying only opinion, perspective and perception.

Keywords

phenomenology, qualitative research, research methods, TR Dizin

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Introduction

The last quarter of the twentieth century has witnessed a period of paradigm wars in social sciences including educational research (Gage, 1989). Ever since, there have been quite heated discussions on whether quantitative research tradition or newly maturing qualitative research is a more appropriate option to investigate educational and social research questions. Although there is no victorious side in this paradigm war, it is safe to assume that qualitative research has found a place for itself in studies more than it used to in the past periods. In other words, education and social science research frequently employs qualitative research (Çelik et al., 2020). This situation, then, leads to a need for a closer examination of qualitative research studies to ensure that findings of such studies are accurate.

Qualitative research can be conducted by using a dearth of models: (1) ethnography, (2) phenomenology, (3) case study, and (4) grounded theory. Sometimes qualitative researchers add narrative, oral history, action research or biographical-autobiographical research to these models. Despite of these various models, the main purpose in qualitative research is to understand and interpret the actions and behaviors of the people or groups of people. In other words, qualitative research is actually a process of meaning making (Denzin & Lincoln, 2005).

Among the models mentioned, phenomenology is both a qualitative research model and a philosophical method. Although philosophers such as Kant, Hegel, Husserl, Gadamer interpret phenomenology in different ways (Farrell, 2020), phenomenology in the philosophical sense is based on the examination of the structures of consciousness in line with the experiences of the individual (Smith, 2018). As a qualitative research model, on the other hand, phenomenology is based on understanding and interpreting the meaning that individuals and groups attribute to a particular experience (Bogdan & Biklen, 2007; Denzin & Lincoln, 2005; Friesen, Henriksson & Saevi, 2012). Looking at the semantic origin of the word, phenomenon is the opposite of noumenon (Türk Dil Kurumu, n.d.). Specifically, noumenon refers to an object in the physical sense whereas phenomenon refers to the experience of the object and the meaning attributed to it. In other words, experience has a central position in phenomenological research. For example, a qualitative researcher interested in investigating what cancer patients experience and what meanings emerge from their experience for them might utilize a phenomenological model to carry her research. Çarpar (2020, pp. 695-696) lists following characteristics of phenomenological research:

- Phenomenological researcher must identify the experience (phenomenon),
- Phenomenological researcher must locate participants who has the experience in regard to phenomenon,
- Phenomenological researcher must employ data collection techniques such as in-depth interviews and participant observation. These techniques must ensure that there exist a close interaction and communication with participants (prolonged engagement),

- Since understanding the experience requires a long process, fieldwork must continue as long as possible and necessary,
- The data analysis process is long and detailed as well,
- The phenomenological researcher should bracket her own views, prejudices and opinions about the experience at least during the data collection process.

An example of a remarkable and instructive phenomenological research is Myerhoff's *Number Our Days* (1978). In her study, Myerhoff investigated the aging experiences of Jewish immigrants who had to migrate to the United States after the Second World War and live in ghettos with low socio-economic life standards. Within the scope of her research, she conducted in-depth interviews with aging Jews over a period of up to five years, closely observed the Aliyah Senior Citizen Center, where such elderly people often go, and generally integrated with their daily lives. In this way, she examined the phenomenon called aging on Jewish immigrants in as much detail as possible. In another example, Sever and Aypay (2014) investigated the meaning and teaching experiences of teachers practicing their profession in different contexts and conditions in Türkiye. Their phenomenological research aimed at understanding and interpreting teaching experiences of teachers that work at villages, suburbs and cities as well as retired teachers or teachers working in private schools. Additionally, Gelmez Burakgazi et. al. (2023) and Ersoy (2014) provide interesting examples of phenomenological research. In all of these studies, the experience of a group was analyzed and interpreted in depth, the key point in any research that employs phenomenology as the research model.

Phenomenological research is a model that requires a close relationship with the context, and between the researcher and participants (Friesen, Henriksson & Saevi, 2012). Such a requirement necessitates that the phenomenological researcher actively attends and spends a prolonged period of time in the context she examines. Therefore, as with all qualitative research, phenomenological research requires a challenging and arduous process. However, as mentioned before, since qualitative research approach is relatively new compared to quantitative research, it is possible to encounter some difficulties in the design and implementation of such research. On the other hand, the predominance of the quantitative approach in educational and social research (Howe, 2004) might complicate the selection and use of qualitative designs appropriately since educational and social researchers are *au fait* quantitative tradition. In other words, the inappropriate selection and application of qualitative designs may cause problems in terms of research design that might affect the accuracy and coherence of results (Çelik et al., 2020). On the other hand, Tr Dizin is a database that the Scientific and Technological Research Council of Türkiye (TÜBİTAK) created and maintains. It indexes journals in various fields such as engineering, natural sciences, nursing, social and educational sciences based on some quality criteria. Researchers in Türkiye are tenured based partly on the publications they have in this database. In this milieu, it can

be concluded that there is a need to examine phenomenological research published in TR Dizin to scrutinize to what extent these studies meet the requirements and characteristics of phenomenological model. Consequently, the main purpose of this study is to evaluate phenomenological studies published in the TR Dizin database between 2015 and 2023 in the fields of educational and social sciences to uncover the extent these studies meet the requirements of phenomenological model.

Theoretical Background

Qualitative research is based on the interpretivist paradigm. This paradigm has emerged as an objection to the claims of the positivist paradigm such as the quantification of data, the researcher's objectivity, and generalization. As a result, the interpretivist paradigm and qualitative research highlights establishing a deep level of communication instead of quantitative data to understand human beings and evaluating events or people in the context in which they are located. The aforementioned characteristics of qualitative research have led to a more flexible way of conducting research. Naturally, it is troublesome, if not impossible, to determine criteria for evaluation of qualitative studies (Yadav, 2022) as it is a flexible way of carrying out research. In fact, it might not be even meaningful to set criteria and checklists for the quality of qualitative research (Yadav, 2022) since qualitative research itself suggests avoiding standardization. Undoubtedly, this does mean that *qualitativeness* of qualitative research should not or cannot be under scrutiny. By the term *qualitativeness*, we aim to point to the fact that a qualitative study must be planned qualitatively, conducted qualitatively and reported qualitatively by paying close attention to the theoretical assumptions of the paradigm behind it. In line of this operational explanation, a qualitative study would lack *qualitativeness* if it claimed to be qualitative research but included strong influences from quantitative research either in planning, conducting and reporting phases of it.

Qualitative researchers have developed various checklists or forms to determine the quality of qualitative research while avoiding extreme standardization. Yadav (2022, p. 685) listed some of such checklists or forms:

- Tong et. al. (2007) developed Consolidated Criteria for Reporting Qualitative Research (COREQ). This form is widely used to evaluate qualitative studies,
- O'Brien et. al. (2014) created Standards for Reporting Qualitative Research (SRQR) that is used for checking qualitative research in medical education,
- Tracy (2010) & Critical Appraisal Skills Programme (CASP) (2021) is a form that can be used in evaluating different models of qualitative research,
- Twining et. al. (2017) developed a guideline to conduct and report qualitative research.

As can be seen from forms and checklists we listed, the existing studies are generally aim at examining the quality of a qualitative research without distinguishing between models. Considering the purpose of this study, it can be said that there is a need for a checklist to examine the extent of phenomenological research reports to the requirements and characteristics of the model. The issue of examining a phenomenological study in terms of its appropriateness to the characteristics and requirements of the model can be dealt with by approaching it with reference to two dimensions. Firstly, one can examine the suitability of the study to the theoretical (methodological) background of phenomenology as well as its expectations. Secondly, one can investigate the extent to which the study meets the technical features of the model. Such an endeavor to examine quality of existing phenomenological research with reference to methodological (theoretical) and technical dimensions might contribute to increase the quality of future phenomenological research.

Consequently, in this study, we aim to answer the following questions:

1. To what extent do the phenomenological studies published between 2015-2023 in the TR Dizin database in the fields of educational and social sciences carry the requirements of the phenomenological model in terms of methodology?
2. To what extent do the phenomenological studies published between 2015-2023 in the TR Dizin database in the fields of educational and social sciences carry the requirements of the phenomenological model in terms of method?

By methodological dimension, we mean the following points:

- To what extent research purpose of a study is suitable for phenomenological model,

The primary purpose of phenomenological research is to understand and make a meaning of an experience that a group of people has. For this reason, expectedly, phenomenological studies must strive for achieving a purpose that underlines such an experience.

- To what extent research questions of a study is suitable for phenomenological model, Similar to purpose of a phenomenological study, research questions must also be congruent with an experience and its implications for participants.
- To what extent participants of a study is suitable for phenomenological model.
- As is the case in all qualitative models, participants in phenomenological research must be the people who can provide an accurate and detailed understanding of the experience. Besides, the aim in phenomenological research is to get a glimpse of participants' realities, then, one is expected to study with a relatively small group of people rather than large groups in phenomenological studies.
- To what extent a study explains the researcher's role.

- Theoretical background of phenomenological research gives the researcher a central role in the research process in that she is the main agent of data collection as well as analysis. For this reason, phenomenological studies must put the researcher in a central role in the design of the study as well as detail this role in the report.
- To what extent a study dwells on its theoretical background to demonstrate that its background is suitable for phenomenological model.
- Phenomenological research differs significantly from other qualitative and quantitative models in terms of its theoretical background and assumptions. Consequently, phenomenological studies should explain how the study at hand reflected assumptions of phenomenological model.
- To what extent a study explains ethical considerations that guided the research process. Since phenomenological research obliges researcher to create rapport with participants of a phenomenological study, it is imperative that a phenomenological researcher develops a set of guidelines to ensure physical and psychological wellness of participants.

By technical dimension, we mean the following points:

- Data collection techniques, Phenomenological model has three main data collection techniques (interview, observation and fieldnotes) as is the case with other models of qualitative tradition. Especially for phenomenological model, the main techniques for data collection are in-depth interviews and observation. Phenomenological research is expected to utilize in-depth interviews and observation to uncover meanings of experiences from the perspective of participants.
- Presentation of findings and use of statistical data (frequencies, percentages, etc.), Qualitative tradition suggests a more flexible presentation of findings. It also cautions against use of percentages and frequencies in line with its interpretivist background.

Method

Research Model

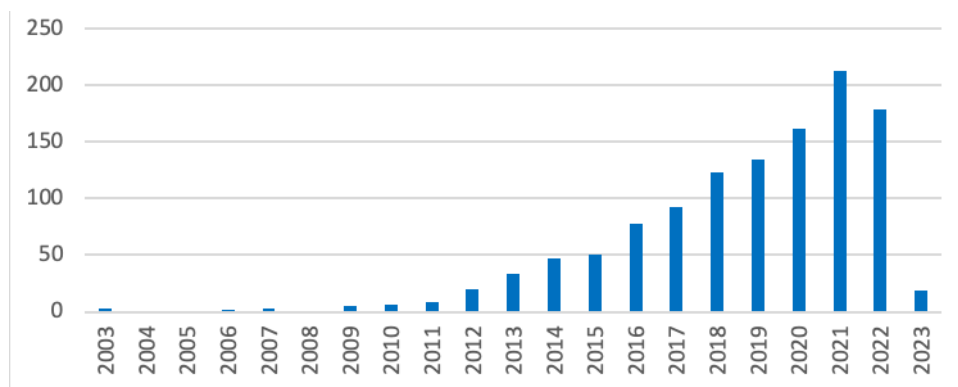
We employed a descriptive research model for this study to examine the studies conducted with phenomenological research design in the field of social sciences and educational sciences between 2015-2023 in the TR Dizin database. Descriptive research provides researchers with a perspective to determine the general distribution and situation by describing the current situation related to the phenomenon of interest (Fraenkel et al., 2012).

Population & Sample

The population of the research includes all qualitative studies in the field of social and educational sciences with a phenomenological design, published between 2015 and 2023 in the TR Dizin. In order to locate the studies in the population, we used “fenomenoloji,” “görüngübilim,” “olgubilim,” “görüngübilimsel,” “olgubilimsel,” search terms. We aimed to locate all studies that included at least one of these terms in their abstract. We chose 2015 as the starting point because, as of this year, we noticed a significant increase in the number of studies using the phenomenological model compared to previous years (see Figure 1).

Figure 1

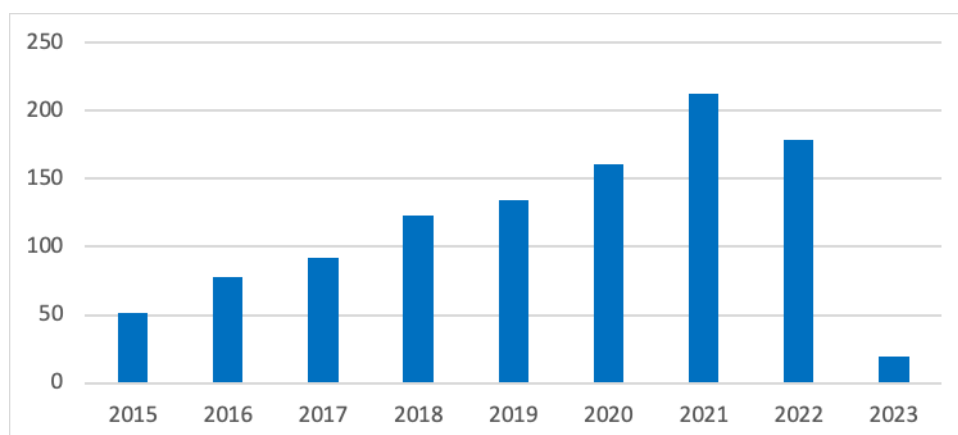
Distribution of Phenomenological Studies According to Publication Year



As can be seen in Figure 1, the first research using the phenomenological model in the field of social sciences in the TR Dizin database was published in 2003. Especially after 2015, there has been a significant increase in the number of studies in which this model has been employed. For this reason, we limited the population between 2015 and 2023. Figure 2 shows the distribution of the number of studies in the research population according to years.

Figure 2

Distribution of Phenomenological Studies in the Research Population by Year





As Figure 2 displays, there were 51 phenomenological studies in 2015, 78 in 2016, 92 in 2017, 123 in 2018, 134 in 2019, 161 in 2020, 212 in 2021, 178 in 2022 and 19 in 2023 at the time writing of this research report. As a result, we located a total of 1048 studies in the population. Considering the large number of studies that make up the population, we utilized stratified random sampling technique to create the study’s sample. In order to analyze text-based documents, researchers can divide the documents into strata and randomly select a certain percentage of documents from each stratum due to practical considerations (Benoit, 2011).

In order to create strata, we used number of phenomenological studies in each year of the population range. Therefore, we calculated the number of studies for each year for a total of 1048 research reports. Table 1 illustrates the distribution of the studies constituting the population according to years.

Table 1

Number of Publications in the Population by Years

Year	Number of Publications	Percentage (%)
2015	51	4.87
2016	78	7.44
2017	92	8.78
2018	123	11.74
2019	134	12.79
2020	161	15.36
2021	212	20.23
2022	178	16.98
2023	19	1.81
TOTAL	1048	100

For the stratified sampling process, after determining the number of publications in each year, we sampled eight percent of studies from each stratum. We listed all the studies in each strata; after, we used systematic sampling technique where we randomly chose eight percent of studies in each year. As a result of this sampling process, we identified 84 studies with phenomenological design out of 1048 publications. In other words, our sample for this study included a total of 84 phenomenological studies. Table 2 indicates the distribution and percentages of the studies in the sample according to years.



Table 2

Distribution of Publications in the Sample by Year and Their Percentage

Year	Number of Publications	Percentage
2015	4	4.87
2016	6	7.44
2017	7	8.78
2018	10	11.74
2019	11	12.79
2020	13	15.36
2021	17	20.23
2022	14	16.98
2023	2	1.81
TOTAL	84	100

Data Collection Tools

We conducted a literature review on dimensions of phenomenological research by taking into account the basic issues that constitute the essence of the phenomenological model. As a result of this review, we found out that there does not exist a checklist or a form to examine phenomenological studies. However, we located a checklist by Critical Appraisal Skills Programme (CASP) that aims to evaluate the quality of qualitative research. We judged that this list is not suitable for our purposes in this study as it does not focus on phenomenological studies. We decided to develop a checklist for this study that would allow us to examine phenomenological research specifically. For this purpose, we examined the theoretical foundations of phenomenological research and the characteristics of phenomenology by reviewing fundamental text on phenomenology (e.g. Creswell, 2013; Denzin & Lincoln, 1994; Finlay, 2009; Friesen, Henriksson & Saevi, 2012; Pietkiewicz & Smith, 2012; Smith, 2011; van Manen, 1997). Based on this review, we developed Phenomenological Research Examination Form (see Appendix). We designed the form by including two basic dimensions: methodological (theoretical) and method (technical). In the methodological dimension, we included items that focus on philosophical and theoretical background of the phenomenological research. In this dimension, raters evaluated studies by choosing one of the “Not Suitable,” “Partly Suitable,” “Moderately Suitable,” “Sufficiently Suitable” and “Completely Suitable” options for a total of six items. The method (technical) dimension includes items about technical aspects of phenomenological research such as number of participants, data collection technique (interview, observation and fieldnotes), etc.

We presented the first version of the form to two experts for their opinion. One of the experts is a researcher in Curriculum & Instruction while the other specializes in Guidance and



Psychological Counseling. Both of them have experience in qualitative research. We used experts' opinion to finalize the form. In terms of experts' opinions, the items in the first version included only three-level answers (Suitable, Not Suitable, Not Applicable). By taking into one of the suggestions of the experts, we added extra answers to items and made it a five-level Likert type.

We used intra-class correlation coefficients to determine the reliability of four raters' responses in terms of internal consistency. There are a total of six questions in the methodological dimension, in which the raters evaluated the theoretical dimension of the studies. Table 3 presents inter-rater reliability coefficients.

Table 3

Reliability Coefficients Between Raters

	95% Confidence Level			F Test			
	Intraclass Correlation Coefficients	Lower Bound	Upper Bound	Value	df1	df2	Significance
Item 1	.65	.51	.76	2.83	83	249	.00
Item 2	.57	.40	.70	2.30	83	249	.00
Item 3	.63	.48	.74	2.66	83	249	.00
Item 4	.19	-.13	.44	1.24	83	249	.11
Item 5	.50	.29	.65	1.97	83	249	.00
Item 6	.45	.23	.62	1.81	83	249	.00
	.91	.89	.94	11.70	83	1909	.00

As Table 3 indicates, the overall reliability coefficient between the four raters for the six items was determined to be .91. Since this coefficient was greater than .60, we concluded that inter-rater reliability was achieved (Weir, 2005). Consequently, we present the findings as a result of the analysis of the values obtained from the raters.

Data Analysis

Four raters used Phenomenological Research Examination Form to evaluate each of 84 phenomenological study in the sample. Two of the raters are the researchers of this study. The other two raters are researchers specialized in the field of Guidance and Psychological Counselling who have qualitative research experience. Prior to the rating process, we explained to the other raters how they need to use the form as well as conducting exemplificative rating activities (Somer, 2010). During this process, we answered raters' questions to ensure that the rating process happens without a problem that might influence the accuracy of the findings. Four raters evaluated each of 84 phenomenological study in the sample individually and separately. Raters' evaluations were quantified as follows: "Not Suitable=1" "Partly



Suitable=2” “Moderately Suitable=3” “Sufficiently Suitable=4” and “Completely Suitable=5.” Since the technical dimension is about non-evaluative items (number of participants, etc.), only we (researchers of this study) filled out this section. We present our findings by using the results of such descriptive statistical techniques as mean, frequency, percent.

Results

Aiming to evaluate phenomenological studies published in the TR DİZİN database between 2015 and 2023 in the fields of educational and social sciences to uncover the extent these studies meet the requirements of phenomenological model; we present our findings in two subheadings that are congruent with data collection tool and questions in it.

Findings Related to Methodological (Theoretical) Dimension

Table 4 lists raters’ evaluations in regard to the first item in the form (How suitable is the purpose of the research to a phenomenological study?).

Table 4

Means and Standard Deviations Regarding the Suitableness of the Purposes of the Studies to the Phenomenological Model

	Mean (\bar{X})	SD
<i>Rater 1</i>	1.55	.95
<i>Rater 2</i>	2.20	1.20
<i>Rater 3</i>	3.61	1.10
<i>Rater 4</i>	1.77	1.20
AVERAGE	2.28	.77

In terms of raters’ evaluations regarding the purposes of the studies in the sample, we determined that the mean of Rater 1’s points was 1.55 (SD=.95), Rater 2’s was 2.20 (SD=1.20), Rater 3’s was 3.61 (SD=1.10), Rater 4’s was 1.77 (SD=1.20) and the mean of all raters’ was 2.28 (SD=.77). To put these numbers into perspective and make them more meaningful, we analyzed purposes of research reports in the sample. As a result of this analysis, we list here some of the purposes in the sample (Although we translate the actual purposes from the studies in our sample directly, we do not cite them and omit some key terminology in them to protect anonymity of researchers and to avoid *ad hominem* argumentations. All emphasis in examples is ours):

- “The aim of this study is to determine the opinions of prospective ... teachers about Turkey’s”
- “The aim of this study is to determine teachers’ views on ...”



- “In this study, which is based on the phenomenology design from qualitative research, it was tried to obtain the views of pre-service teachers on the phenomenon of ‘...’”
- “The aim of this research is to collect information about how ... students ... define ... through metaphors.”
- “The aim of this study is to examine the perceptions of ... about ... through metaphors.”

Now, let us mention purpose statements from some other phenomenological research (Again, we do not cite the reports and omit some key terminology in them to protect anonymity of researchers and to avoid *ad hominem* argumentations. All emphasis in examples is ours):

- “This purpose of the study was (a) to identify gaps in the existing knowledge regarding impacts of ..., (b) to gain an understanding of the lived experience of ..., and (c) to identify implications for research and practice.”
- “This study investigated the unique experiences of parents with a very young with ...”
- “The results of this study provided insight into contextual influences on ... and the meaning ... make of their experience in that context.”

It seems clear that the phenomenology research in the sample simply collects participants views, opinions, perspectives and perceptions about an experience rather than trying to uncover what the experience means for participants through interpretation. Or, the studies in the sample utilize metaphors and name the study as phenomenology. Table 5 includes the findings regarding the second item in the data collection form (How suitable are the research questions to the phenomenological method?).

Table 5

Means and Standard Deviations Regarding the Suitableness of the Research Questions of the Studies to the Phenomenological Model

	Mean (\bar{X})	SD
Rater 1	1.48	.84
Rater 2	1.69	.85
Rater 3	3.58	1.33
Rater 4	1.52	.92
AVERAGE	2.07	.63

In terms of raters’ evaluations regarding the research questions of the studies in the sample, we found out that the mean of Rater 1’s points was 1.48 (SD=.84), Rater 2’s was 1.69 (SD=.85), Rater 3’s was 3.58 (SD=1.33), Rater 4’s was 1.52 (SD=.92) and the mean of all raters’ was 2.07



(SD=.63). Similar to purposes, we analyzed research questions of the studies in the sample. As a result of this analysis, we list here some of the questions in the sample (Although we translate the actual research questions from the studies in our sample directly, we do not cite them and omit some key terminology in them to protect anonymity of researchers and to avoid *ad hominem* argumentations. All emphasis in examples is ours):

- “What are the opinions of pre-service teachers about ... with an ...?”
- “What are the expectations of ... from ... about ... in education?”
- “In the ... document, what are the positive and negative aspects of the practices to be carried out under the title of ...?”
- “What are the opinions and experiences of pre-service ... teachers about using ... in ... courses?”
- “- What do you understand from the term ... ?
- What characteristics do ... people have?
- Do you see yourself as ...?”

(In this specific example, researchers list interview questions instead of research questions).

A close look to these questions attests that the studies in our sample strived for answering research questions that were formed as a result of quantitative understanding. Including phenomenology, qualitative research models generally deal with what, how and why type of questions for they aim to gather a deeper understanding of the construct they investigate. As was the case with purposes of the studies, research questions focus only on views, opinions, perspectives and perceptions. Table 6 presents the findings regarding the third item in the data collection form (How suitable are the participants for this study in terms of the experience that is being studied in the research?).

Table 6

Means and Standard Deviations Regarding the Suitableness of the Participants of the Studies to the Phenomenological Model

	Mean (\bar{X})	SD
<i>Rater 1</i>	2.36	.97
<i>Rater 2</i>	2.50	1.38
<i>Rater 3</i>	3.67	1.05
<i>Rater 4</i>	1.83	1.29
AVERAGE	2.59	.82



In terms of raters' evaluations regarding the participants of the studies in the sample, we ascertained that the mean of Rater 1's points was 2.36 (SD=.97), Rater 2's was 2.50 (SD=1.38), Rater 3's was 3.67 (SD=1.05), Rater 4's was 1.83 (SD=1.29) and the mean of all raters' was 2.59 (SD=.82). In terms of participants of the studies, we found that studies usually reach to somewhat suitable groups of people about the experience under investigation. However, the issue we mentioned about purposes and research questions might hinder suitability of participants in that if a study was not designed qualitatively, participants' relation to the experience might only be secondary in terms of study's accuracy. Another issue in terms of participants is establishing rapport with them as a result of researcher's prolonged engagement with the participants in the context of the experience. Table 7 lists the findings related to the fourth item in the data collection form (How suitable is the researcher's effort to explain her own role in the study to the phenomenological model?)

Table 7

Means and Standard Deviations Regarding the Suitableness of the Researcher's Effort to Explain Her Role to the Phenomenological Model

	Mean (\bar{X})	SD
Rater 1	1.46	.67
Rater 2	1.98	.86
Rater 3	3.58	.99
Rater 4	1.06	1.39
AVERAGE	2.02	.41

In terms of raters' evaluations regarding the explanation of research's role in the sample, we found that the mean of Rater 1's points was 1.46 (SD=.67), Rater 2's was 1.98 (SD=.86), Rater 3's was 3.58 (SD=.99), Rater 4's was 1.06 (SD=1.39) and the mean of all raters' was 2.02 (SD=.41). We did not observe any study in the sample that explained significantly how the researcher(s) positioned themselves in the design of their research. Even when they mentioned how the data collection process was carried out, they prefer a passive tone that hint to a separation from the data collection and analysis. For example (Although we quote parts here from the studies in our sample directly, we do not cite them and omit some key terminology in them to protect anonymity of researchers and to avoid *ad hominem* argumentations. All emphasis in examples is ours):

- “Before the interview questions were prepared, a literature review on the research topic was conducted. After the literature review, the questions to be included in the interview form were determined ... In addition, the interview form was finalized by taking into account the suggestions on issues such as clarity, comprehensibility, inclusiveness and suitability for the purpose.”
- “The research data were collected through in-depth interviews between ... and lasted ... months in total. Interviews lasted between ... minutes and all interviews were



conducted face-to-face and recorded with a tape recorder. Before starting the interviews, the participants were informed about the study and written permission was obtained from them to use their statements in the study.”

- “The sample of the research consists of a total of 263 people who graduated from this program in the mentioned period and who correctly participated in the questionnaire form as current students.”

(In this example, researchers used a questionnaire that they distributed to 263 participants to collect data and claim to design the study as phenomenology).

Table 8 shows the findings related to the fifth item in the data collection form (How suitable is the explanation of the theoretical basis of the phenomenological method in the study?).

Table 8

Means and Standard Deviations Regarding the Suitableness of the Explanation of Theoretical Basis to the Phenomenological Model

	Mean (\bar{X})	SD
Rater 1	2.07	.76
Rater 2	2.00	.86
Rater 3	3.64	.86
Rater 4	1.42	.81
AVERAGE	2.28	.52

In terms of raters’ evaluations regarding the explanation of research’s role in the sample, we found that the mean of Rater 1’s points was 2.07 (SD=.76), Rater 2’s was 2.00 (SD=.86), Rater 3’s was 3.64 (SD=.86), Rater 4’s was 1.42 (SD=.81) and the mean of all raters’ was 2.28 (SD=.52). We determined that the researchers only gave a definition of phenomenology in terms of explaining the theoretical background of their study. An overwhelmingly significant number of studies in the sample defined phenomenology by citing Yıldırım & Şimşek (2013, p. 78): “Phenomenology focuses on phenomena that we are aware of but do not have an in-depth and detailed understanding of.” The definition they cited was the mostly what they wrote about theoretical background of the study. What is more, in terms of design (a direct consequence of theoretical background of the model, we postulate), some studies included design choices that do not resemble qualitative research tradition in any way, yet alone phenomenology. For instance (Although we quote parts here from the studies in our sample directly, we do not cite them and omit some key terminology in them to protect anonymity of researchers and to avoid *ad hominem* argumentations. All emphasis in examples is ours):

- “In order to understand the reflections of ..., which was supported by an interdisciplinary approach as an ..., on the behaviors of pre-service teachers, structured writ-



ten interview questions related to three basic dimensions within the framework of ... were applied as pre and post-test. The data obtained were quantified and evaluated, ...”

- What is the distribution of the themes in the drawings of ... students about ‘...’ according to gender variable?
- “In this study, it was tried to obtain detailed data on how ... in ... is realized, what are its effects, which variables are affected by it and what can be done for”

Table 9 includes the findings related to the sixth item in the data collection form (How suitable is the explanation of the ethical issues required by the phenomenological method in the study?).

Table 9

Means and Standard Deviations Regarding the Suitableness of the Explanation of Ethical Issues to the Phenomenological Model

	Mean (\bar{X})	SD
Rater 1	1.29	.53
Rater 2	1.75	.62
Rater 3	3.18	.75
Rater 4	1.24	.67
AVERAGE	1.86	.40

In terms of raters’ evaluations regarding the explanation of ethical issues, we determined that the mean of Rater 1’s points was 1.29 (SD=.53), Rater 2’s was 1.75 (SD=.62), Rater 3’s was 3.18 (SD=.75), Rater 4’s was 1.24 (SD=.67) and the mean of all raters’ was 1.86 (SD=.40). Through a prolonged engagement with the dataset, it is our understanding that the studies in the sample consider ethical issues only in terms of getting approval from ethical board of the university that they are affiliated with. We now present some explanations from the studies in the sample in regard to ethics (Although we quote parts here from the studies in our sample directly, we do not cite them and omit some key terminology in them to protect anonymity of researchers and to avoid *ad hominem* argumentations. All emphasis in examples is ours):

- “After determining the study group, the necessary permissions were obtained from ... Committee with the Ethics Committee decision dated ... and numbered ...”
- “Prior to data collection, the necessary ethical permission for the research was obtained from ... Ethics Committee with the decision dated ... and numbered ...”
- “The ethics committee permission of the study was obtained from ... Ethics Committee on ... with the number ...”



Findings Related to Method (Technical) Dimension

We present our findings related to technical dimension of phenomenological studies in this section. First and foremost, we calculated that the average number of participants in the studies we examined was 55 where minimum number of participants was 5 and maximum number of participants was 270. Table 10 shows finding about data collection techniques in the studies.

Table 10

Numbers and Percentages about Data Collection Techniques

	Yes (%)	No (%)	TOTAL
Interview	56 (66.7)	28 (33.3)	84
<i>Type of interview</i>			
<i>Structured</i>	2 (3.57)	54 (96.43)	56
<i>Semi-structured</i>			
Observation	2 (2.4)	82 (97.62)	84
<i>Type of observation</i>			
<i>Participant</i>	1	1	2
<i>Non-participant</i>			

Table 10 indicates that 56 (66.7%) of the studies in the sample utilized interview as a data collection technique, while in 28 (33.3%) of them did not use it. In addition, 54 (96.43%) of the total 56 studies employed semi-structured interview technique, while only two studies utilized structured one. On the other hand, quite interestingly, only two of the 84 studies (2.4%) benefited from observation as a data collection technique whereas 82 (97.62%) studies did not utilize observation. In one of the two studies in which observation technique was used, its type was participant observation while the other one was non-participant. Table 11 summarizes findings about writing of the findings in the studies of the sample and the use of frequencies in them.

Table 11

Percentages about Writing of Findings and Use of Frequencies

	f	Percentage (%)
Presentation of Findings		
<i>Interpretive</i>	13	15.5
<i>Descriptive</i>	71	84.5
Use of Frequencies		
Yes	56	66.7
No	28	33.3

As Table 11 illustrates, 13 (15.5%) of the 84 studies present their findings interpretatively while 71 (84.5%) studies present their findings descriptively. Similarly, 56 studies (66.7%) employed frequencies, while 28 studies (33.3%) did not include them. In next section, we provide a discussion of our findings.

Discussion

The raters evaluated the appropriateness of the purposes of the studies in the sample to phenomenological research as partially suitable. The reason behind this finding might be because of the fact that these studies might be missing the crucial link between a phenomenological understanding behind phenomenological research. It might be due to this missing link that we determined the majority of studies in our sample usually investigate their participants' views (opinion), specify their points of perspective (point of view) or examine their perceptions. Although views, perspectives and perceptions are vital concepts to investigate in any social and educational research, it is incorrect to simply gather data on participants' views, perspectives and perceptions in a phenomenological study. As phenomenological research, first and foremost, aims at making meaning of an experience from the perspective of participants as understood and interpreted by the researcher, the experience and the experience alone should be at the center of any phenomenological research (Burch, 1990; Mapp, 2008). The opponents of this idea might argue that participants' views, perspectives and perceptions are direct results of their experience. For this reason, any phenomenology study that identifies views, perspectives and perceptions of participants in fact examines the experience. We attest that there might be some truth to this claim; we still contend that a phenomenological study is obliged to focus on an experience in the context that it happens to interpret how participants make meaning of it rather than possible consequences of it such as views, perspectives and perceptions. It is for this reason that we assert phenomenological research that only collects data about views, perspectives and perceptions and then quantify them simply misses the point of phenomenological research. Similarly, we ascertained that some of the studies in our sample utilize metaphors to reveal people's perceptions about a concept or phenomenon. While we wholeheartedly believe that metaphor studies are valuable in uncovering meanings that participants attribute to a concept; metaphors reflect only one aspect of phenomenological research's goal of understanding and describing experience at a deeper level. Thus, studies that only use metaphors to collect data should not claim to be phenomenology.

The raters evaluated the appropriateness of the research question of the studies in the sample to phenomenological research as partially suitable. As the logic of scientific research dictates, it is imperative that questions in any research is congruent with the research model. As we already discussed, phenomenological research necessitates understanding and interpreting an experience. Therefore, in light of congruency premise between the method and research questions, it is only logical to conclude that research questions in a phenomenological study must be in agreement with the paradigm behind phenomenology. However, findings in this

study indicate that research questions of phenomenological studies in the sample strive to describe results of an experience such as view, perspective or perception quantitatively instead of understanding and interpreting it qualitatively. The underlying cause of this situation, we maintain, is that phenomenological studies we investigated were carried out with a quantitative mindset rather than a qualitative one. For example, we found out that some of studies in the sample discusses how findings change in relation to the gender, how one variable affects the other, which variables influence a phenomenon and how one phenomenon changes over time by using a pre-test and post-test design. The aforementioned design choices point out to quantitative research understanding. We put forward that it should be obvious that the use of quantitative understanding and techniques in qualitative phenomenological research would naturally influence the nature of findings even though the research claims to be a phenomenology. In this milieu, we claim that any phenomenological study must be designed phenomenologically, carried out phenomenologically and reported phenomenologically. This point, we believe, should be the case for other models of qualitative research as well.

The raters evaluated the appropriateness of the participants of the studies in the sample to phenomenological research as moderately suitable. The necessity of having an experience as the focal point of research in phenomenological studies to understand and interpret it requires the researcher to reach to participants that have had the experience in the context that it occurred. It, moreover, entails a prolonged engagement with them. It is only thorough locating such participants and establishing rapport with them that a phenomenological researcher would be able to understand what these participants make of the experience under the investigation. Although we discovered that the raters' evaluation of participant selection is moderate in our sample, we are concerned that participant selection might have little effect on the qualitiveness of the studies as they only focus on views, perspective and perception, and as researchers seldomly, if ever, in our sample explained how they established rapport with the participants due to prolonged engagement.

The raters evaluated the appropriateness of the effort to explain researcher's role in the sample to phenomenological research as partially suitable. The researcher is an integral and inseparable part of data collection and analysis in qualitative research including phenomenology (Sutton & Austin, 2015). In this respect, in phenomenological research, it is of great importance for the researcher to explain how and why she got interested in the phenomenon of interest, how and how intensively she participated in the research process, and how she collected data and analyzed it. Within the scope of our findings, we claim that the way the researchers explain their roles as if they conducted quantitative research for they prefer a tone of writing that pays special attention to demonstrate that the researchers isolated and separated themselves from data collection and analysis, a caveat that quantitative research approach suggests strongly. Besides, we located studies in the sample that utilized a questionnaire to large group of participants (e.g. 263, 255 etc.) in a phenomenological study.

The raters evaluated the appropriateness of the explanation of theoretical background of studies in the sample to phenomenological research as partially suitable. We are of the opinion that it increases the strength of a research to clearly indicate how the theoretical basis of the method guided planning, conducting and reporting the study. Yet, in our sample, we observed that the researchers limited their explanation of how the theoretical background of phenomenology guided the way they conducted and reported the study to only giving a definition of phenomenology. They almost identically defined phenomenology as “focusing on phenomena that we are aware of but do not have an in-depth and detailed understanding of,” a definition by Yıldırım & Şimşek (2013, p. 78). While we agree that it is important to define the phenomenological method in the research report, we additionally think that it is also important to explain how the theoretical understanding of the method forms the basis for the steps taken in the research process.

The raters evaluated the appropriateness of the explanation of ethical issues to phenomenological research as partially suitable. We ascertained that the phenomenological studies in our sample reduce ethical issues to obtaining ethic committee approval. In research that collects data from humans, it is necessary to obtain permission from the relevant ethical board of the higher education institution that the researchers are affiliated with. However, in phenomenological research that requires close contact with participants, it is important to address issues such as participant privacy, health, data storage, etc. in detail beyond ethics committee permission, and to explain how these issues are dealt with in the research.

In phenomenological research, it is essential to investigate the experience under consideration with relatively smaller group of participants in accordance with qualitative research approach since phenomenological research aims to understand the experience more deeply in context. The aim of understanding experience deeply in the context can only be achieved with smaller groups rather than larger ones. Besides, phenomenological research does not necessitate large group of participants since it strives for not generalization but understanding particularity. We calculated that the average number of participants in the studies we investigated was 55. We convey that it is extremely hard, if not impossible, to understand and interpret an experience from the perspective of people with these many people. Consequently, we purport that some of the studies in the sample that were conducted with participant groups of 263, 262, 250, 234 people would be better if designed as survey research (with the usage of a reliable questionnaire) rather than phenomenology.

Interview is naturally the main technique of data collection in phenomenological research. Therefore, we consider that it is valuable that the studies in our sample mainly utilize interviews (semi-structured) as the data collection technique. However, we think that the problem with interviews in the studies we evaluated is not whether they were utilized or not; rather it was the quality of the them. It may be due to the fact that these studies generally aim to collect views, perspectives and perceptions rather than to make meaning of an experience that interviews in these studies lack qualitiveness. In other words, interviews in our sample have quantitative characteristic instead of qualitative one. Along with interviewing,

observation also stands as one of the techniques that should be utilized frequently in phenomenological research. However, we observed that almost none of the studies in the sample used observation as a data collection technique.

We determined that the studies mainly present their findings descriptively. By this, we mean that these studies quantified their findings via frequencies and list them in a table, after which they commented on it. Such is a practice that almost identically resembles quantitative research writing. The use of numerical values and techniques such as frequencies, percentages and means to present findings of a qualitative study has always been a controversial issue (Hannah & Lautsch, 2011). The use of basic statistics in qualitative research serves a political purpose in that researchers might be tended to use statistical values in qualitative studies since without such values qualitative research is not considered scientific, and their inclusion in qualitative research might be an attempt to prove that qualitative research is in fact scientific, argues Maxwell (2010). About this issue, we contend that qualitative research is based on the interpretivist paradigm; consequently, it is a natural for the qualitative researcher to be an integral part of the process in data collection, analysis and presentation. We admit that there might be some instances and research context where statistical values might be beneficial to answer questions in a qualitative study. Nevertheless, in the context of the studies we analyzed, we think that was not the case. We accept the exceptions of use of statistical data in qualitative writing; nonetheless, we still hold that the unjustified inclusion of numerical values in qualitative research, i.e., quantifying findings in qualitative research papers with a quantitative understanding, is incompatible with the essence of qualitative research. The fact that numerical values such as frequencies were presented and explained in the studies we evaluated might be another indicator that within context of this study qualitative research was conducted using quantitative logic.

Conclusion

This study identified phenomenological studies between 2015-2023 in the TR Dizin database by creating a sample of 84 studies out of 1048. We accept that a larger sample might provide more reliable results. Similarly, including more raters than we did might also increase the reliability and validity of the findings. As this study focused on only phenomenology as a qualitative research model, we suggest that similar studies for other qualitative research models might be utterly helpful, especially those that would compare and contrast qualitiveness of different qualitative models.

The sample we evaluated mainly employed quantitative research understanding while trying to carry out phenomenological research. In addition, these studies describe the views, perspectives and perceptions of the people instead of studying the experience to reach deeper meanings, which is an integral part of phenomenology. On the other hand, we observed that the sample included relatively large participants, which is not in line

with the nature of phenomenology, and that essential data collection techniques such as observation were employed in very few studies. Therefore, we assert that these conditions we mentioned prevent making sense of experience at a deeper level, a condition that is essential in phenomenology. We conclude this study by maintaining that *qualitativeness* must be watchword of phenomenological research.

We list following suggestions as a result of this study:

- Since qualitative research is an approach with its own paradigm and logic, phenomenological researchers should conduct phenomenological research by employing qualitative logic instead of quantitative one,
- Phenomenological research should prioritize experience instead of only gathering opinion, perspective and perception,
- The interviews in phenomenological research should be in-depth and in a way that can reveal the underlying meanings,
- Phenomenological research, should include smaller groups of participants in the context of experience.

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Appendix
Phenomenological Research Examination Form

Methodological (Theoretical) Dimension	NS	PS	MS	SS	CS
How suitable is the purpose of the research to a phenomenological study?	(1)	(2)	(3)	(4)	(5)
How suitable are the research questions to the phenomenological method?	(1)	(2)	(3)	(4)	(5)
How suitable are the participants for this study in terms of the experience that is being studied in the research?	(1)	(2)	(3)	(4)	(5)
How suitable is the researcher's effort to explain her role in the study to the phenomenological model?	(1)	(2)	(3)	(4)	(5)
How suitable is the explanation of the theoretical basis of the phenomenological method in the study?	(1)	(2)	(3)	(4)	(5)
How suitable is the explanation of the ethical issues required by the phenomenological method in the study?	(1)	(2)	(3)	(4)	(5)
	NS= Not Suitable, PS= Partially Suitable, MS=Moderately Suitable, SS=Sufficiently Suitable, CS=Completely Suitable.				
Technical Dimension					
How many participants are there in the study?					
Is interview used as a data collection tool?	Yes <ul style="list-style-type: none"> • Structured, • Semi-structured, • Unstructured. AND <ul style="list-style-type: none"> • Vis-à-vis, • Online, • Printed forms. 	No	The study claims to use interview but what is done is not qualitative interview.		
Is observation used as a data collection tool?	Yes <ul style="list-style-type: none"> • Participant, • Non-participant. 	No	The study claims to use observation but what is done is not qualitative observation.		
Are the findings presented descriptively or interpretively?	Descriptive			Interpretive	
Are frequencies (or other descriptive statistics) used in presentation of findings?	Yes			No	

Educational Science Traditions and Qualitative Research

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Abstract

The purpose of this conceptual paper is to analyze the two main education science traditions, Anglo-American and Continental European, in relation to their interaction with qualitative research. After these two traditions are described, construction and use of theory in research is problematized through the perspectives in these traditions, and qualitative research is positioned in the priorities and knowledge claims they offer. In addition, the use of qualitative research in various areas of educational science such as teacher education, teaching and learning, curriculum studies is analyzed through the diverse educational science orientations. Finally, the case of Turkish educational science tradition is discussed in terms of subfields and research priorities promoted.

Keywords

educational science, educational studies, qualitative research, Anglo-American tradition, Continental European tradition, educational theory, teacher education, curriculum studies

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Introduction

Education as a science has an interesting developmental story that has been shaped by diverse conceptions of science and disciplines, interaction with other disciplines, assumptions about the status of theories, and principles guiding scientific research. It has also been influenced by cultural and political agendas in relation to the purpose of education and more specifically the function of schools in society. The journey of educational science has taken diverse routes in different parts of the world in the last two centuries, which has offered various implications for production and use of theories, research methodologies prioritized and use of knowledge claims for improving practice. The purpose of this paper is to discuss the status of educational science as a discipline through various historical, social, and scientific perspectives, and to reflect on how these orientations relate to research paradigms, with a specific emphasis on interpretive research tradition. Although disciplinary foundations of interpretive research can be traced back to a variety of social sciences (Bogdan & Biklen 2007), the conceptual bases and disciplinary traditions of educational science have interacted with its development and served as platform for justifying the need for broader use of qualitative research in social sciences.

Historically there have been two main constructions shaping our understanding of educational science today: Anglo-American and Continental European (Biesta, 2011). Biesta argues that education can only be studied through the perspectives provided by other social science disciplines such as sociology, psychology, and philosophy in the Anglo-American orientation. In this view, “education is not a discipline, but rather a field of study” (Shulman, 1997, p. 12) or an applied field, that does not have a unique interest of its own but primarily applies the concepts and theories of other disciplines to educational phenomena to promote an understanding and/or propose recommendations for improved practice (Biesta, 2013). The Continental European view, on the other hand, describes education both as a normative and a scientific discipline that focuses on questions regarding developing human beings such as caring for, bringing learning to life, moral and social development (Biesta, 2011; Cameron, 2004; Drewek, 1998).

The Anglo-American tradition has mainly grown in the United States and the United Kingdom but also impacted many other countries around the world. The roots of this view go back to the early 20th century, the times when social sciences were preoccupied with situating themselves as scientific disciplines by means of the methodological perspectives borrowed from natural sciences. They mostly adapted the positivist research tradition as a way of identifying significant relations and causations in their respective fields (Yıldırım & Şimşek, 2021). Educational science went after a similar goal in the Anglo-American world even though there were rich theoretical perspectives provided by educational philosophers like John Dewey (1933) to study various aspects of education from an alternative research paradigm. This may be due to the possibility that these philosophical views were not found practical in adapting positivist orientation in scientific inquiry, so researchers looked for theories elsewhere that are more established in line with research and practice interests. Such pragmatic approach has resulted in positioning educational science as an interdisciplinary field of study rather than a distinct discipline with its own theories and methods. This position resulted in dependency on the concepts and theories of other social sciences both

for research and practice in the field. The major concern was to be recognized as an applied science within an interdisciplinary and practice-oriented framework.

The Continental European perspective on educational science finds its roots in the German concepts of “pedagogic” and “didactic” (Drewek, 1998). While the former highlights the importance of “developing a person,” the latter focuses on the science of teaching (Seel, 1999) which is more specifically focused on learning by establishing an understanding of educational processes, interactions, and consequences. Together these concepts create an area of focus that is unique to education, and theories can be established around these concepts to guide research for scientific knowledge contribution in the field. With this orientation, various educational theories were developed in the 19th and 20th centuries such as theories on how one develops as a human being through education (Herbart, 1892). In addition, education was viewed as a field that brings together particular realities rather than universal and generalized understandings. This view highlights the importance of local theories explaining how education takes place, and its potential consequences within a certain context.

The Continental European educational science tradition also has an impact on educational research orientation particularly in Northern Europe with an emphasis on theory-based research and theory construction through research. The concepts of pedagogy and didactic are at the center of this orientation with holistic perspectives into the study of educational problems and processes. Educational theories provide sensitizing concepts for designing research studies and a framework for interpreting the results of the study. This approach also promotes theoretical thinking in interpreting the results of a study such as reconceptualization and elaboration of the theory. However, these theories are primarily micro theories that are contextualized in local realities rather than universal principles and generalizations as in the case of positivist research.

The conceptual construction of “educational science” is also apparent in the key terms these traditions use to characterize the field. While the term “education” reflects an applied and interdisciplinary orientation to mostly organized institutional practices (e.g., school), the German originated term “pedagogy” presents a broader view of education extending the field of study to all aspects of human development such as intellect, identity, morality, interaction, and relation (Cameron, 2004; Loughran, 2013). Accordingly, there is a tendency to label the field as “educational studies” in the Anglo-American tradition to highlight the interdisciplinary and practice-oriented nature of the field while the term “science” is typically attached to the labels such as “educational science” or “science of pedagogy” (Zogla, 2018) with an intent to characterize the field as a scientific discipline. Similarly, the concept of “didactic” is commonly used in the Continental European tradition to refer to teaching with a specific focus on content and student learning whereas the Anglo-American orientation tends to consider “teaching” as a unique area of focus both theoretically and methodologically.

It is important to recognize the fact that both traditions went through some changes, particularly in the last quarter of the 20th century because of an increased interaction among the educational science communities in different parts of the world. The Anglo-American tradition, for example, has become more concerned with the theory use in and production

through research with the influences from the Continental European perspective. The introduction and increasing use of grounded theory approach in social science research can be considered as an outcome of such interaction. In a similar way, the Continental European perspective has adapted some of the principles of the Anglo-American tradition such as interdisciplinary approach to education as well as the increased use of positivist research approaches to study the problems of education (Sundberg, 2004). This orientation can also be observed in the effort to redefine the field with new priorities. For example, “Pedagogical work” has been promoted in Sweden as a new field of study to bring interdisciplinary and practice orientation to traditional theory-oriented field of educational science (Arreman, 2008; Hultman & Martinsson, 2018).

Theory Use in and Construction through Research

Theories are not only established through scientific research but also through reasoning and critical thinking, and normative theories fall into this category (Johnson & Christensen, 2014). Theories in philosophy, for example, are constructed through asking critical questions and developing elaborated responses in relation to the nature of some phenomenon. Scientific theories, on the other hand, are constructed through meta-analysis and synthesis of the knowledge contributions of scientific research, and continuously revised and expanded based on the new knowledge produced. Theories in these two categories often interact and establish partly normative and partly scientific explanations and principles in relation to what and how questions on the phenomenon of interest. For example, a research study can be designed through John Dewey’s perspectives on experience as a normative theory, and the results may contribute to construction of micro level theories explaining how experience interplays with learning experiences of a certain age group in a certain content area.

The two educational science traditions described above present diverse approaches to how theory is viewed, used in research, and constructed based on the research results. The Anglo-American view exclusively relies on theories of other social science disciplines (e.g., sociology, psychology, philosophy, history) in developing perspectives for educational research and practice (Biesta, 2011). The assumption is that the field of education cannot have theories of its own because of the applied nature of the field rather than a conceptual field of uniquely its own (Biesta, 2013). Thereby a critical function of educational research, for example, becomes discovering relations among educational variables or describing educational processes and consequences. In doing this, theory borrowed from other disciplines provides a conceptual framework for the research to determine and describe relevant and specific variables or establish a perspective to inquire into educational phenomena. The knowledge produced helps the target group better understand the phenomenon of interest and their relations so predictions for future could be presented for actions to be taken for improved educational processes and outcomes.

In the Anglo-American tradition, construction of educational theories is only possible through the use the theories borrowed from other disciplines to understand and elaborate on educational issues and processes (Hirst, 1996). In other words, educational theories can be produced by applying the relevant concepts and principles of social, psychological, or

philosophical theories to the relevant phenomena in the field. In this approach, educational theories are like conceptual models or a set of principles or procedures for practitioners to use in education. Hilda Taba's (1962) mastery learning, for example, is based on the principles of behavioral learning in psychology and presents a model for organizing teaching and learning activities based on the conceptual elements and principles of this theory. Therefore, the validity of educational theories is dependent on the meaningfulness of the theories borrowed from the fundamental disciplines (Hirst, 1996).

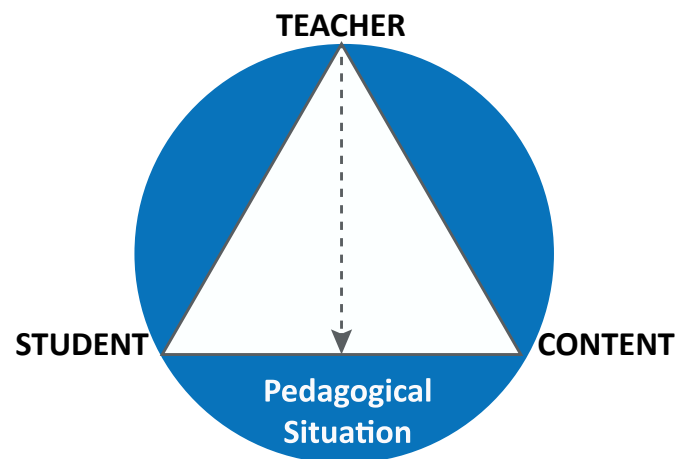
When it comes to the Continental European tradition, educational theories primarily arise from the discipline itself even though the theories from other disciplines are also perceived instrumental in studying educational problems and providing perspectives into practice. Groothoff's (1973) description of theories in education reflects this holistic perspective that addresses the potential relevance of both pedagogical theories and theories of other disciplines for the study and practice of education. Groothoff categorizes educational theories as relating to (1) becoming a human being; (2) interpersonal interaction; (3) emancipatory learning; (4) social life with a future perspective; (5) relations between ends and means of education; and (6) educational processes in different contexts (cited in Biesta, 2011). The first four categories concern the questions of what education ideally should consist of and how it should function. The fifth reflects a positivist orientation to theory since it addresses description of links between means and ends in education. The last has found body in much of the educational research with an orientation toward producing concepts and processes that explain the relations between ends and means within certain contexts (Biesta, 2013). These contextual or micro theories may eventually lead to the construction of broader and more general theories given that sufficient research is carried out and the results are validated in a variety of contexts.

Variation theory is an example of theories representing the Continental European orientation to educational science. It is a learning theory focusing on variation as a necessary mechanism for learning, such as learning about the concept of color through various representations of color or gender through men and women (Marton & Morris, 2002). In this theory, meaningful learning takes place through differentiation among various aspects of a phenomenon rather than accumulation of more knowledge. An analysis of the learner's prior knowledge sets the stage for supporting his/her further learning through varied dimensions of the phenomenon of interest (Kullberg & Ingeman, 2022).

Theories integrating teaching and learning (didaktik) can also be constructed based on research through the study of teacher, student, and the content (didaktik triangle) in different subject areas and contexts (see Figure 1). In these theories, the focus is on how the teacher and the student relate to the specific content, and how the teacher impacts and mediates student's relation to the content (Friesen & Osguthorpe, 2017). Klafki (1995) names this theory as "critical-constructive didaktik" which requires the teacher to assess the content in line with national standards, local realities, and student experiences, and involves resolving tensions in relation to content and context requirements. A teacher needs to carry out a didactical analysis of the content, conditions for students' learning and requirements of the classroom context to establish a meaningful and productive teaching and learning process.

Figure 1

Didactic Triangle (Friesen & Osguthorpe, 2017).



In the Continental European tradition, the theories focus on problematizations of these processes with context-oriented descriptions and interpretations. The focus is not on the attainment of desired outcomes but on the translation of general expectations to specific contextual circumstances. In short, the Continental European perspective considers theories as conceptual frameworks (e.g., concepts, constructs, principles) in explaining teaching and learning processes, a process which may lead to micro/mini theories.

Whereas, in the Anglo-American orientation, the educational theories are like models or collection of principles that clarify the variables critical to the teaching and learning processes and the relations among them toward desired outcomes. Behavioral, cognitive and constructivist learning theories in the fields of psychology and sociology have been found particularly useful in establishing theories or models for the design of teaching and learning processes. Curriculum theories that focus on effectiveness, for example, may present the curriculum as a tool to be used by teachers for high student achievement. “Evidence-based curriculum,” “mastery-oriented curriculum,” “curriculum as a design” are reflections of such approach. A recent example of this approach can be observed in the proposals of the central education bodies toward a teacher proof curriculum. The UK Department of Education (2022) has promoted “outsourcing the curriculum” with an assumption that expertise outside the schools (universities, educational institutions, agencies) can produce a curriculum that is scientific, effective, and better suit the needs of teachers and students in school. This initiative shifts the focus from “teacher’s curriculum agency” to “teacher as implementer” with an “expert developed and tested curriculum” (Winch, 2017), and pushes the schools in the direction of standardization and evidence-based performance (Pountney & Yang, 2021). These kinds of application-oriented theories are built around the concepts of principles of teaching and learning, instrumentalism, control of process and product, accountability through testing, and standardization in implementation in schools.

The Continental European tradition focuses on curriculum theory as perspective, culture, and organization of context-based processes toward flexible consequences. Curriculum provides a platform for problematizing didactic processes rather than a “blueprint” that determines the content, and guides teaching and assessment in the classroom. The essential concepts that shape curriculum theory construction include goal orientation, variation, process, practice, knowledge, mediation, socialization, individualization, and professional knowledge. In this tradition, teacher’s curriculum making and agency is positioned in a multidimensional understanding of curriculum rather than standardized curriculum implementation that guides teachers’ practices. Curriculum is more than an “expert developed material” to be implemented and has a social-cultural character reflecting the institutional, local, national, and international realities (Pinar, Reynolds, Slattery, & Taubman, 2008). Schools can tailor the curriculum based on nationally determined goals, but at the same time, adapt it to their own realities. In this tradition, curriculum theory establishes an essential knowledge base for a teacher whereas in the Anglo-American tradition it serves as a guide to research and practice by making the variables clear, relations to be tested, content area organization and methods to be used. In short, this diversity in curriculum theories gives shape to instrumental or professional curriculum making by providing implications such as who decides on the curriculum, who develops, who uses, and who supervises.

One example of this approach to curriculum is John Dewey’s (1963) theory, which involves four critical aspects of development: expressive, constructive, artistic, and social. These aspects should be incorporated in any curriculum since they characterize how one views the world. This requires interconnectedness in the curriculum with a focus on learner’s experiences and life. A curriculum independent from these aspects is doomed to failure and will not lead to long-term meaningful learning. Similarly, the Continental European perspective of educational science frames the concept of curriculum from a heuristic and progressivist perspective as opposed to curriculum as design (Tyler, 1949) and progression (Rata, 2021) that is apparent in the Anglo-American tradition. Another example is the theory of “powerful knowledge” (Young, 2010; 2013) focusing on the question of how to make the content meaningful and worth for the learner, and offering the concepts of “unlocking” and “transformation” to make the content pedagogically meaningful (Friesen, 2018).

How would these different theoretical orientations impact the research undertaken in educational science? How is research on curriculum positioned to reflect various orientations to educational science in general and diverse conceptions of curriculum in specific? Is curriculum a blueprint based scientific research, or an unfinished product that requires continuous problematization and development based on research? The answers to these questions differ based on ontological and epistemological assumptions we have regarding the curriculum. Traditional scientific methods would be essential in putting these theories into test for the purpose of producing principles evidenced through research. Standardization in curriculum would lead to generalization in research, efficiency in teaching and learning through performance-based processes. So, the practice can be controlled and supervised with pre-established criteria based on evidence-based research which requires a positivist inquiry orientation.

These traditions also have implications for teacher's role as a curriculum agent ranging from a facilitator who promotes prescribed learning outcomes to an investigator as to the purpose of the curriculum, enactment of teaching and learning processes with a questioning approach. Action research, practitioner research, practice-close research are some of the approaches teachers employ to investigate, reflect on and improve their practice based on research. The Continental European orientation in educational science promotes this research-based, reflective approach to implementation of curriculum whereas the traditional Anglo-American approach aims for providing teachers "effective curriculum," "perfect designs" or "proven principles and procedures" to be followed by the teachers to establish a process based on design rather than the implementer himself or herself as a professional.

In summary, the theoretical orientations in the two traditions have critical implications for the research approaches they primarily promote. When generalization is the purpose, positivist research paradigm can offer useful tools whereas contextual understanding and theory production at the micro level can be achieved primarily through interpretivist research paradigm. Further implications of educational science traditions for alternative research paradigms are discussed in the next section below.

Educational Science Traditions and Research Paradigms

Scientific research is a challenge in social sciences and requires diversity and flexibility in the approaches and methodologies. Educational science is no exception! Berliner (2002) once described education as the "hardest science of all" due to complexity of the variables, changing contexts and false knowledge expectations from research. The positivist research methods can be applied under predefined, controlled, systematic processes, and this could be achieved with a high degree of reliability and validity in natural sciences. When it comes to social sciences, particularly education, contexts and interactions within these contexts are difficult to control and the changing conditions often present tremendous threats to reliability and validity, the two significant cannons of positivist scientific research. The Anglo-American educational science tradition largely ignored this critical nature of the field of education particularly in its early periods and chose to use the positivist research methods such as generalized surveys, experiments, and quantitative observations with a goal to follow what is recognized as acceptable and respectable in scientific circles. The results of such research have often been inconclusive, and conflicting given the similar research questions and target groups particularly in relation to the causal relations that the researchers tried to establish in educational processes. This problem has led many researchers in the Anglo-American tradition to explore alternative ways of studying educational questions, and most of these landed on interpretive research paradigm.

The impact of basic disciplines on the development of educational research is also evident in the research methods promoted in the Anglo-American disciplinary tradition. Furlong and Lawn (2011) argue that sociology, psychology, history and philosophy, as the four basic social science disciplines, form "the foundation of education" and influence the research approaches in the field accordingly. While sociology had an impact on descriptive educational research, psychology promoted experimental studies and history partially contributed

to the use of document analysis in the field. Philosophy's contribution has mostly been conceptual rather than methodological. So, the impact of basic social science disciplines on education can also be observed in the adaptation of positivist research methods such as survey, experimentation, quantitative observation, and document analysis studies. Historical analysis and conceptual work could be the exceptions to this trend, but they do not account for most of the research studies in educational science.

In the Continental European tradition, the relationship between theory and research is discipline based. Educational theories guide research in setting a direction, giving shape to research questions and determining the respective methods, and set the stage for interpreting the results and placing them in the conceptual literature. Theory is not considered as a framework to determine the variables and hypotheses to be tested, but a conceptual perspective that guides the research throughout all its phases, and at the end it is revisited in terms of further elaborations and expansion of the theory. So, an important goal of research becomes a contribution to the theory. As mentioned above, educational theories may be normative based on philosophical thoughts and values about education, but also rooted in educational practices. Research about beliefs and understandings of teachers, factors effecting educational outcomes, teaching, and learning processes may lead to micro theories which Carl (1986) calls "practical science" (cited in Maddock, 1997).

The positioning of alternative research paradigms in educational science traditions has also been influenced by the research needs in relation to teaching and teacher education. Traditional research on teaching mostly concerns studying variables critical to teaching processes independently from each other, particularly from the content, with a purpose to arrive at generalizations. The results of research studies with this positivist orientation have been conflicting in many cases because of the diverse contexts and the impediments to generalization. Although policy makers have looked for research-based results on effective teaching methods and processes, educational research has not been providing a clear answer to these requests. As a result, alternative research approaches have been considered to bring in more in depth and value-laden (Carr, 1985) understandings of teaching and learning processes.

Accordingly, Klette (2007) argues that there is a need for studying "the relations between content matter issues (what), instructional activities (how) and teachers and students involved (who) in studies of teachers and teaching" (p. 148). She further states that content and classroom context have been ignored in traditional studies of teaching and learning, and as a result, the understanding such research arrives at is an incomplete one. The interpretivist research paradigm has offered such methods for studies that focus on multidimensions of teaching and learning process and contextualize the findings through the study of the classroom environment.

When it comes to the needs of teacher education research, this partly has to do with the transformations the programs went through. Many Anglo-American and European countries moved their teacher education programs from teacher training colleges or institutes into universities in the 1970s and 1980s. This change resulted in more emphasis on research in teacher education in line with the research expectations as one of the pillars of university

education. Teacher education has traditionally been practice-based, and one expectation was to make this a focus of research. However, this expectation conflicted with the university academics' tendency to use positivist research methods mainly in the form of surveys and experiments. This research orientation resulted in a gap between the professional development processes student teachers went through and the research outcomes which were general and away from speaking to the practical and contextual developmental needs of student teachers.

For the Anglo-American tradition, teacher education is a “perfect” application field, thereby a good reflection of what educational science stands for. Fundamental disciplines like psychology, history and sociology have impacted teacher education by offering theories and principles in relation to development, learning and historical perspectives. An interdisciplinary perspective has given shape to many subdisciplines in teacher education such as educational psychology, educational sociology, educational philosophy, and history of education. The assumption was that teaching and learning can be understood through the concepts and theories of these disciplines, and students should learn these perspectives to make sense of social, psychological, philosophical issues they will deal with in schools. A reflection of this understanding can be observed in many teacher education programs today that represent the courses related to fundamental disciplines heavily through an interdisciplinary approach. Then teacher education research also becomes dependent on the concepts and theories of these fundamental disciplines.

When it comes to the Continental European perspective, traditionally educational science kept its distance to teacher education since practice orientation was seen as critical for the development of teacher knowledge. Educational science and teacher education programs existed independently from each other until the 1970s and 80s. But when teacher education was brought under the umbrella of university, educational science community was divided in positioning teacher education within the tradition of theory-oriented educational science. Some university departments kept their distance and continued with traditional theoretical and research work whereas others changed their orientations toward more practice and interdisciplinary theory and research. In the beginning of the 2000s, research orientation in teacher education became a critical goal both because of the requirements of being a university study and the expectations from the policy makers for teacher education to be research based (Arreman, 2008).

Positioning Qualitative Research in Educational Science Traditions

“Qualitative research is a field of inquiry ... (that) crosscuts disciplines, fields and subject matter (with) a complex, interconnected family of terms, concepts, and assumptions” (Denzin & Lincoln, 2018, p. 9). It is difficult to set the boundaries on qualitative research methods because the field is “contested with many contradictions and different perspectives” (Brinkmann, Jacobsen, & Kristiansen, 2014, p. 17). In simple terms it aims to describe what happens under certain contexts and the meanings people attach to their experiences of these processes. The roots of qualitative research can be traced back to ancient times when Plato promoted the use of observation to understand human behaviors and Socrates advocated

interaction to explore individual meanings (Erickson, 2018). In modern times, the German pedagogy tradition in Europe toward the end of 19th century and the early examples of ethnographic studies in Chicago School of Sociology in the 1920s established the foundations of qualitative methods focusing mainly on observations as the main tool of data collection. Hermeneutics tradition of the 1950s and 1960s helped development of interviews as a way of exploring meanings and experiences systematically. However, it was not until the 1990s when qualitative research was recognized as a credible and institutional field of inquiry in many disciplines.

The history of the use of qualitative research in the Anglo-American educational science tradition follows the development of qualitative research as a field of inquiry in the US. That is, qualitative research earned an equal status as a credible research approach in this tradition only toward the end of the 20th century, the time qualitative research became more common place in many other disciplines. However, the Continental European educational science tradition presents a different picture. First, this tradition was not heavily influenced by the positivist research paradigm in its early times, and more concerned about developing ideas and theories based on observations and reflections in the field (mostly unsystematic and informal) and improve educational practice through the promotion of intellectual development and interaction among the practitioners. The field offered rich perspectives on human development, identity, moral principles, relations, and interaction and ends and means of education (Loughran, 2013). The discipline's focus on development of theoretical concepts meant flexibility in inquiry methods, and this was a major difference from the Anglo-American tradition where positivist research paradigm primarily occupied the research scene in the field, particularly in the early periods of educational science as a field of study.

The research methods offered by the interpretivist paradigm have been found most relevant in the Continental European educational science tradition because of its orientation toward theory and purpose to search for meaning through observations and interaction. The development of qualitative research and respective methodological tools and strategies in the 20th century helped the Continental European tradition use research to produce new knowledge and elaborate on normatively developed pedagogical and didactical theories. Although this tradition has been influenced by positivist research methods particularly in the middle of 20th century as part of an effort to make pedagogy an academic field of study at the university level, the tradition of observation and interaction to offer insights into educational processes and problems has continued, and still is the defining approach in this tradition.

Although qualitative research is perceived and used as an established method in both traditions today, the way these traditions tend to define and use it presents interesting differences. The use of qualitative research in the Continental European educational science displays more flexibility and open-endedness whereas qualitative methods are treated more systematically in the Anglo-American educational science research. The qualitative research orientation in the Anglo-American tradition can be described as “postpositivist qualitative research” which highlights the importance of systematic, well-defined and “commonly shared” methodological procedures. This orientation comes from a long tradition of positivist research orientation in the field and the tendency to employ qualitative methods with a

similar approach. So, the concepts of “research design,” “systematic and well-structured methodological procedures,” “sampling techniques,” “structured interview, observation and document analysis tools,” “reliability and validity” are critical to the use of qualitative research in this tradition. This orientation can be seen as a compromise between the apparent need for employing qualitative research in the field and the tradition of using quantitative approach for many decades. It can also be interpreted that the tradition is still under the impact of positivist orientation, and this results in a need to define clear procedures in every aspect of qualitative research.

Whereas, in the Continental European tradition such methodological clarities are seen against the nature of qualitative research which needs to be more open ended and should not be limiting the researcher’s critical and creative solutions to research questions, and to the requirements of data collection and analysis. As long as researchers can justify their approach conceptually and argue for a methodological approach, then they do not need to be limited by systematic methods and procedures described in the methodological literature. One of the outcomes of this flexibility can also be seen in the efforts to define a new research tradition called “post qualitative research” (Lather, 2016; St. Pierre, 2021; Wells, 2020) which emphasizes the importance of researchers’ creativity, insights and reflections as well as doing research together with participants rather than positioning them only as data sources!

What does the future hold for educational science? There is a trend for more interaction between these two traditions and effort to integrate them into newly defined education science fields. As briefly mentioned above, “Pedagogical work” is one of these areas developed in Sweden at the beginning of this century. It involves a merge of these two orientations addressing pedagogical theories, practice and interdisciplinarity in line with the diverse aspects of educational work. In other words, this approach keeps the theory-oriented focus of the Continental European perspective but also focuses on practice-oriented approach in the Anglo-American tradition. One result is thick descriptions of educational practices, and this is often achieved through qualitative research as it provides effective tools to produce micro theories through small scale studies with in-depth understanding of the phenomenon. These micro theories, as mentioned above, might eventually lead to broader theories with qualifications for different contexts. This theory construction approach is also promoted by Glaser and Strauss (1967) through the concept of “grounded theory” and has met with much interest in educational science in the Anglo-American world as a reflection of the need to explore alternative research methods in line with the complex and multidimensional nature of educational concepts and processes.

Implications for Educational Research in Türkiye

What is the status of educational science in Türkiye and its reflections on research orientations? Turkish educational science is oriented toward the Anglo-American educational studies tradition in many respects including the interdisciplinary approach in the field, close connection to teacher education and the application of the theories from other social sciences to educational practices and research. This has contributed to research oriented toward teaching and learning in schools, an effort to produce evidence-based principles

and practices, and to link educational science to teacher education. On the other hand, the theory orientation promoted by the Continental European tradition has only influenced the field to a limited extent. Educational research primarily represents quantitative orientation as a reflection of the Anglo-American tradition with a purpose to produce principles and rules guiding effective practice but neglects development of perspectives or theories for educational practitioners to consider in relation to the issues relevant to their work.

The organization of educational science in subfields is also a reflection of the Anglo-American orientation. Since the field cannot establish itself as an independent discipline, establishment of subdisciplines through an interdisciplinary orientation was perceived as a necessity. So, many educational studies subfields have emerged because of transdisciplinary or multidisciplinary approaches such as educational psychology, educational management, educational economics, and educational sociology. There are also other subdisciplines reflecting various subcomponents of educational work such as curriculum and instruction, measurement and evaluation, and educational leadership. In the Continental European tradition, such divisions would not be promoted because educational work requires a holistic perspective, and these divisions can result in fragmentation in the profession. Therefore, the invention of “Pedagogical Work” as a field of study intends to address issues in relation to educational practice from a broader and integrative perspective.

It is also important to note that traditional educational science disciplines are going through a redefinition in the Anglo-American tradition as well as in Türkiye. Curriculum and instruction is one of these fields that is going through a conceptual redefinition. Edwards (2001) argues that a pedagogical act involves “... informed interpretations of learners, knowledge and environments (to) help learners make sense of the knowledge” (p. 163). How can a teacher reach such interpretations? Would a “perfect design” approach to curriculum and “evidence-based principles” for teaching take a practitioner to desired consequences in classrooms? Or would a teacher need to consider the complexity, intensity and multidimensionality of teaching and learning situations and adapt a research-based approach to his or her own practice to arrive at contextualized solutions?

These questions and their potential answers have critical implications for redefining the field of curriculum and instruction and the research approaches relevant to the field. Respectively, Bumen and Aktan (2014), in their analysis of the curriculum and instruction field, highlighted a need to bring in a new research approach that would consider political, cultural, gender and historical aspects of curriculum in Türkiye based on Pinar’s (2004) “urgent call” for a “reconceptualization” of the field. This approach would entail phenomenological, post-structuralist, biographic, aesthetic, and theological perspectives. Pinar et al. (2008) argue that the traditional “curriculum development” approach should be replaced with a “curriculum thinking and understanding” approach, and this change in perspective requires a phenomenological and case-based research design to study various aspects of curriculum. A similar approach is needed in educational science in Türkiye to transform the “atheoretical” (Schubert (2009), “curriculum development oriented” and “Tyler rationale” (Jackson, 1992; Tyler, 1949) based curriculum and instruction field to theory, research and practice based “curriculum studies” perspective.

Conclusions and Discussion

The purpose of this article was to discuss the development of educational science traditions in the Anglo-American and the Continental European scenes in relation to theory use and construction in research and research approaches they promote. One conclusion of the analysis above is that earlier versions of qualitative research were used in knowledge production in the Continental European educational science tradition since theory-oriented thinking and contextualization of research were consistent with the concept of “pedagogy” as a way of studying education from a holistic perspective. Informal observations and interactions served this purpose well and promoted the development of pedagogical theories in earlier periods. Today a similar approach is still apparent in this tradition with its theory-oriented research focus.

Research should be theory based, and lead to elaboration of existing theories and construction of new theories. A theoretical orientation is essential in the process of coherent knowledge building in the field (Lingard, 2015; Suppes, 1974; Säljö, 2009), and should be apparent in research questions, design of the study, data collection and analysis, and interpretation of results. Theory construction is a natural outcome of cumulative scientific research in all disciplines as well as in educational science.

In line with this position, a second conclusion in this paper is that educational science orientation has an impact on knowledge produced for the literature and implications offered for practice. The two basic traditions offer diverse ontological and epistemological perspectives, methodological approaches and values attached to these orientations. These differences are also reflected in the organization of research outputs and their dissemination. Traditional research methods such as survey and experimentation find their way into the Anglo-American orientation more since they offer strategies to test the hypotheses offered by various theories as applied to educational questions or issues. As a result, one can offer evidence-based rules and principles to establish systematic processes toward expected outcomes in education. Theories are borrowed from the main disciplines and applied in education as hypotheses, variables, operational definitions, and relations to be able to predict what happens when these variables interplay in a certain way under certain conditions. Theories determine the variables and potential connections among them to be tested under controlled situations. So, research is a process to apply theories borrowed from other disciplines to the realities of educational problems. The knowledge produced by research can offer guidelines for practitioners for better performance in teaching and learning.

Accordingly, another conclusion of the analysis in this paper is that the Anglo-American educational science tradition initially adapted positivist research paradigm to position itself as a university based applied discipline. In this process, theories were borrowed from other social science disciplines based on the assumptions that educational theories can only be applied theories or models based on fundamental theories in other disciplines. However, this has changed in the last few decades through the interaction between the Anglo-American “educational studies” perspective and “educational science” in the Continental European tradition. Qualitative research has found its way into the study of educational problems

as cases, contexts, cultures, and meanings. Grounded theory concept fits well with this orientation bringing theory building a significant goal of research in social sciences as well as in education.

The new fields of study under educational science that integrate interdisciplinary and application-oriented Anglo-American view with the discipline-based theoretical orientation of the Continental European perspective show that much interaction is now taking place between these two world views and new fields of studies are being defined with a more integrative perspective. Pedagogical work is one of these fields, grown in Sweden, based on such a need to integrate the two world views. With theory and practice-oriented goals, it presents a holistic approach to organizing the subfields under educational science, and time will show whether it will lead to similar other new fields as alternatives to more fragmented subfields of the discipline.

It is not the intention in this paper to claim that the Continental European educational science perspective has been the driving force behind interpretivist research paradigm, however, it is evident that the tradition has contributed to the expansion of the qualitative research methods in social sciences. Although the use of qualitative research followed a postpositivist orientation in the Anglo-American tradition that attempted to establish systematic and generalizable uses of methods through well-defined designs, sampling methods, data analysis techniques, the Continental European tradition used the qualitative research methods more flexibly not to be limited by predefined methodological procedures and processes. This methodological difference in the two traditions is helpful to keep the discussion on qualitative research approaches active and ongoing.

The literature on research traditions is expanding fast with new concepts, methods, approaches, and perspectives. It is evident that the expansion has to do with qualitative research more than quantitative. This is understandable given the open-ended nature of the qualitative methods. Still, scientific research requires a common language among the researchers and recognized methodologies that lend themselves to the production of credible scientific knowledge. Therefore, the methodological literature should address the creativity and alternative courses of action researchers need to employ to explore and understand the reality, but, at the same time, make the researchers accountable to methodological traditions established as the shared and recognized language and processes of research!

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