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Examining Primary School Teachers' Readiness Levels for Authentic Learning: A Mixed Methods Study

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The objective of this study is to ascertain the preparedness levels of primary school educators for authentic learning and to evaluate this preparedness in relation to a range of variables. The study employed a mixed-methods design, integrating both quantitative and qualitative research techniques. In the quantitative dimension of the study, a survey method was employed, and the sample group consisted of 204 teachers selected through a non-probability sampling technique. The 'Authentic Learning Readiness Scale for Teachers' was employed as the instrument for the collection of data. The data were analysed using the statistical software package SPSS. Frequencies and mean values were examined, and an independent t-test and one-way analysis of variance (ANOVA) were used to determine any significant differences. The quantitative results of the study indicated that primary school teachers exhibited a high level of readiness for authentic learning, with no significant differences observed across gender, age, professional seniority, education level, class size, or place of duty variables. In the qualitative dimension of the study, the phenomenological method was employed, and the study group was determined using criterion sampling. A semi-structured interview format was employed as the primary data collection instrument. The data were collected from 13 teachers who participated in focus group interviews and subsequently analysed using MAXQDA content analysis software. The qualitative results of the study indicated that primary school teachers associated authentic learning with activities that were related to students' lives and learning through doing and experiencing.

Introduction

In the Turkish Language Association dictionary, authentic is defined as having characteristics that have existed since old times (TDK, 2011), being real and true (Newmann

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et al., 1996), and as natural, original, not fake (Metin & Kulakaç, 2021), genuine, of resembling nature (Köksal, 2019), and as the consistency between action and values (Cranton & Carusetta, 2004). From these expressions, it can be understood that the concept of authentic refers to the transformation and reflection of an existing natural or original state or a feature that is true to its essence. When it comes to authentic learning, supporting students in making sense of real-life problems, exploring and relating information, and constructing knowledge come to the fore (Donovan et al., 1999). Based on these explanations in the literature on authentic learning, authentic learning can be defined as the active participation of students in the learning process tailored to their real-life experiences and characteristics, organizing a learning environment conducive to producing solutions to life problems, implementing educational activities with meaningful connections and constructions, and evaluating them.

Learning environments based on authentic tasks, especially in the lessons of elementary level teachers, should make use of technological elements to implement authentic tasks. Authentic learning can be effectively used to structure learning experiences at all educational levels (Herrington et al., 2014). In this context, an effective authentic learning environment is activity-based, utilizes real or near-real sources and materials, involves discussion of what is learned in class, sharing and reflecting on outcomes. At the same time, the authentic learning environment can be supported with resources, materials, and advanced technologies for use in the classroom. Real-life situations encountered by children can be examined and resolved. In addition to collaborative work, multiple disciplines can be engaged, and performance processes can be operated and evaluated.

Authentic learning supports dealing with social problems and policies outside the home (Borthwick et al., 2007) and uses real-life problems in classes and situations by operating a teaching process appropriate to the educational treatment of students. It is transferred to the school environment (Cholewinski, 2009) and includes learning and evaluation through observation and experimentation on real-life issues and problems (Knobloch, 2003). These are the values of the educational approach underlying authentic learning, as shown in the literature. In this understanding of education, collaborative group work is based on the individual's real experiences, knowledge, skills and application. With the authentic learning approach, which is in line with the constructivist education approach, the student's unique being is supported, as well as the use of methods suitable for the student's real life and the activity and storage class environment.

In an authentic learning environment, student-centered approaches and students who structure knowledge in their minds and actively use it during the learning process come to the fore. Thus, students are enabled to focus on solving many real or fictional problems. Learning methods that include case studies and case studies, drama and role-playing methods, and problem-based activities are used (Lombardi, 2007). In this sense, students are expected to be active in solving some individual and social problems they experience and to produce different solutions to the problems. Teachers' use of differentiated and enriched resources, materials and technology in an authentic learning environment can contribute to the development of students' research-examination, thinking and decision-making skills and support authentic learning.

In the authentic learning process, evaluations are based on evaluating the performance in situations similar to real-world tasks, and the quality of the process itself or the service is evaluated (Horzum and Bektaş, 2012). In this sense, in the authentic learning approach, rubrics can be used as observation, asking classification questions, pencil and paper tests,

performance evaluation, performance criteria, checklists, rating scales, and rubrics (Dolanbay, 2021). Teachers who guide the process have an important place in carrying out this authentic evaluation process, tasks and evaluations. By enriching learning environments and supporting teachers and students, motivation for the authentic learning process can be increased.
Authentic task-based learning environments provide opportunities for teachers to bring real life into the classroom and for students to learn collaboratively through real contexts, problems, and relationships. It enables the development of students' questioning, research and higher-level thinking skills through activities (Gündoğan and Gültekin 2018). In this context, authentic learning processes and environments not only reflect the student's real life, but also support the student to apply the experiences in his/her life and actively take part in the learning process. As a matter of fact, the teacher can contribute to the authentic learning environment by bringing real-life situations into the classroom environment. Teachers must always be active and prepared to achieve authentic learning processes.

When the literature is examined, it has been determined that there are some studies on teachers regarding authentic learning. In these studies, teachers' experiences, thoughts and evaluations regarding authentic learning and authentic evaluation were generally taken. In authentic learning research on teachers; examining teachers' pre-service authentic learning experience (Aina et al., 2015), students' and teachers' opinions on the use of authentic environments (Belet Boyacı and Güner, 2017), teachers' evaluations of authentic assessment (Bordoh et al., 2015), authentic tasks based on teachers' opinions The issues related to the review of the EBA (Eğitim Bilişim Ağı - Education Information Network) site (Pala et al., 2017) attract attention. In addition to these studies, primary school teachers' evaluation of opinions, attitudes and knowledge regarding authentic measurement and evaluation methods (Kılıç, 2014). Although these studies have been conducted with teachers, it has been observed that a detailed study has not been conducted in which the authentic learning readiness levels of classroom teachers were studied with a mixed pattern and revealed with quantitative and qualitative data. Therefore, this research was needed.

In this research, it is aimed to examine the authentic learning readiness levels of classroom teachers and to determine them according to different demographic variables. Within the scope of the research, answers to many questions were sought. The authentic learning readiness status of classroom teachers was discussed according to demographic characteristics (gender, age, seniority, educational status, class size and place of duty). In addition, the concept of authentic learning, the ways followed to develop authentic learning, the materials used, the methods and techniques used, the evaluation process and any obstacles to authentic learning have been tried to be identified. It is expected that this research will guide other studies on authentic learning and contribute to the relevant literature.

Method

The mixed design method was used in this research, which was conducted to examine the authentic learning readiness levels of classroom teachers during the education process. The mixed design method, in which quantitative and qualitative research methods complement each other by using them in the same research (Christensen et al., 2015), was preferred because it carries the potential to create strong evidence by comparing the data (Johnson and Onwuegbuzie, 2004).

In the quantitative part of the research, the survey method was used. This method aims to determine the characteristics of a group regarding the subject and to describe its current

situation (Büyüköztürk et al., 2020; Karasar, 2012). In the qualitative part of the research, the interview method was used. The phenomenological method is defined as the common meaning of the lived experiences of more than one person regarding a concept, event or phenomenon (Creswell, 2007). It is the examination, interpretation and revealing of the phenomena and events we encounter in our environment, the meaning of which we cannot fully comprehend and about which we do not have in-depth knowledge (Yıldırım and Şimşek, 2018). This research was carried out in two stages. In the first stage, quantitative data were collected and in the second stage, qualitative data were collected and analyzed, and the quantitative and qualitative data were explained, interpreted and detailed. In this sense, sequential explanatory mixed design was used in the research. This is important in clarifying the findings and results of the research (Creswell, 2017).

Sample Group of The Research

The universe of the quantitative research group consists of primary schools located in a district of Kahramanmaraş, Türkiye. The quantitative research group was formed with the participation of 204 classroom teachers. The simple random sampling method was preferred when determining the participants. This method is the process of randomly selecting from the universe list and has a higher representative power compared to other sampling methods (Büyüköztürk et al., 2020). The elements that make up the universe have an equal chance of being selected and all individuals have the same probability of being selected (Karasar, 2012). While determining the quantitative research group, simple random sampling method was preferred. This method has higher representative power than other sampling methods (Büyüköztürk et al., 2020) and the elements that make up the universe have equal chances of being selected (Karasar, 2012). The qualitative research group was determined by the criterion sampling method, one of the purposeful sampling types. Qualitative research method is used to obtain in-depth information about the subject under investigation (Mertens, 2010) and to obtain rich data based on the experiences of the research group (Merriam, 2023). In this research, criterion sampling method, one of the qualitative research methods, was used to determine the research group. In criterion sampling, the researcher determines the participants by taking certain criteria into account when determining the sample (Yıldırım and Şimşek, 2018). The criteria in the study group of this research are; Classroom teachers work in a public school, have at least a bachelor's level education, work in the city center and have worked as a teacher for at least 10 years. The demographic characteristics of the classroom teachers who constitute the study group of the research are given in Table 1.

Table 1. Demographic Characteristics of Classroom Teachers

	Quantitative research group		Qualitative research group	
Gender	n	%	n	%
Female	98	48	5	38
Male	106	52	8	62
Age		%		
20-29 years	48	24	-	-
30-39 years	86	42	2	15
40-49 years	39	19	2	15
50 years and above	31	15	9	70
Professional Seniority				
1-5 years	32	16	-	-
6-10 years	54	26	-	-
11-15 years	56	27	2	15
16-20 years	32	16	2	15
21 years and above	30	15	9	70

Educational Status				
Licence	182	89	13	100
Postgraduate	22	11	-	-
Class Size				
Under 20 people	57	29	-	-
20-30 people	95	45	8	62
30 people and above	52	26	5	38
Duty Station				
Village	71	35	-	-
Town	41	20	-	-
District center	49	24	-	-
City center	43	21	13	100
Total	204	100	13	100

When Table 1 is examined, the quantitative group of the study consists of a total of 204 classroom teachers, the qualitative group of the research consists of a total of 13 classroom teachers.

Data Collection Tools

The "Authentic Learning Readiness Scale for Teachers" developed by Horzum et al. (2019) was used as the quantitative data collection tool of the study. It was stated that the factor load values of the Authentic Learning Readiness Scale, whose validity and reliability were calculated, varied between 0.42-0.84 with the validity studies carried out, and this single-factor structure, which consists of 16 items, explained 48% of the total variance. In the total reliability analysis of the scale, it was determined that the internal consistency coefficient was α=0.92. Based on these data, it can be said that the scale is valid and reliable.

Semi-structured interview technique was used as the qualitative data collection tool of the research. First, the infrastructure of the interview questions was created by scanning the literature related to the research subject, and then opinions were taken from two experts in the field of educational sciences for the reliability and validity of the interview questions. After the evaluation from the field experts, the number of questions, which was 4 at the beginning, was increased to 6 and the scope was expanded. In addition, the prepared interview form was piloted with two teachers, and the answers given by the teachers were analyzed and evaluated. As a result, it was understood that the questions in the interview form were understandable and clear, and it was decided that the interview form was applicable. In the semi-structured interview technique, since the pre-prepared questions are flexible (Merriam, 2023), detailed information can be obtained by asking additional sounding questions during the interview (Yıldırım and Şimşek, 2018). In order to carry out the research, the ethical permission of the scientific research and publication ethics committee of Nevşehir Hacı Bektaş Veli University with the meeting decision number 2021.09.346 was obtained and shared with the participants. In this context, the following questions were asked to examine the authentic learning readiness levels of classroom teachers:

(1) What does authentic learning mean to you?
(2) What kind of path do you follow to develop authentic learning?
(3) What kind of materials do you use in authentic learning?
(4) What kind of methods and techniques do you use in authentic learning?
(5) What do you do during the authentic assessment process?
(6) What are the obstacles in the authentic learning process?

Collection and Analysis of Quantitative Data

The data were collected by going to schools when teachers were available. During the collection of the data, it was stated that the necessary permissions were obtained with the research, the necessary information about the survey was given, and the necessary explanations were made for them to answer the questions correctly and sincerely. The research collected data from a total of 204 teachers working in provincial, district, town and village schools of one province.

When we went to the schools, first of all, a meeting was held with the school administration about the importance of the research and the implementation steps, and after obtaining the necessary permissions from the school administration, our teachers participated in the research on a voluntary basis in a way that would not disrupt their lessons. Participating teachers were informed about the research, and it was stated that what was expected of them was to carefully read each statement (item) in the data collection tool and to specify the appropriate option according to your level of agreement with the statement (item). It was stated that the data obtained would only be used in scientific research, and it was emphasized that the healthy results of the research depended on the sincere and complete response of the data collection tool. After the data collection tools were distributed by the researcher, the participants were given the necessary time to answer the questions, and after the answers were completed, the data collection tools were collected. In the case of teachers working in schools with difficult access to different places, volunteer teachers were contacted, and the importance and implementation phase of the research were mentioned, measurement tools were sent digitally and instant data were collected from digital data collection tools shared with volunteer participants. Thus, data collection tools were provided with less cost and faster return, and the research group was expanded by reaching more people and teachers working in different places. The data of the study were collected within 2 weeks.

Quantitative data were analyzed with SPSS (Statistical Package for Social Sciences) statistical program. According to the demographic characteristics of the teachers (gender, age, professional seniority, educational status, class size, place of duty), frequency and mean values were examined; One-way analysis of variance ANOVA was used with independent t-test to reveal the differences. While evaluating the research data, descriptive statistical methods such as frequency, standard deviation and mean were included for the analysis of personal characteristics (gender, age, seniority, educational status, number of students in the class, place of duty), which are described as demographic characteristics. In order to compare the quantitative data obtained, independent samples t-test and one-way analysis of variance ANOVA were used between the groups.

According to the answers given by the classroom teachers to the items in the scale used in the study, the score values were entered into and analyzed in the computer environment. In this sense, the levels of the scores; It is a five-point Likert rating type with answers such as (1) Strongly Disagree, (2) Disagree, (3) Undecided, (4) Agree, (5) Strongly Agree. The results obtained are distributed over a span (spread) of 5.00-1.00=4.00 points. With the division of this span by five, levels that help determine the cut points of the scale are assigned. In the evaluation of the score levels of the answers given to the items in the scale; The score criteria were taken as "very high" in the range of 4.20-5.00, "high" in the range of 3.40-4.19, "moderate" in the range of 2.60-3.39, "low" in the range of 1.80-2.59 and "very low" in the range of 1.00-1.79.

Qualitative Data Collection and Analysis

The qualitative part of the research was designed with focus group interviews. It can be said that focus group interview is a reliable method used to obtain information from multiple participants at the same time (Onwuegbuzie et al., 2009), and it is one of the most used data collection techniques in qualitative research (Şahin et al., 2009). The data of the study were collected from two different focus groups consisting of teachers whose criteria were suitable for sampling. Focus groups consist of a total of 13 teachers, 6 and 7 teachers. In the first focus group interview, 7 teachers who were suitable for the criterion sampling working in a school affiliated to the city center were invited, 6 teachers participated in the interview and lasted 1 hour and 20 minutes. In the second focus group interview, 10 teachers who were suitable for the criterion sampling working in another school in the city center were invited, 7 teachers participated in the interview and it lasted 1 hour and 35 minutes. The number of participants in focus group interviews should be between 6 and 12 people. The group should show similar characteristics and be homogeneous (Morgan, 1997). Focus group interviews should be between 1-2 hours (Krueger, 1998; Nyumba et al., 2017).

Focus group interviews were held with teachers from two different schools in teachers' rooms on predetermined days. In the focus group interview, the researcher himself is in the role of moderator, and the rapporteur is the assistant moderator. The moderator ensures that the group can express their views in a healthy discussion environment without being the source of the information during the meeting. The assistant moderator, on the other hand, records the answers given by the teachers participating in the focus group interview to the research questions by taking them to the voice recorder with the permission of the focus group. Before both focus group interviews, it was stated that the names of the participants would be kept confidential, the recordings would be collected for scientific purposes, and the permission of the participants would be obtained for the audio recording.

The validity and reliability of qualitative research is basically possible by conveying to the reader in detail what will be done during the research process. During the research process, certain precautions were taken while collecting data. Before the focus group interview, the place where the interview will be held is determined in advance and made suitable for the interview. The interviews were held in the teachers' room after the end of the school lessons. Other staff present at the school at that time were informed so that the interviews could be conducted in a safe environment and not be interrupted. The voice recorder is checked and made ready. In accordance with scientific ethical rules, participants are informed that the interviews will be recorded. In order to avoid a possible error in the process, a pilot application is carried out to check whether the minimum conditions are met. According to the purpose of the research, it is important to select and invite the most appropriate participants with common experiences to the focus group interview (Bryman, 2012; Yildirim and Simsek, 2018). At the beginning of the meeting, the moderator asks the participants to fill in the simple personal information in the interview form to relieve their tension, if any, declares that the participant information will be kept confidential, and their personal rights will be protected. It encourages passive participants and gives brief information about the study. Then, he asks the questions in the interview form in a certain order. Interview questions should be supported with exploratory sub-questions, when necessary, they can make jokes so that the focus group does not get bored, and they should be able to take the pulse of the group well by taking breaks when necessary. At the end of the study, the moderator and his assistant may thank the participants of the focus group for their efforts and reward them with small gifts (Krueger, 1998; Krueger & Casey, 2000).

The data taken into the voice recorder is transferred to the computer environment in writing by the assistant moderator after the focus group interviews are completed. And the answers given by each participant to each question are recorded in the computer environment. The data obtained from the participants were coded as (Participant1: K1, Participant2: K2, ..., Participant: K13), thus protecting the confidentiality of the participants. MAXQDA program was used for the content analysis technique of the research data. While analyzing the qualitative data, certain stages such as uploading the data to the program and creating categories were followed. The categories of the data obtained were organized and presented as figures thanks to MAXMAP. The obtained figures and their explanations were given together, and then they were checked and verified by an expert from educational sciences by analyzing them with the MAXQDA analysis program. What is important in content analysis is to create a rich quality expression of the data obtained, to determine that the same word is used in different meanings and contexts (Onwuegbuzie et al., 2009). In this method, concepts are associated with each other, arranged and interpreted by bringing them together with certain concepts and themes (Yıldırım and Şimşek, 2018).

In order to ensure the validity and reliability of qualitative research data, the research was carried out within the framework of a plan, the data were recorded, interpreted and evaluated. In the study, the participants were given their own opinions confirmed, attention was paid to the consistency of the data, and the opinions of the participants were directly included. Planning the interview process, developing an appropriate interview form, recording, writing, evaluating and reporting the interviews, directly including participant opinions and confirming the consistency of the data (Edwards & Skinner, 2009; Kvale 1994; Yıldırım and Şimşek, 2018) are important for the validity and reliability of the research. During the analysis of the data, opinions were obtained from two educational sciences field experts. Experts in the field of educational sciences examined the data and found harmony by revealing the consensus and differences of opinion between the codings. As a result, the reliability coefficient between encoders was calculated as .92. In this calculation, Miles & Huberman's (1994) Encoder Reliability Coefficient of Fit = Consensus/Disagreement) x 100 formula was used. This ratio is expected to be at least .70 in terms of encoder coefficient of fit (Miles & Huberman, 1994). It can be said that the .90 ratio obtained in the research is a good ratio in terms of the coefficient of codifier compliance.

Research Permits

For the research, ethics committee permission was obtained with the decision of Nevşehir Hacıbektaş Veli University Scientific Research and Publication Ethics Committee numbered 2021.09.346.

Findings

The data obtained regarding the authentic learning readiness levels of classroom teachers were analyzed and interpreted in tables. According to the data obtained in the study, the frequencies of the answers given by the classroom teachers to the scale items, their arithmetic means (Table-2) and their change according to demographic characteristics (Table-3) were examined.

Table 2. Authentic Learning Readiness Levels of Classroom Teachers

Items	Strongly disagree (1)	Disagree (2)	I'm undecided (3)	Agree (4)	Strongly agree (5)	Average
1. I start the learning process with the presentation of a real-world problem	0	3	22	136	43	4,07
2. I am confident in guiding the student to develop activities in the learning process in accordance with the real-world context	1	3	8	92	100	4,40
3. I am happy with the active participation of the student in the activities during the learning process	2	5	9	42	146	4,59
4. I support the student in the learning process in a way that creates products	0	3	12	70	119	4,50
5. I support the determination of the right field expert to support the student's learning in a subject that requires special field expertise	0	5	22	99	78	4,22
6. I motivate the student to empathize in interacting with the environment	1	3	8	69	123	4,52
7. I motivate the student to take responsibility together by establishing a social bond with the environment	1	5	9	81	108	4,42
8. I would be happy to encourage students to get opinions from each other in finding solutions to the problems they face	0	0	5	71	128	4,60
9. It makes me happy to encourage the student to take on different roles in activities	0	3	6	62	133	4,59
10. I am confident in creating a democratic learning environment where students can express their ideas comfortably	0	1	11	74	117	4,51
11. It is important for the student to inform about the process beyond the result while presenting the learning products	0	2	12	95	94	4,38
12. I like it when the student reflects their achievements in the process to new learning situations	0	1	3	69	131	4,62
13. When solving problems with real-world context, I expect my student to reflect on their achievements	0	1	8	104	91	4,39
14. I am happy to see that the support of the person who supports my student in his learning gradually decreases and my student is able to learn independently	0	1	8	79	116	4,51
15. I carry out the learning process in a way that enables the student to solve problems independently	0	3	13	90	98	4,38
16. I am qualified to evaluate all components of the learning process	0	11	31	104	58	4,02
Total overall average						4,42

As can be seen in Table 2, it was determined that the classroom teachers' authentic learning readiness levels total mean score was at a "very high" (x=4.42) level. Although the mean score of the answers given to the item "I am qualified to evaluate all components of the learning process" was the lowest (x=4.02), it was still at the "high" level. The highest mean score was found to be the mean score of the answers given to the item "The students' ability to demonstrate their learning in new learning situations makes me happy" (x=4.62). The scale item with the second highest mean score is "Encouraging students to seek each other's opinions in finding solutions to the problems they face makes me happy" (x=4.60).

As can be seen in Table 3, classroom teachers' authentic learning readiness levels do not differ significantly according to gender variable (t=1.650, p=.791). The mean score of female teachers was ($\bar{x}$=4.39) and the mean score of male teachers was ($\bar{x}$=4.46). When compared according to the age variable, it was determined that there was no statistically significant difference in classroom teachers' authentic learning readiness levels according to age groups (f=2.215, p=.088).

Table 3. Demographic Characteristics of Classroom Teachers' Authentic Learning Readiness Levels

Variables	n	x̄	Sd	Test value	p
Gender			t		
Female	98	4.39	.329		
Male	106	4.46	.328	1.650	.791
Age			f		
20-29 years old	48	4.39	.382		
30-39 years old	86	4.37	.322		
40-49 years old	39	4.46	.287	2.215	.088
50 years old and older	31	4.53	.290		
Professional Seniority			f		
1-5 years	32	4.38	.394		
6-10 years	54	4.37	.356		
11-15 years	56	4.40	.286	1.737	.143
16-20 years	32	4.50	.290		
21 years and more	30	4.51	.297		
Educational status (graduation)			t		
Undergraduate	182	4.42	.302	1.263	.103
Graduate	22	4.43	.397		
Class Size			f		
Less than 20 students	9	.39	16		
20-30 students	2	.40	80	1.894	.153
More than 30 students	3	.49	92		
Place of Duty			f		
Village (Small Neighborhood)	71	4.38	.371		
Town (Large Neighborhood)	41	4.39	.356	1.213	.306
District center	49	4.45	.301		
Province Center	43	4.42	.251		
Total	204	4.42	.330		

It was determined that the professional seniority of the classroom teachers did not create a statistically significant difference (f=1.737, p=.143). When compared according to the variable of educational status, it was determined that the educational status of classroom teachers did not create a statistically significant difference (t=1.263, p=.103). When compared according to the variable of the size of the class taught, it was determined that the number of students in the classrooms did not create a statistically significant difference (f=1.894, p=.153). When compared according to the place of duty variable, it was determined that there was no statistically significant difference in classroom teachers' authentic learning readiness levels according to their place of duty (f=1.213, p=.306). The data obtained from the classroom teachers' statements about authentic learning are presented in Figure 1 and explained.

As can be seen in Figure 1, classroom teachers' views on authentic learning were grouped under 12 categories in total. These categories are vitality (5), student-centered (3), teacher guide (3), cooperative learning (2), scientific learning (2), individualized education (2), learning by doing and experiencing (2), material-supported (2), national learning (1), learning with activity (1), natural learning (1), blended learning (1). The statements of the participants regarding their views on authentic learning are as follows:

> ***P3:*** *[It is the state of what is learned being related to daily life and real life. It is a form of learning that originates from the natural characteristics of the student. It is*

learning by accepting the general characteristics of the environment in nature. It is the relevance of what is learned to everyday life].

P7: *[In my opinion, authentic learning means supporting students with concrete materials in the learning process and associating them with daily life to ensure the retention of knowledge, in other words, I understand it as putting what they have learned into practice].*

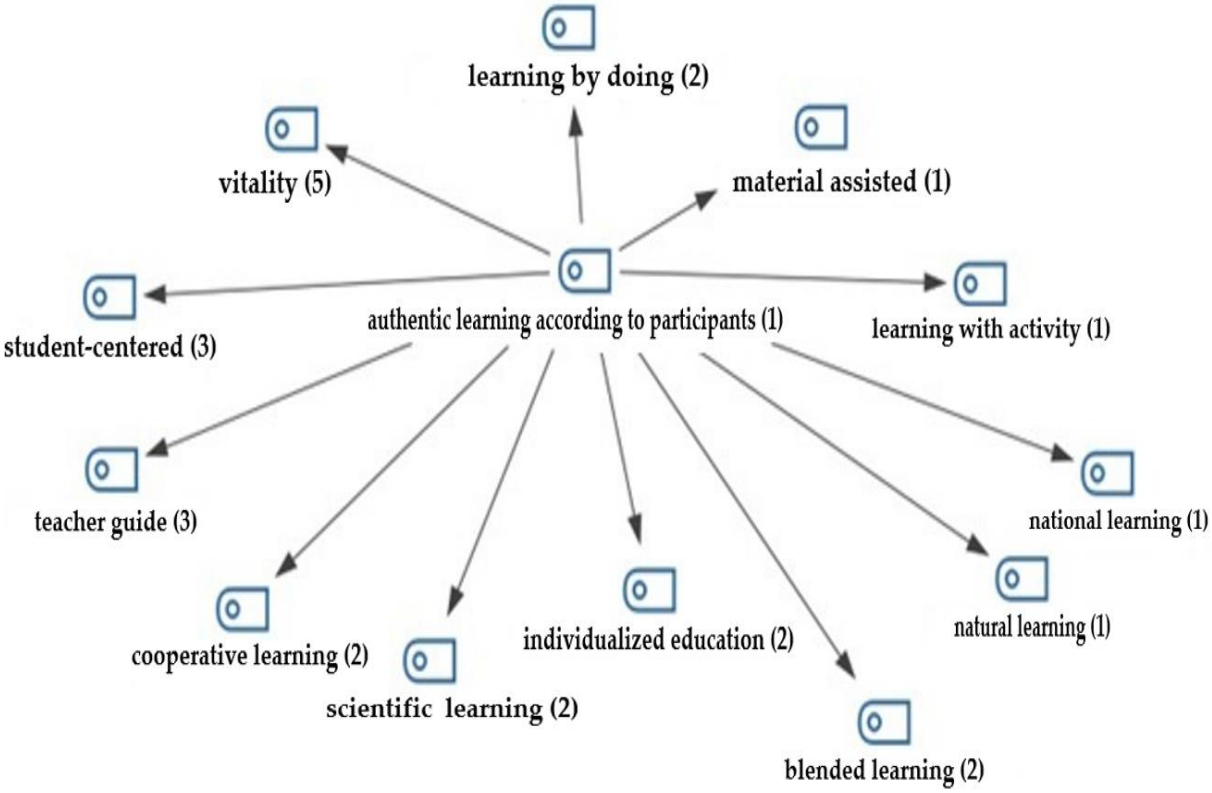

Figure 1. Statements of classroom teachers regarding authentic learning

The data obtained from the methods that classroom teachers follow for the development of authentic learning are presented in Figure 2 and explained. As can be seen in Figure 2, the opinions of classroom teachers about the paths they followed for the development of authentic learning were grouped under 13 categories in total. These categories are material-supported activities (4), interactive activities (3), student-centered activities (3), peer teaching (2), research (2), real-life stories (2), learning by doing (1), travel and observation activities (1), group work (1), creative activities (1), cooperative activities (1), economic activities (1), life workshops (1). The statements of the participants regarding their views on the paths they follow for the development of authentic learning are as follows:

P11: *[It is the student's learning new information based on what they already know. I assign one-on-one individual work, supported by materials, and group work with peers].*

P12: *[To make the education given at the school more permanent, I think and design different activities throughout the year, taking into account the environment and the situation of the children. When I design and plan these activities, I think about the economic and financial aspects, as well as the benefits to the child].*

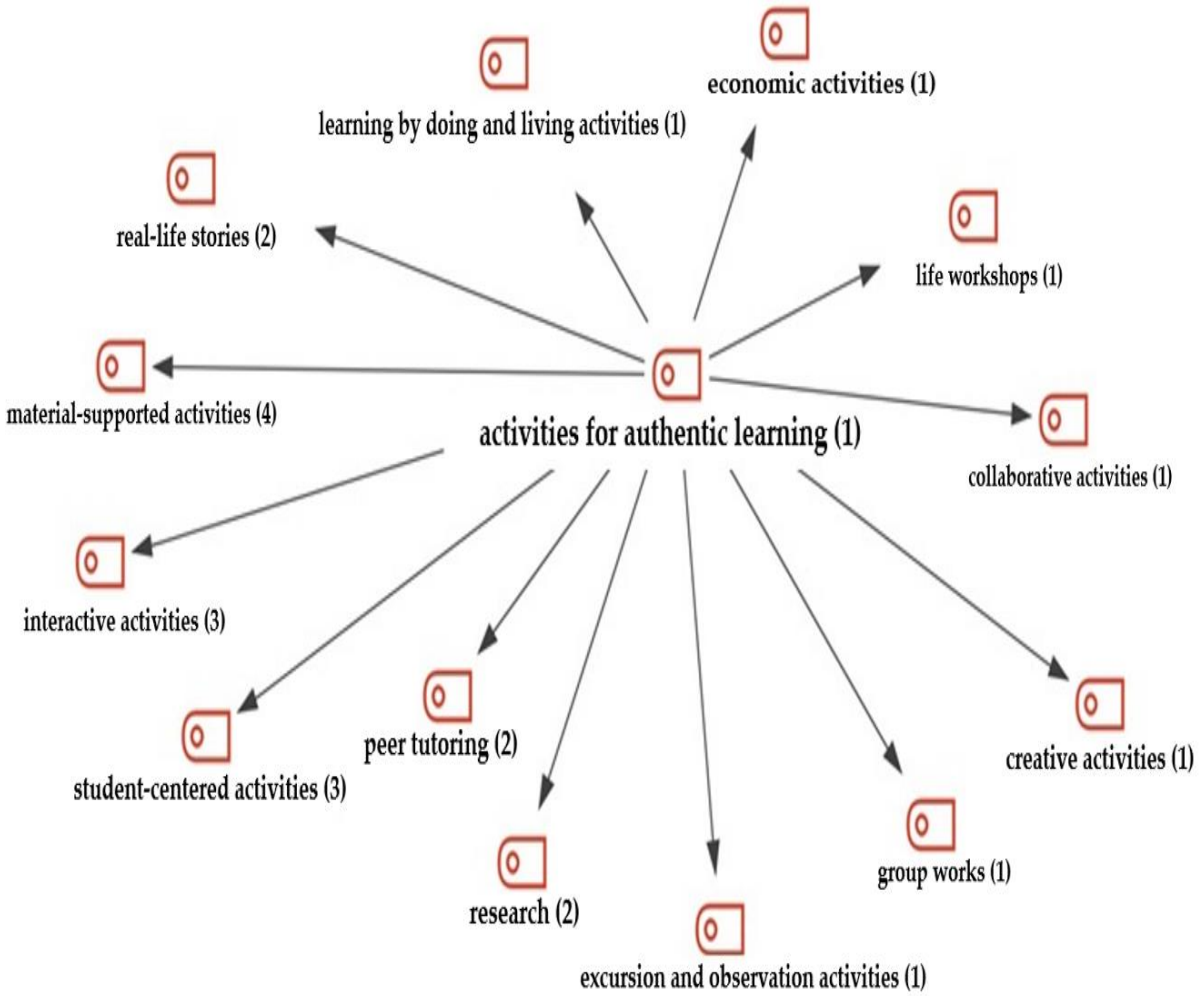

Figure 2. Approaches utilized by classroom teachers to foster authentic learning

The data obtained regarding the materials used by classroom teachers in authentic learning are presented in Figure 3 and explained. As can be seen in Figure 3, classroom teachers' views on materials used in authentic learning were grouped under 11 categories in total. These categories are course tools and materials (5), resource persons (2), technological tools (2), smart board (1), concept maps (1), collections (1), old items (1), science classes (1), laboratory (1), mind and intelligence games (1), recycling materials (1). The statements of the participants regarding their views on materials used in authentic learning are as follows:

> ***P6:*** *[Smart board-based materials that will enable students to learn by doing and experiencing. We also use handmade cardboard boxes, waste paper and plastic bottles made from waste materials in our activities. We also make use of nature, stone and wood materials].*

> ***P13:*** *[Materials that bring real-life situations into the classroom environment are used. Toys, books, magazines, newspaper articles, internet, etc. Web 2.0 applications, internet, albums, newspapers, all kinds of items belonging to primary source people].*

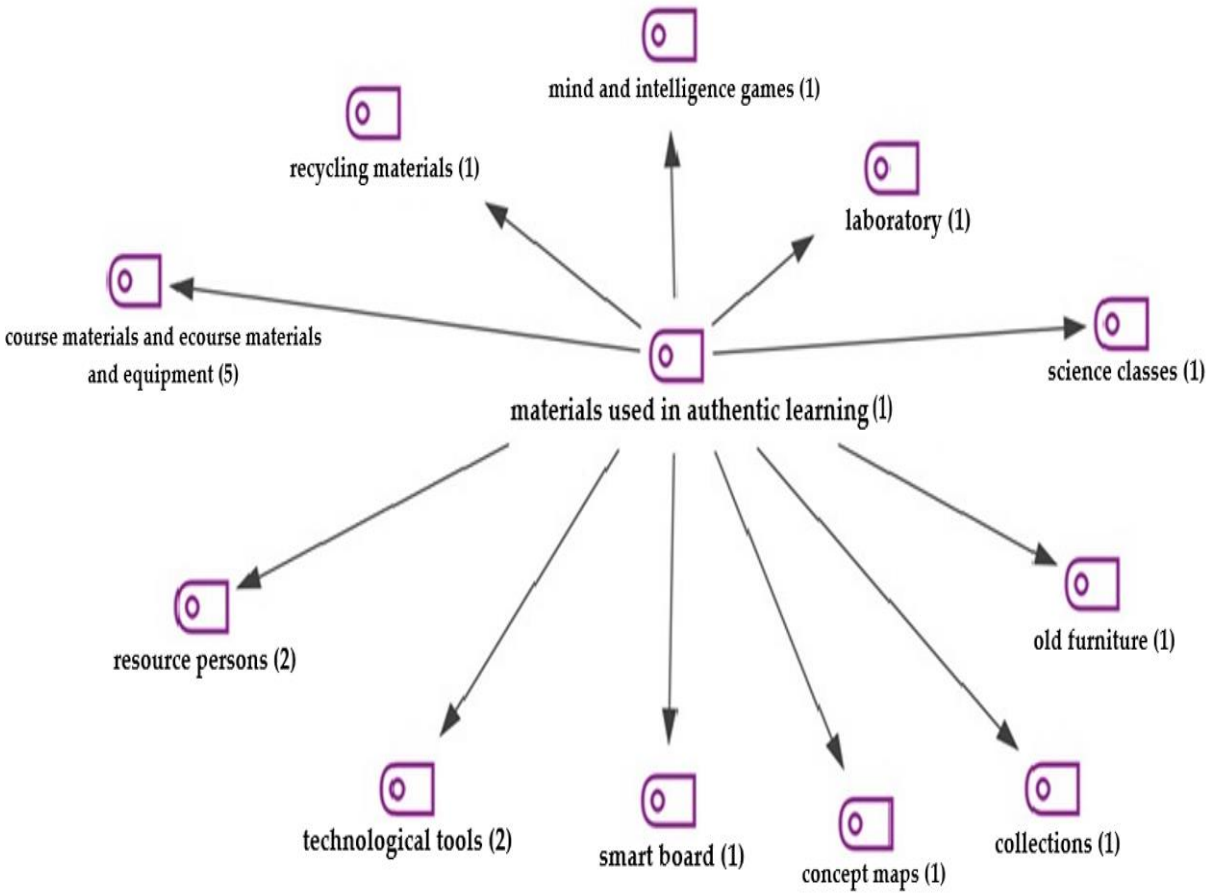

Figure 3. Materials used by classroom teachers in authentic learning

The data obtained from the methods and techniques used by classroom teachers in authentic learning are presented in Figure 4 and explained. As can be seen in Figure 4, classroom teachers' views on methods and techniques used in authentic learning were grouped under 14 categories in total. These categories are drama (4), research (4), learning by doing (4), group work (3), demonstration (2), field trip observation (2), lecture (2), discussion (1), brainstorming (1), station (1), cooperative learning (1), question and answer (1), relevance to life (1), problem-based learning (1). The statements of the participants regarding their views on methods and techniques used in authentic learning are as follows:

> ***P5:*** *[I teach the lesson in different environments and use concretization. I act according to the principle of near to far, using research and inquiry-based approaches. I use methods such as self-expression, learning by doing-experiencing, drama, etc. From near to far, research-based methods by doing and experiencing].*

> ***P10:*** *[I use various approaches such as field trips, observation, research, listening, watching, drawing, creative drama, narration, question and answer, discussion, brainstorming, demonstration, drama, group work, individual work, material analysis, and collaborative problem solving].*

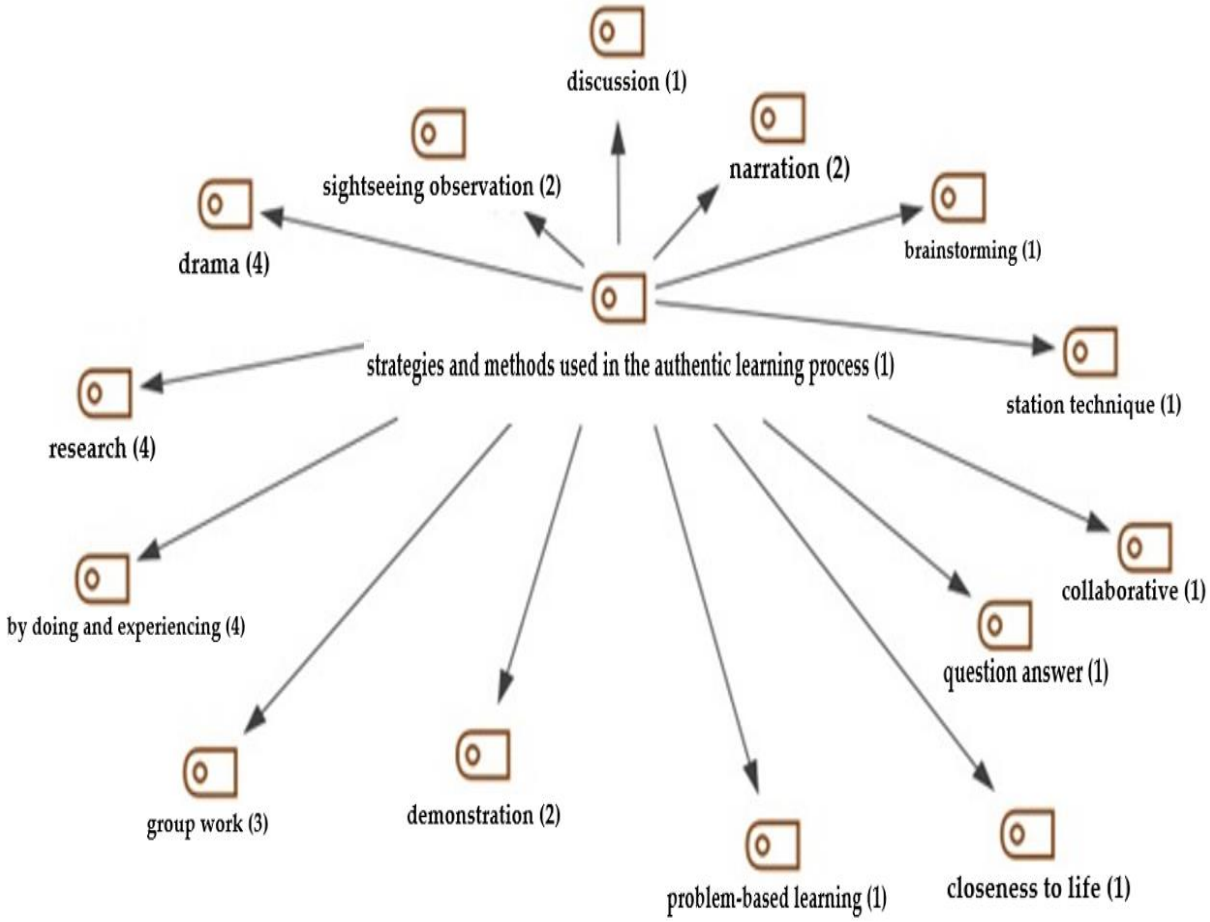

Figure 4. Methods and techniques used by classroom teachers in authentic learning

The data obtained from the classroom teachers' authentic learning assessment processes are presented in Figure 5 and explained. As can be seen in Figure 5, classroom teachers' views on authentic learning assessment processes were grouped under 9 categories in total. These categories are process assessment (7), traditional assessment (4), product file (3), group assessment (2), presentation (2), implementation (2), peer assessment (2), self-assessment (1), and observation (1). The statements of the participants regarding their views on authentic learning assessment processes are as follows:

> ***P1:*** *[I do self- and peer-assessment, assessments based on in-class activities, concrete assessments from their daily lives, written assessments, making presentations in the classroom, process assessments, and assessments with product files].*

> ***P8:*** *[Observing and following the entire process, exhibiting and interpreting the resulting product, receiving and evaluating criticisms if any. Individual or group assessments can also be made. Other groups can evaluate the group. Individuals can evaluate the group, or individuals can evaluate other individuals. Teacher-prepared question-answer, true-false questions, fill-in-the-blank questions, puzzles, multiple-choice questions, concept maps, written probe, open-ended questions, short-answer (yes-no) questions].*

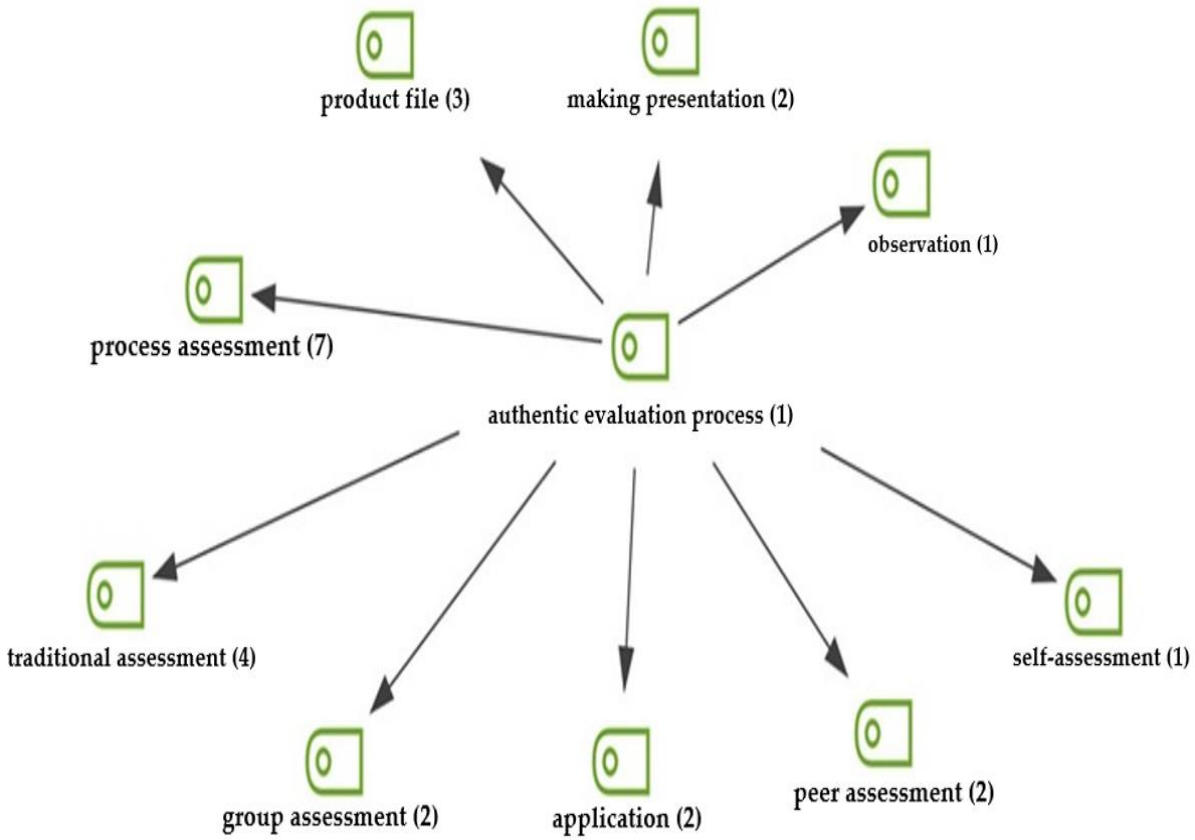

Figure 5. Classroom teachers' authentic learning assessment processes

The data obtained from the views of classroom teachers regarding the elements that constitute obstacles in the authentic learning process are presented in Figure 6 and explained. As can be seen in Figure 6, classroom teachers' views on elements that create obstacles in the authentic learning process were grouped under 10 categories in total. These categories are lack of materials (4), permits (4), budget constraints (4), limited time (3), attention deficit (3), lack of application area (2), lack of cooperation (2), cultural difference (2), incomplete pre-learning (1), and curriculum (1). The statements of the participants regarding their views on the elements that constitute an obstacle in authentic learning processes are as follows:

> ***P2:*** *[There are obstacles such as physical barriers, lack of teaching equipment and materials, and inadequacy of practice areas. The attitude and support of the administration and parents are important in the process, we consider our possibilities in budgeted activities].*
>
> ***P4:*** *[Although we make the necessary directions to activate the students, we have difficulty in activating them due to the influence of external factors. I think technological developments are at the top of the list. The lack of materials, the lack of a science laboratory, and the inability to support it with visual elements can be counted. There may be obstacles in terms of lack of materials and obtaining permits].*

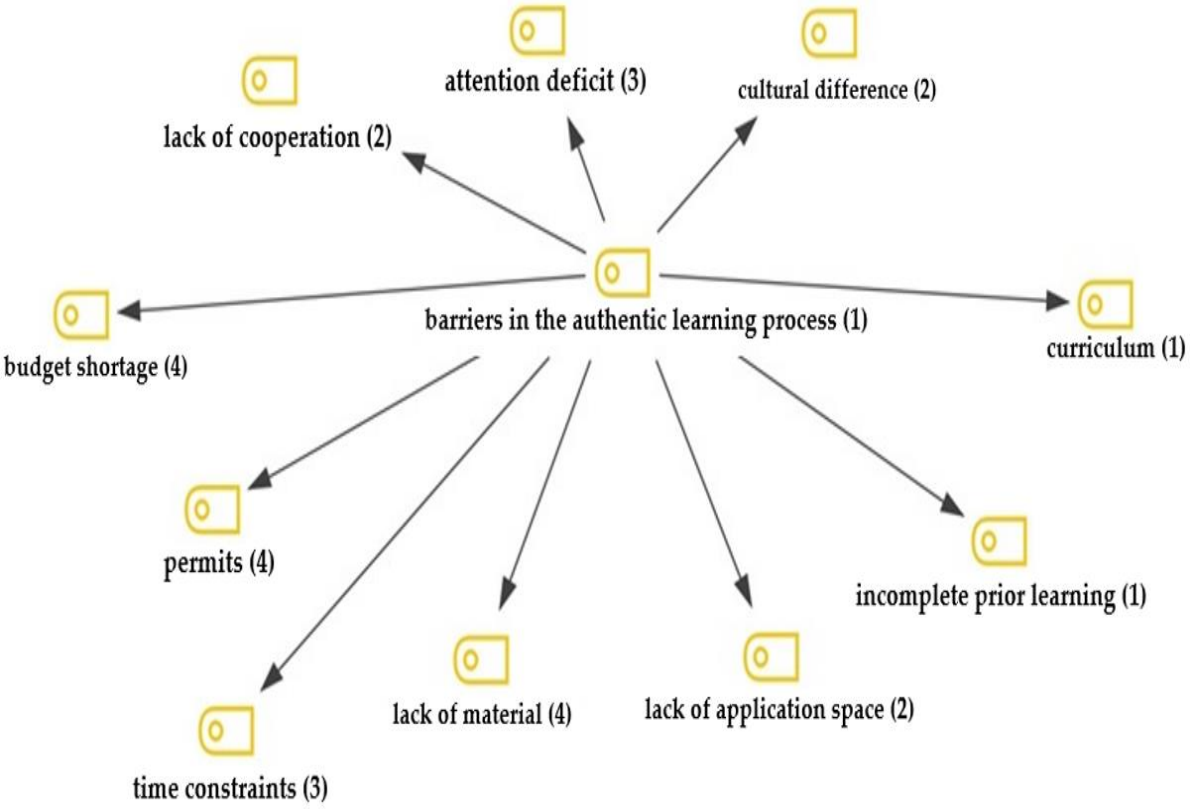

Figure 6. Obstacles to the authentic learning process

Discussion and Conclusion

Based on the findings obtained in this study, which was conducted to examine the authentic learning readiness levels of classroom teachers, it was determined that the authentic learning readiness levels of classroom teachers were "very high". As a result, there is no research in the literature revealing the authentic learning readiness of classroom teachers. Contrary to the results of the research, it was determined that vocational high school teachers' understanding of planning and implementing authentic assessment was insufficient (Sutarto & Jaedun, 2018). As a result of the research, the authentic learning readiness levels of classroom teachers were found to be high. However, according to the research results, the lack of resources and opportunities in schools and the inadequacy of collaborative working environments may constitute an obstacle to authentic learning in terms of planning and implementation.

Authentic learning readiness levels of classroom teachers; There is no significant difference between male and female classroom teachers according to gender. There is no significant difference between the authentic learning readiness levels of classroom teachers who have graduated from undergraduate and graduate education according to their educational status. There is no significant difference between the authentic learning readiness levels of classroom teachers working in the city center, district center, town and village according to the place of duty of the teachers. The authentic learning readiness levels of classroom teachers do not differ significantly according to the demographic characteristics of classroom teachers such as age and professional seniority. Likewise, the authentic learning readiness levels of classroom teachers do not differ significantly from the size of the class they currently teach. As a result, the authentic learning readiness levels of classroom teachers do not show a significant

difference according to various variables (gender, educational background, place of duty, age, professional seniority, level of the class taught). Similar to the results of the research, in the research conducted by Şahin-Kölemen (2023), it was determined that the authentic learning readiness levels of faculty members did not show a statistically significant difference according to gender, age and faculty. According to the research results, it can be said that the authentic learning readiness levels of teachers do not show a significant difference according to gender and age variables.

What does authentic learning mean to you? When the answers to the research question were evaluated, it was determined that classroom teachers associated authentic learning with some concepts. These concepts are: Vitality, student-centered, teacher-guided, cooperative learning, scientific learning, individualized education, learning by doing, material-supported, national learning, learning with activity, natural learning and blended learning. Based on this finding, it can be said that teachers define authentic learning as a student-centered, collaborative natural learning process that supports the process of learning by doing and experiencing. Ballard (2019) states that authentic learning is a form of learning that promotes individualized instruction to connect with students one-on-one. Gündoğan and Gültekin (2018) can be expressed as the association and reflection of authentic context with their own lives. As a result, authentic learning is student-centered, real-life experiences are expected to be shared and reflected in the learning process in solving real-life problems.

How do you go about the development of authentic learning? When the answers to the research questions are analyzed, classroom teachers are used to develop authentic learning: material-supported activities, interactive activities, student-centered activities, peer teaching, research, real life stories. At the same time, they use learning by doing and living activities, travel and observation activities, group work, creative activities, cooperative activities, economic activities, and life workshops. Authentic learning can be said to be effective in developing positive attitudes towards school (Lee & Goh, 2012). Associating lessons with daily life contributes to the solution of real-life problems by allowing students to gain different perspectives and acquire new ideas (Yıldırım, 2020). Authentic learning gives students the chance to learn interactively and the opportunity to share real-life experiences (Ballard, 2019; Şekerci, 2021). Problem solving in authentic learning (Aynas and Aslan, 2021; Lee & Goh, 2012), communication (Yeen-Ju et al., 2015), creativity (Lightning & Partner, 2021; Yıldırım and Ortak, 2021; Laur, 2013; Mims, 2003), synthesizing information and critical thinking (Baştürk, 2019; Doğan Dolapçıoğlu, 2015; Firdaus et al., 2015; Dennis & O'Hair, 2010). Based on these findings, it is seen that teachers care about the environmental characteristics of the school and the lives of the students in the development of authentic learning. It can be said that teachers support students' learning by doing and experiencing, based on material-supported education, cooperative teaching strategies and interactive learning in schools.

What kind of materials do you use in authentic learning? When the answers to the research question are evaluated, classroom teachers use the following materials in the authentic learning process: Course tools and equipment, resource persons, technological tools, smart boards, concept maps, collections, old items, science classes, laboratory, mind and intelligence games, recycling materials. Lombardi (2007) states that in authentic learning, learning by doing and experiencing is considered to be the most effective way of learning. The Internet and various emerging visual and simulation technologies make it possible to solve real-life problems with the support of technology and to offer unique learning experiences to students. According to Sabet & Mahsefat (2012), students have a positive

attitude towards real-life materials. Cholewinski (2009) states that real objects used in real life and materials such as movies, newspapers, and song lyrics can be used to create authentic learning environments in the classroom. As a result, it can be said that the results of the research are similar to the results of the research in the literature. In the authentic learning process, teachers use course tools and equipment as materials, try to teach the achievements in the program according to the available opportunities, support the natural learning process by making use of resource people and the items around them, and benefit from technology by using smart boards, etc.

What kind of methods and techniques do you use in authentic learning? When the answers to the research question are analyzed, classroom teachers include the following methods and techniques in authentic learning: Drama, research, living by doing, group work, demonstration, trip observation, lecture, discussion, brainstorming, station, collaborative, question and answer, closeness to life, problem-based learning. According to Serbo & Ancho (2019), in the authentic learning process, individual and group work should be done and discussed collaboratively, and students should be able to apply and make sense of what they have learned in real life. Yıldırım (2020), on the other hand, states that the learning in the learning process by doing, experiencing, having fun, imagining and traveling develops a positive attitude towards the lesson and provides permanent learning. Based on these findings, it is seen that the results of the research are similar to the results of the research in the literature. It can be said that teachers benefit from many methods and techniques in the authentic learning process. These methods and techniques include drama, research and analysis, trip observation, demonstration, lecture, discussion, collaborative strategies and problem-based strategies.

What do you do in the authentic assessment process? When the answers to the research question are evaluated, classroom teachers do the following in authentic evaluation: Process evaluation, traditional evaluation, product file, group evaluation, application and presentation evaluation, peer evaluation, self-evaluation and observation. Santrock (2016) emphasizes that authentic assessment is important to assess the student's knowledge and skills in a real-life context. In authentic assessment, students are expected to perform multiple authentic tasks, collaborate with experts around them, and clearly express different perspectives. Therefore, it centers on the learning process and its performance rather than the outcome of learning (Herrington, 2006; Herrington & Oliver, 2000). As a result, it can be said that the results of the research are similar to the results of the research in the literature. It can be said that classroom teachers are aware of alternative evaluation approaches that are considered important in authentic evaluation such as process evaluation, product file, performance evaluation, observation, self-evaluation and peer evaluation.

If there are any obstacles in the authentic learning process, what are they? When the answers to the research question were analyzed, the classroom teachers stated the factors that create obstacles in the authentic learning process as follows: Lack of materials, permissions, budget constraints, limited time, lack of attention, lack of application area, lack of cooperation, cultural differences, incomplete pre-learning, curriculum. Bordoh et al. (2015) found that teachers' knowledge of authentic assessment was weak. As a result, it can be said that there are some obstacles to the authentic learning process due to time constraints, inadequacy of materials and resources, lack of application area, lack of cooperation, cultural differences and curriculum.

Suggestions

According to the results of the research, the following suggestions can be made: Although the authentic learning readiness of classroom teachers was found to be high in the quantitative dimension of the research, in the qualitative dimension of the research, it is seen that there are obstacles to teachers' authentic practices and evaluations. Therefore, it can be suggested to allocate time and practice area for authentic learning, to provide materials and resources, to remove obstacles to cooperation, and to eliminate obstacles originating from cultural differences and the curriculum. In-service trainings can be provided for teachers who feel inadequate in authentic learning. In-service trainings for teachers on the use of materials for authentic learning environments can be organized. At the same time, it may be recommended to increase the knowledge and skill levels of teachers to organize authentic tasks and activities that support an authentic environment. Teachers who feel inadequate in authentic learning in the field; Trainings can be given to increase the knowledge and skills necessary for them to use authentic evaluation processes. Classroom teachers of conducted on the authentic learning levels can be correlational and causal comparative studies. In addition, instant, cross-sectional and longitudinal studies can be conducted from survey studies.

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