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Table of Content

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Full Length Research Paper

The awareness of the students about the concepts in the production distribution and consumption learning field in the social studies course curriculum

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In our world where unlimited human needs are tried to be met with limited resources, the effort to use resources in the most effective way is the reason for the existence of economics. The aim of this research is to examine the awareness of the concepts and topics that are planned to be taught to the 4th grade students' social studies curriculum and to make some suggestions. The study group of the research consists of 99 students studying in two primary schools in the Atakum district center of Samsun province in the 2020-2021 academic year. In the research, one of the purposeful sampling methods was used as a measurement tool. The data were analyzed by descriptive analysis. As a result of the research, it has been determined that the majority of the students have sufficient awareness of the concepts of need, benefit, goods, production, consumption, savings and waste, but their awareness of the concepts of budget, cost, economic activity, balancing the budget is not sufficient. It has been revealed that the students are aware of the production activities in their regions, but they are little aware of the production stages, the contribution of production to the economy, the growing conditions of the products and the difficulties in growing the products, and the income from the products. In addition, it was understood that the majority of the students had a good level of awareness about conscious consumer, thrift, expiry date, receipt and invoice, but low awareness of TSE, CE and ISO as well as what to do after shopping. On the other hand, it was determined that the majority of the students had a low level of awareness about the income-expenditure status of the family, but had a good level of awareness about the contribution to the family economy. In addition, the majority of the students stated that they contributed to the country's economy by not wasting and not acting extravagantly.

Key words: Awareness, family, family economy, country, student.

INTRODUCTION

Concepts such as economy and finance have become an important part of people's lives for many years and are increasingly gaining importance. The responsibilities of individuals in economic matters are increasing day

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by day. In order for children and young people to be able to cope with this responsibility, good financial education should be provided in schools (Amagir et al., 2018). Societies make very important efforts to raise awareness about the economy. In this context, various activities are carried out by means of mass media. In particular, public service announcements are prepared to reach individuals of all ages. More importantly, purpose-oriented education and training activities are included at all levels of formal education institutions. Through non-formal education, individuals' awareness is raised on economic issues from an early age, since the economics education given from early ages prepares individuals to be qualified voters as well as enabling them to be better educated in production and consumption issues (Melendez et al., 2000).

Starting economics education at a young age and supporting this education with current events and examples from their own lives as much as possible will be an important support for individuals to make the right decisions in the future (Akhan, 2013). Studies have revealed that the applied education activities related to economy given to preschool and primary school children have positive and lasting effects in terms of their understanding of economic facts and events (Akhan, 2010; Bayhan et al., 2007; CFYI, 2012; Çarıkçı, 2019; Davison and Kilgore, 1971; Kourilsky, 1977; OECD, 2017; Ünlüer, 2021; Webley, 2005).

Although all the lessons taught in primary schools should serve a purpose in a way, the social studies lesson in the 4th grade has a special importance in terms of realizing the purpose. In this context, the special purpose of "understanding the basic concepts of economy and understanding the place of national economy in development and international economic relations" was included in the social studies curriculum. In order to realize this aim, a learning area named "Production, Distribution and Consumption" has been included in the program. Within the scope of the learning area, economic concepts and information are given by expanding them as the grade levels increase. With this learning area, students are expected to develop entrepreneurship and conscious consumerism skills, to believe in the need to protect resources because they are limited, to make an effort to improve their own conditions by comparing their economic situation with that of their friends, and to understand the characteristics of the professions they are interested in by recognizing various professions (Ministry of National Education (MEB), 2018).

At the core of the learning area is the development of students' entrepreneurship and conscious consumerism skills. Entrepreneurship is the individual recognizing the opportunities around him and making plans and projects by taking risks when necessary in order to make the most of these opportunities and making an effort to put them into practice (Gömleksiz and Kan, 2009). In other words, it is an individual's effort to make his dreams come true (Ürper, 2015). Therefore, economy and entrepreneurship are intertwined concepts. In addition, financial literacy skills are tried to be gained within the scope of social studies course. In the social studies curriculum, it was asked to associate the financial literacy skill with the savings value. This skill is expressed in the program as "raising individuals who use their resources and budget effectively, contribute to the progress of themselves and their country by making wise investments, and save their resources by avoiding waste" (MEB, 2018).

Financial literacy is the ability to understand the basic concepts, risks and skills related to the subject and to use them in financial decisions when necessary, in order to increase the level of financial well-being of individuals and society (OECD, 2012). This is because, in order to create a society that produces information, technology and financial resources, financial literacy skills must be gained at an early age to all members of the society. Individuals who acquire financial literacy skills at an early age are more conscious and sensitive about the economy, budget and investing (OECD, 2014). From a social point of view, it is expected that financially literate individuals will tend to save and these savings will contribute to economic development. Individuals contribute to the country's economy by managing their own budget correctly, prepare a budget, compare prices in shopping, and save for emergencies and unexpected situations (Atkinson and Messy, 2013). In parallel with their level of financial education, their potential for effective citizenship also increases In this context, the following achievements are included in the social studies curriculum at the 4th grade level:

1. Makes conscious choices between the two by distinguishing between wants and needs.
2. Recognizes the main economic activities of his family and close environment.
3. Exhibits conscious consumer behavior as a responsible individual.
4. Creates a sample budget of its own.
5. It uses the resources around it without wasting it.

These achievements are discussed in the textbook under the topics of our wishes, needs, economic activities in my family and environment, let's be conscious consumers and yes to consumption, no to waste. Again in the course book, the concepts of desire, need, budget, benefit, cost, goods, services, costs, economic activity, production, consumption, profession, savings, waste, self-control in shopping, balancing the budget and frugality are included. Pre-shopping and post-shopping transactions, expiry date, meanings of the signs (TSE, CE, ISO) on the products, receipts, invoices, advertising concepts, family income and expenses, economic contribution to the family, being a conscious consumer, economic resources of the region. , the products produced in the region, the growing conditions of the products, the professions involved in the production, the marketing of the products,

their delivery to the consumers, the income level of the products, the difficulties encountered in the production of the products, the effect of the climate on the production and how it can contribute to the country's economy (Tüysüz, 2019). If adequate financial education is not provided in schools, this gap is closed by parents and other adults, but 32% of parents can support their children in this regard.

According to a study conducted in Turkey on the subject, the learning outcome related to financial literacy is mostly included in the primary school curriculum, followed by the secondary school and high school curriculum. At primary school level, this subject is frequently included in social studies and life studies courses. In addition, studies supporting this education are included in mathematics and science programs. In recent years, the increase in online shopping, the use of credit cards, and the emergence of complex financial products have increased the importance of the subject. The Ministry of National Education, Ministry of Development, financial institutions and non-governmental organizations provided training to teachers on financial literacy with the project they developed (MEB, 2016).

It is noteworthy that other countries and international organizations also took similar initiatives. Among these, UNICEF and the UN Committee on the Rights of the Child included children's rights, responsibility, information about family and society, and saving issues in the “Social and Financial Education Program” developed for children in ninety countries. Of these, "The National Center for Economic Education for Children" produces the "Primary Education Economist" program and distributes it at the national level (Amagir et al., 2018). On the other hand, financial literacy has been added to the fields such as Mathematics and Science, which are evaluated within the scope of PISA, in some countries (OECD, 2013). There are many studies on the subject in the literature. Some of these have been done on university students, some on teachers and academics, some on high school and middle school students, and some on other adults. Studies on economics education and awareness of primary school students were conducted (Bayhan et al., 2007; Batty et al., 2015; Collins et al., 2016; Çarıkçı, 2019; Mammadova et al., 2021; Schug and Hagedorn; 2005; Ünlüer, 2021; Webley, 2005).

There are also some studies conducted to increase the knowledge level of students on the subject (Berry et al., 2015; Go et al., 2012; Sherraden et al., 2011). There are very few studies on the awareness of primary school 4th grade students about the family and the country's economy. In addition, these studies do not cover all the concepts and subjects that should be given within the scope of the social studies curriculum. This research tries to reveal the awareness of the concepts and topics that are aimed to be gained to the 4th grade students in the social studies curriculum. In this respect, the research is expected to contribute primarily to those working on the curriculum, teachers and other interested parties.

In this study, the awareness of the 4th grade primary school students about the family and the country's economy was examined within the scope of the social studies 4th grade curriculum.

For this purpose, answers to the following questions were sought:

1. What is the awareness of students about economic concepts that they should have?
2. What is the awareness of the students about the production, consumption and distribution activities of the region they live in?
3. What is the awareness of the students about thrift and being a conscious consumer?
4. What is the awareness of the students about contributing to the family and national economy?
5. What is the awareness of the students about the family and the country's economy?

METHOD

The research used qualitative research method. This research has the characteristics of a study in terms of examining the awareness of primary school 4th grade students about the family and the country's economy.

Research group

The study group of the research consists of 99 students studying in two primary schools in the Atakum district center of Samsun province in the 2020-2021 academic year. 56 of these students attend Seyfi Demirsoy Primary School and 43 of them from Fahrettin Ulusoy Primary School. One of the purposive sampling methods was used in the research. This method is used for elements that cannot be accessed easily and quickly even though they are sure of their existence. Considering that the sample size used in qualitative research is not suitable for generalization, easy and economical situations are preferred for the study (Patton, 2005; Vogt et al., 2012; Yıldırım and Şimşek, 2011).

Data collection tool

Economics is one of the most talked about topics in every period. At the same time, the deficiencies of individuals on these issues are often the subject of discussion in the society. For this reason, it is planned to prepare a questionnaire consisting of open-ended questions in order to see the awareness of the 4th grade students in primary school, which is the basis for acquiring many knowledge, skills and attitudes. Open-ended (unstructured) questions are preferred so that respondents can answer freely. In addition, with such questions, the researcher can have more extensive and detailed information about the subject by getting answers that he did not expect or planned (Büyüköztürk, 2005). Before the questions were prepared, the 4th grade social studies curriculum and textbook were examined and it was determined what the students expected to gain about the economy. After the review, 6 draft interview questions were created. The questions were sent to 2 experts from the fields of educational sciences and social studies, and they were asked to examine them. In line with the warnings from the experts, the number of questions in the interview form was reduced to 5 and rearranged. Then, the pilot application was carried out by applying the new form created to 10 students who would not

take part in the original application. The application was made by the researcher under the supervision of classroom teachers. In the pilot application, provided that the number of questions remained constant, the questions that could not be understood well were rearranged and adapted to the level of the students.

Data collection

The data were collected from 99 4th grade students studying in two public primary schools in the Atakum District of Samsun Province in the 2021-2022 academic year. The application was carried out in the classrooms of 2 classroom teachers, who volunteered for the application in both schools. Due to the fact that some students did not come to school due to the pandemic, the application was carried out on existing students through face-to-face interviews in the presence of the classroom teacher. In this application, since the researcher and the respondent are in mutual interaction, it is thought that the control of the researcher regarding the application will increase and time and cost savings will be achieved. In addition, face-to-face interviews can be arranged individually or as a group (Büyüköztürk, 2005). 75 min were given to answer the questionnaires; 15 min were added to the students who could not answer within this time. During the application, necessary explanations were made about the points that the students did not understand. Particular attention was paid not to direct students while answering the questions.

Analysis of data

The data were analyzed by descriptive analysis. Descriptive analysis is an approach that covers the stages of processing qualitative data, defining the findings and interpreting the identified findings, adhering to a predetermined framework. In this approach, the results of the research are presented to the reader by making direct quotations without changing the original form of the data (Yıldırım and Şimşek, 2011). In this study, research questions were based on the creation of the main themes. Sub-themes were created by analyzing the data obtained from the questionnaires. In the analysis of the data, groupings were made according to the similarity of the expressions. The process of providing information from the collected data and comparing it with the emerging sub-themes is called the continuous comparison method in data analysis (Creswell, 2013).

Three of the 99 students participating in the study were not included in the analysis because they did not fill out the form sufficiently. Thus, the data obtained from 96 students were analyzed. Before starting the analysis, screening criteria were determined and coding was done according to these criteria. In this context, since the themes were determined at the beginning, some sub-themes were created as a result of the coding. Coding was done by another researcher who is an expert in qualitative research, in line with the criteria determined together at the beginning. It was tried to present the data effectively by making direct quotations from the statements of the students.

In the research, students were coded as S1, S2, S3… While coding was done, correct perceptions were coded according to the inferred meaning, while wrong and irrelevant answers were given under a common code. In content analysis, similar data are organized within the scope of various concepts and themes and it is interpreted in a way that the reader can understand (Büyüköztürk et al., 2012; Cohen et al., 2007; Yıldırım and Şimşek, 2011). In order to ensure reliability in qualitative research, the stability between the coding of more than one researcher on the data is taken into account (Creswell, 2013). In this context, the coding of the two researchers was compared and arranged as consensus and disagreement. Consensuses of codes close to each other and codes that are quite different from each other or cannot be decided on similarity are determined as differences of opinion. Codes on which no consensus could be reached were excluded from the study. After these determinations, the percentage of agreement (Reliability) = Consensus/(Agreement+Disagreement)x100 was calculated using the formula (Miles and Huberman, 2015). Percent of Concordance (Reliability)=167/ (167+33)100 was found to be approximately 0.84. A rate of agreement above 0.70 is interpreted as sufficient security (Yıldırım and Şimşek, 2011).

RESULTS

Awareness levels of the students participating in the research regarding the concepts related to economy are presented in Table 1. Looking at Table 1, students' awareness of the concepts related to economy, 86 (90%) of 96 students, 49 (51%) of budget, 71 (74%) of benefit, 66 of 'goods' regarding the concept of need. (69%), services 70% (73%), cost 30% (31%), economic activity 43 (45%), production 84 (88%), consumption 50 (52%), profession 73 (76%), saving 58 (60%), waste 70 (73%) and budget balancing 39 (41%) were found to be good. Other students expressed these concepts inadequately, incorrectly, or left them blank. It can be said that the awareness of these students about the concepts is insufficient. In addition, based on these data, it is seen that the majority of the students have sufficient awareness of the concepts of need, benefit, goods, production, consumption, savings and waste, but their awareness of the concepts of budget, cost, economic activity, balancing the budget is not sufficient. Some of the students' statements about these concepts are shown below:

1. Service, bringing the order given at the restaurant (S30), making a person's returns (S35)
2. Cost, money spent until selling (S72), money spent on something (T93)
3. Economic activity, income generating activity (S2), forestry, agriculture, fisheries, tourism (S11), all kinds of shopping where money is used (S40)
4. Production, making products (S76), the stages of an item until the market (S7), work done in the factory (S17)
5. Consumption, using the products produced (S10), buying the products from the grocery store and the market and having a meal (S58)
6. Profession, the job we specialize in (S40), Doctor, engineer, architect, nurse (S64)
7. Saving, using as much as needed (S12), using something as needed (S64)
8. Spending something unnecessarily (S56), not eating something to eat and throwing it away (S48)
9. Balancing the budget, adjusting our income and expenses (S55), stretching your feet according to your quilt.

The level of awareness of the students participating in the research about the economic activities in the regions

Table 1. Students' awareness of economic concepts.

Concept	Awareness of students	Frequency (n)	Percent
Need	Food, shelter, clothing	31	32
	Things we need to survive	23	24
	Things we need	2	2
	Things we have to buy	15	16
	Love, education	14	15
	Unwanted food, clothing,	1	1
	Water and similar things	5	5
	Missed or incomprehensible expression	10	10
Budget	The group consisting of income and expenses	7	7
	Money coming to our house	19	20
	Income, expense	13	14
	Calculation of our income and expenses	2	2
	Allocated money	4	4
	Adjusting our income and expenses	1	1
	Money set aside for a cause	2	2
	Money excluding expenses	1	1
	Missed or incomprehensible expression	47	47
Use	Beneficial, profitable	26	27
	Doing good, doing useful things	18	19
	Healthy food and drinks	27	28
	Missed or incomprehensible expression	25	26
Goods	Product	6	6
	Goods	50	50
	Assets we own	10	10
	Missed or incomprehensible answer	30	31
Service	Help	16	17
	Meeting people's needs	53	55
	Products made by humans	1	1
	1. Missed or incomprehensible expression	26	27
Cost	The money spent on the production of the product	30	31
	Missed or incomprehensible expression	66	69
Economic activity	Income generating activity	28	29
	Production, consumption	12	13
	Any kind of shopping where money is used	3	3
	Missed or incomprehensible expression	5	5
		53	55
Production	Make something, manufacture, create, reproduce, produce	84	88
	1. Missed or incomprehensible expression	12	13
Consumption	Eating, finishing, aging, spending,	29	30
	Use of manufactured products	21	22
	1. Missed or incomprehensible answer	46	48
Profession	Monetized business	51	53
	Trained job.	22	23
	Missed or incomprehensible expression	23	24

Table 1. Cont'd. Students' awareness of economic concepts,

Saving	Not to overspend	14	15
	Use as needed	2	2
	Being frugal	5	5
	Use sparingly	23	24
	Not to waste	3	4
	Growing out of need	4	3
	Use with caution	3	4
	Spool	4	40
	Missed or incomprehensible expression	38	
Waste	Spending unnecessarily	25	26
	Consume wrong	4	4
	Being extravagant	4	4
	to waste	23	24
	Using more than necessary	13	14
	Consuming unconsciously	1	1
	Missed or incomprehensible expression	26	27
Balancing the budget	Adjusting our income and expense	13	14
	Equalizing our income and expense	23	24
	Extending your foot according to the quilt	3	3
	Missed or incomprehensible expression	57	59

Table 2. Awareness of students about the economic activities in the region they live in.

Production	Awareness of students	Frequency (n)	Percent
Production activities	Aware	84	88
	Unaware	12	13
Production stages	Aware	53	55
	Unaware	43	45
Contribution of production to economy	Aware	35	36
	Unaware	61	64
Growing conditions of products	Aware	23	24
	Unaware	73	76
Difficulties in growing the products and income situation	Aware	22	23

they live in is presented in Table 2. Looking at Table 2, 84 (88%) of the 96 students participating in the research were aware of the academic activities in the region they live in, while 12 (13%) were not aware of it; 53 (55%) of the students were aware of the production stages of the products grown in the region, while 43 were not; 35 (36%) of the students were aware of the contribution of the products grown in the region to the economy, 61 (64%) were not aware of it; It is seen that 23 (24%) are aware of the growing conditions of the products grown in the region, 73 (76%) are not aware, 22 (23%) are aware of the difficulties and income situation in growing the products, 74 are not. Based on these data, it is understood that the students are quite aware of the production activities in their regions, but they are scarcely aware of the production stages, the contribution of production to the economy, the growing conditions of the products, the difficulties in growing the products and the income situation. In other words, it can be said that their awareness level is low. Some of the

students' statements about the subject are shown below:

1. Production activities in the living environment: Education, industry, fisheries, ovine breeding, wheat barley production, hazelnut production (S9), Livestock, industry, hazelnut production, fisheries and food are produced in the environment where I live (S62)
2. Production stages: Peach cultivation, irrigation, care, spraying, collection, storage, selling- occupations farmer, marketer, market, greengrocer (S1), hazelnuts are gathered with the worker, come to the threshing floor, cleaned with pulp, dried, bagged, sold to the trader, the trader reaches the factory, is broken, sorted, packaged, sent to the market (S2)
3. Contribution of the products to the economy: Thanks to the hazelnuts and paddy produced in our region, people make a living (S2), wheat contributes a lot to our country, bread, etc. This is a beautiful thing (S90).
4. Growing conditions of products: Bafra District, watermelon; Due to its climate, watermelon grows very well. If there is a drought, it will be adversely affected (S1), hazelnut: The climate here is very suitable for hazelnut cultivation because hazelnuts love a humid climate. Hazelnuts collected because it is too rainy dry hard (S16)
5. Difficulties in growing products and income situation: Fishermen cannot earn much income due to fishing and unconscious fishing (S10), cold weather in spring and dry seasons in the interior of the Black Sea negatively affect production (S47).

Awareness levels of the students participating in the research regarding the concepts related to conscious consumerism are presented in Table 3. Looking at Table 3, out of 96 students, 78 (81%) explained what is understood by the concept of conscious consumer, 67 (70%) what to do before shopping, 42 (44%) what to do after shopping, 71 (74% what the expiry date means, 25 (26%) what TSE means, 43 (45%) what CE means, 33 (34%) what ISO does 72 (75%) of them stated that they are aware of what the receipt does, 56 (58%) of the invoice and 61 (64%) of them are aware of what the advertisement does. Other students expressed these concepts inadequately or incorrectly, and some left them blank. It can be said that the awareness of these students about the concepts is insufficient. In addition, based on these data, the majority of the students have good awareness levels about conscious consumer, thrift, things to do before shopping, expiry date, receipt and invoice; however, it is seen that the level of awareness about what to do after shopping, TSE, CE and ISO is low. Some of the students' statements about these concepts are shown below:

1. Conscious consumer is the consumer who balances his income and expenses (S78), Going to the market full, making lists, not being affected by advertisements, getting his needs (S11), Checks the expiry date, looks at the user manual, checks whether the package has been opened or not (S62).
2. Before shopping, I prepare a list of needs, because I have to decide beforehand what I need to buy and shop accordingly, I go to the room and see what I need, because I do not want to buy things that I do not need (S87), I look at my money, I look at my budget (S33)
3. After shopping, after checking our invoice, I delete and place the items I bought (S11), I check if the items I bought are defective, I check the label how to wash them S15, I get receipts after shopping, and I check my belongings (S39)
4. Expired products, spoiled or stale products may be harmful to human health. In addition, food poisoning may occur (S78), if we cannot finish it by the expiry date we will not buy it (S32)
5. TSE means conforming to Turkish standards (S17); it shows that it is produced according to the rules in Turkey (S10)
6. CE indicates that it is produced in accordance with the production rules in Europe (Ö48); it means that it complies with health and safety standards in Europe (S53)
7. It has an ISO international standard (S96), It shows that it is a quality and reliable product (S51)
8. The receipt is taken to check the prices of the goods and see how much they cost (S42). The seller pays tax when they receive the receipt (S14)
9. It is used in invoice, return and exchange transactions (S58), it shows how many TL of shopping they have made (S14)
10. Advertising ensures the promotion of the product and increases the sales (S10), the thing that persuades people to buy that item (S31).

Awareness status of the families of the students participating in the research regarding the income and expenditure status is presented in Table 4. When we look at Table 4, the answers given by the students to the questions asked about the income status of the family are evaluated under two categories: the income meeting the expenses and how they contribute to the family economy. While 53 (55%) of the 96 students who participated in the research stated that their income covered their expenses, 2 (2%) stated that their income was more than their expenses, they saved money, 8 (9%) stated that their income did not cover their expenses due to the cost of living. 34) did not answer the question and gave an irrelevant answer. Based on these data, it can be said that the students are not sufficiently aware of the income and expenditure status of the family. Some of the students' statements about your family's income, expenses and whether the income is sufficient for the expenses are shown below:

1. Our family's income and expenses are sufficient for each other (S35)

Table 3. Students' awareness of the concepts related to conscious consumerism.

Concept	Awareness of students	Frequency (n)	Percent
Conscious consumers	1. saving	18	19
	2. Balancing the income expense	6	6
	3. Those who get what they need	15	16
	4. Receipt of invoice	3	3
	5. Facing TSE logo	2	2
	6. Not fooled by advertisements	5	5
	7. Looking at the consumption history	16	17
	8. Preparing the shopping list	3	3
	9. Looking after the quality of the product	7	7
	10. Avoiding waste	4	4
	11. Missed or incomprehensible answer	18	19
Before shopping	1. Preparing a shopping list	56	58
	2. Planning	4	4
	3. Not going to the market hungry	1	1
	4. Separating wants and needs	2	2
	5. Missed or incomprehensible answer	4	4
		29	30
After shopping	1. Don't see if you need it	7	7
	2. Receipt, receipt of invoice	18	19
	3. Checking what you have received	9	9
	4. Checking the shopping receipt	6	6
	5. Missed or incomprehensible answer	54	56
Expiry date	1. Out of date, poisoning, expired shelf life, not eating spoiled food	71	74
	2. Missed or incomprehensible answer	25	26
TSE	1. Turkish standards institute	51	53
	2. Compliant with Turkish standards	11	11
	3. Safe, checked, licensed	16	17
	4. Whether it is good quality	3	3
	5. Missed or incomprehensible answer	25	26
CE	1. Healthy and safe	19	20
	2. Compliant with European production rules	4	4
	3. European standards institute	7	7
	4. Comply with European production rules	9	9
	5. Conform to European standards	4	4
	6. Missed or incomprehensible answer	53	55
İSO	1. Have international standard	29	30
	2. It is of good quality	4	4
	3. Missed or incomprehensible answer	63	66
Receipt	1. Product information	16	17
	2. Allows to pay taxes	5	5
	3. Shows the prices of the items	15	16
	4. It serves to change products	23	24
	5. Document received after shopping	6	6
	6. Shows the payment amount	5	5
	7. To check the received products	2	2
	8. Missed or incomprehensible answer	24	25
Invoice	1. Allows to return	5	5
	2. Shows what we spent	28	29
	3. Shows product information	23	24
	4. Missed or incomprehensible answer	40	42

Table 3. Cont'd. Students' awareness of the concepts related to conscious consumerism.

Advertisement	1. Promote the product, increase sales	40	42
	2. Showing the products on TV	8	8
	3. Don't praise something	3	3
	4. TV program made to make money	5	5
	5. What convinced you to buy the product	5	5
	6. Missed or incomprehensible answer	35	36

Table 4. Students' awareness of the family's income and expenditure status.

Awareness of students		**Frequency (f)**	**Percent**
Income meets expenses	1. Our revenues cover our expenses	53	55
	2. We save more money than our income.	2	2
	3. Our incomes are not enough due to the high cost of living.	8	9
	4. Missed or incomprehensible answer	33	34
Contribution to the family economy	1. By taking little pocket money	1	1
	2. By giving the money I saved	3	3
	3. By saving	12	13
	4. By not taking things that are not necessary	31	32
	5. By helping my family	9	9
	6. By not wasting	7	7
	7. By protecting our belongings, tools and equipment	2	2
	8. By recycling the materials to be recycled	1	1
	9. Studying my lessons	6	6
	10. I'm not doing anything	1	1
	11. Missed or incomprehensible answer	23	24

2. My mother and father are working. My mother earns 5000 TL and my father earns 6000 TL. Our income is sufficient for our expenses (S10).
3. It is not enough because our income is less than our expenses. We make moderate expenditures (S48).
4. Our income is sufficient for our expenses. We receive our requests with the money left after we receive our needs (S80).
5. Since my family's expenses are not high, our income is sufficient for expenses. Our revenues remain 400 TL when we spend 1000 TL on expenses per month. But I really don't know how much my mother earned (S78).

Regarding what the students do to contribute to the family economy, it is seen that 31% of 96 students did not buy unnecessary things, 12 of them made savings, and 23% did not answer the question and gave irrelevant answers. Based on these data, it can be said that the awareness level of the majority of the students about the contribution to the family economy is good. Some of the statements about what they do to contribute to your family's economy are shown below:

1. By not getting pocket money during the corona period (S1), giving the money I saved (S53), not buying things that are not needed (S96).
2. I restrict most of my desires and be thrifty and a little patient (S40).
3. I do not waste my allowance (S15)
4. I save money and meet my needs by taking money from my piggy bank (S73)
5. I buy cheap stuff. I use resources when I need them. I do not waste water (S62)
6. I don't buy everything I see and make a secret piggy bank from my mother. Then I give all my money to my mother. When I have a lot of money of my own, I don't spend it and keep it. I use this money for my needs when I need it (S78).
7. I do not leave the taps and lights on (S80).

Awareness status of the students participating in the research about contributing to the country's economy is presented in Table 5. Looking at Table 5, 17 (18%) of the 96 students who participated in the research regarding contributing to the country's economy were thrifty and not extravagant, 14 (15%) were careful not to waste, 6 (6%) were good at classes. While expressing this as a study, it is seen that 36 (38%) did not respond

Table 5. Students' awareness of contributing to the country's economy.

Student perceptions		Frequency (f)	Percent
How it contributes to the country's economy	1. Take care not to waste	14	15
	2. Doing useful work, helping those in need	2	2
	3. Don't recycle things to be recycled	5	5
	4. Receiving receipts in shopping	4	4
	5. Being thrifty and not extravagant	17	18
	6. Collecting waste batteries and giving them to the municipality	1	1
	7. Not polluting the environment	5	5
	8. Good study for lessons	6	6
	9. Using domestic products	3	3
	10. Regular use of tools and materials	*2*	2
	11. Missed or incomprehensible answer	*36*	38

and gave irrelevant answers. Based on these statements, it is understood that the students contribute to the country's economy by not wasting more, not behaving extravagantly and economically. In addition, it can be said that the majority of the students are not aware of the subject. Some of the students' statements are shown below:

1. I don't leave the tap on while washing my hands, I don't leave the lights on unnecessarily, I don't waste electricity and I don't waste food (S12)
2. I do not buy more food and bread than necessary (S9)
3. I throw the things to be recycled into the recycling bin (S61)
4. I receive receipts or invoices for every product or service I buy. I pay special attention to buying domestic goods. I warn my friends about these issues (S47).
5 I help my parents to harvest tea and hazelnuts (S32)
6. I do not pollute the places by throwing garbage, I keep them clean. I fulfill my responsibilities (S63).
7. I am studying. I use consumable resources such as water, electricity and natural gas sparingly. I do not damage places such as poles, lamps and parks on the street (S78).
8. I don't do anything (S44)

DISCUSSION

In the research, it has been determined that the majority of the students have sufficient awareness of the concepts of need, benefit, goods, production, consumption, savings and waste, but their awareness of the concepts of budget, cost, economic activity, balancing the budget is not sufficient. Economics education is not just for adults. Individuals in all age groups should have the necessary knowledge on economic issues. Therefore, economics education should be given to children from an early age (Webley, 2005). This training will enable them to be a good producer, a good consumer and even a good voter (Melendez et al., 2000; Suiter et al., 2004). This education is not carried out only through schools. Family life and media tools also play an important role in this regard (Bayhan et al., 2007; Schug and Armento, 1985; Hansen et al., 2002; Webley, 2005; OECD, 2017; Wehmeyer, 1980).

However, if economics topics are handled with the active participation of students in connection with real life, they can better understand the difficult and complex structure of the economy (Buckles, 2001; Murphy and Walsh, 1989). In many studies on the subject, it is emphasized that children can learn economics-related subjects in a more enjoyable and permanent way with a good economics education program (Racich, 1982; Schug and Birkey, 1985; Day, 1988; Schug and Hagedorn, 2005). Based on these data, it can be said that education on economic issues should start from an early age. The effect of the education given on economic issues will not only be reflected in the economic gains of the individual in his future life, but also will have important effects on his political and social life. As a result of his research, Çarıkçı (2019) found that primary school fourth grade students heard some concepts related to economics but did not have information about their functions. It can be said that there is a partial similarity between Çarıkçı's research and the results of this research. There are no other studies on the level of awareness of elementary school 4th grade students about concepts related to economy. Based on these results, it can be said that the awareness level of the students about the concepts related to the economy is not sufficient. The reason for this may be that the education given is not suitable for the level of the students, the appropriate methods and techniques are not used and the necessary importance is not given.

Experimental studies on primary school students have shown that students with economics education are

more successful in economics (Akhan, 2010; Davison and Kilgore, 1971). According to Akhan (2013), it was emphasized that while in the first years of the republic, more importance was given to economic issues, by making students active in the process and by adapting them to daily life, but recently the importance given to the subject has decreased. It has been determined that the students participating in the research are quite aware of the production activities in their regions, but they are little aware of the production stages, the contribution of production to the economy, the growing conditions of the products and the difficulties in growing the products, and the income from the products.

According to Mandell (2008), there is a significant relationship between the socio-economic level of the family and their children's approaches to financial matters; emphasizes that children with high economic levels manage money better, and students in lower socio-economic groups are more affected by the lack of education given in this sense at school.

In another study conducted on secondary school students, it was found that students learned information about the economy mostly from their families, and partially from social media, newspapers and friend groups; it has been determined that very few of them benefit from their teachers at school (Mammadova et al., 2021). As a result of his research, Güvenç (2017) revealed that the most learning outcome related to financial literacy, which is included in the compulsory courses category, is not sufficient, although it is included in the primary school stage of the social studies curriculum, the life studies curriculum and the mathematics curriculum. Studies conducted to increase the knowledge level of students on economics and finance have found significant increases in students' success (Berry et al., 2015; Go et al., 2012; Sherraden et al., 2011). From the relevant literature, it is understood that the socio-economic status of the family is effective on the level of awareness of the students about the economy. In this case, it can be said that effective results can be obtained if the necessary education is given to the students, taking into account the socio-economic status of the families of the students. In addition, it is seen that studies on production, consumption and economic activities, which are mainly limited to social studies, are not sufficient. The majority of the students have good awareness levels about conscious consumer, thrift, things to do before shopping, expiry date, receipt and invoice; however, it is seen that the level of awareness about what to do after shopping, TSE, CE and ISO is low. Mammadova et al. (2021), in their study on secondary school students, determined that the majority of students save money from their pocket money and they tend to use this savings for their primary needs.

In the study conducted by Tetik (2019), it was found that although the level of financial literacy is low in Turkey, this result is similar to the world average; In this context, it has been determined that the financial literacy levels of those with low income and education level are also low, the financial literacy levels of women are lower than men, and there is no increase in financial literacy level with age. Çarıkçı (2019) found that the majority of students were willing to save, heard about financial concepts, but could not define them, but did not have an idea about their functions and scopes, although they heard about money price and budget. It has been concluded that the financial programs applied to primary school students create a positive change in students' attitudes (Batty et al., 2015; Collins, O'Rourke, Odders-White et al., 2016; Schug and Hagedorn; 2005). Again, in studies conducted to increase the knowledge level of students on the subject, it was determined that there were significant increases in students' success (Berry et al., 2015; Go et al., 2012; Sherraden et al., 2011). In order to gain such concepts, educational environments suitable for making the concepts concrete can be organized.

It has been determined that the majority of the students have a low level of awareness about the income and expenditure situation of the family, but their awareness level about the contribution to the family economy is good. According to the results of the research conducted by Yıldırım and Öztürk (2017) to determine the opinions of field experts and teachers on economic literacy, it was determined that the level of economic literacy and the education received in economics in the Turkish society were insufficient. Similar results have been obtained from studies conducted on the same subject on different societies (Davies, 2006; Disney and Gathergood, 2013; OECD, 2017). In his study, Çarıkçı (2019) emphasized that it is not enough to give financial literacy competencies only to those who are in working life, to university students, and that this awareness should be gained from the primary school years. Since there is no study in the literature to determine the awareness of students regarding the income and expenditure status of the family, a comparison could not be made. However, according to the research data, it can be said that the family does not support the child enough in economic matters, does not show the necessary effort to raise economic awareness and the school-family cooperation is insufficient in this regard.

RECOMMENDATION

In line with the results of the research, the following suggestions can be made:

1. Research can be conducted using different methods on students selected from different provinces and different socio-economic levels in order to determine

the level of awareness of primary school 4th grade students about concepts.
2. In order to provide elementary school students with the concepts of economics, associations can be made with different courses and subjects.
3. More emphasis can be placed on school-parent cooperation efforts to increase awareness of economic concepts; it can be ensured that parents take their children to markets and shopping centers to participate in shopping decisions.
4. Class trips can be organized by teachers to places where shopping will be done, and students can talk and discuss basic concepts such as products, prices, and budget.
5. Class trips, projects, etc., covering economic activities in the environment. It can be tried to create awareness among students by organizing
6. Research assignments can be given on the family budget, the state budget and how these will reflect on them, and discussions can be made on the subject when appropriate.
7. Different practices on this subject can be followed by the Ministry of National Education officials and good practices can be reflected in the programs and practices.

CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

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Examining the attitudes and usage levels of coaches towards technology in terms of athlete education

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Today, science and technological developments play a role in the field of sports, as in all domains of life. For this reason, coaches may use technology to improve the technical, tactical, condition, and psychological performance of their athletes. Besides, pandemic conditions such as COVID-19 bring about this obligation. The aim of the present study was to examine the attitudes and levels of use of technology by coaches working in individual and team sports in terms of athlete education. The study group consisted of 205 people accessed by convenience sampling method. The data collection tool, "Teacher Technology Acceptance Measure: T-TAM," which consists of 38 items and 11 sub-dimensions and has a reliability coefficient of α=0.94 for this study, developed by Ursavas et al. was used by participants using an online questionnaire. The data showed normal distribution, analyses were made using parametric tests. According to the results, it can be suggested that 3rd level coaches use technology more widely in training and competitions than their 1st and 2nd level colleagues. Additionally, there is a statistical difference in the sub-dimensions of compatibility and subjective norms in favor of male coaches compared to female colleagues. Consequently, it can be claim that the coaches have a positive attitude towards using technology and try to use it at the highest level.

Key words: Coach, technology, attitude, COVID-19.

INTRODUCTION

Sport is the sum of movements that individuals perform to increase their mental and physical health, protecting existing ones and increase their physical performance. The goal of all athletes and coaches is to maximize their performance (Fidan et al., 2016). In line with this objective, they can develop motor characteristics such as strength, agility, endurance, speed, skillfulness, and flexibility, thanks to specific training in their specialized sport (Karacabey, 2013).

Maximizing people's physical performance is primarily the role of sport trainers. The concept of sports trainer first brings to mind the coaches. They are individuals with the ability to transmit their knowledge, social capacity, and dynamism to athletes most effectively, and they also

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possess leadership qualities (Sunay, 1998; Bayansalduz, 2012). In other words, a person who trains and exercises an athlete in a sports branch is defined as a coach (Turk Dil Kurumu, 1992). Therefore, the main goal of the coach is to help athletes maximize their potential.

Information and communication technologies (ICT) can be defined as identifying, processing, storing and transmitting electronic information (Heeks, 1999). Today, progress in science and technology has been spreading in the field of sports as in all domains of life. In order to keep up with this rate of change, coaches need to review and update their knowledge and skills more frequently than in the past.

Technology can provide coaches with timely quality information and potentially valuable tools to improve athlete performance. Thanks to computer and information technologies, such developments increase communication opportunities, and the quantity and quality of information can spread rapidly in all areas of life. Some researchers think that the use of computer information technologies allows individualization of the physical education process and increase the effectiveness of training (Kozina et al., 2016).

In this context it is reasonable to assume that the active use of ICT and their application in sports-orientated physical education facilities the efficiency of the education and training process (Kozina et al., 2016). It is predicted that this integration will make profound contributions, especially in improving sports performance.

Sport today is characterized by high performance and can be achieved by athletes with advanced training. With various analyses made, new methodological and technological programs in sports can be developed (Juravle, 2010).

Information technologies used differ by the sport speciality also make important contributions in terms of management. For example, information technologies are seen in areas such as automation systems used in sports centers, club management systems, and body analysis programs, as well as money transfer, data storage, product sales, data analysis, product purchasing, and sports facilities management software (Parks et al., 1998).

Although the technologies used differ by the branches, physical performance tracking systems are widely used in almost all team sports (Unlu et al., 2018). It is known that such technologies provide significant benefits in recognizing physiological or physical needs, both based on the specific sport and different components of the speciality (Edgecomb and Norton, 2006).

Thanks to technology, innovative developments are experienced in using artificial intelligence. The athlete tracking software makes it possible to follow the athletes' progress from the training day-by-day and make suggestions to the coaches for the next stage. With the help of artificial intelligence technology, for example, video recordings of football matches are analysed, and such recordings instantly offer coaches what needs to be done and expected situations such as field formation, traffic, and opponent defense (Murathan and Devecioglu, 2018). Joint movements, obtained by shooting more than 200 frames per second, can be converted into digital data very quickly by computers. With the kinematograph expression of the athletes' movements, throwing angle, speed, acceleration, weight trajectory, and velocities can be determined in a simple way (Acikada and Ergen, 1990).

Systems such as identifying the physiological contributions of altitude training, comparing the strength data of muscle groups to prevent injuries, and creating heat maps for individual and team sports, are used effectively today. Thanks to smart clothing in sports, much data such as the athlete's heart rate, breathing rate, hydration, and body temperature can be monitored in real-time. Coaches can measure variables such as athletes' acceleration, speed, and exact position (Ohio University, 2020). Thanks to technology, injuries have been reduced, and the speed of early diagnosis has increased. It also gives important results in terms of creating environments that are less prone to injury during training. This point that technology has reached in sports is considered an indispensable element in increasing the performance of athletes. Coaches can increase the performance of athletes by blending technology with their professional skills.This situation creates the opportunity the obligation of every coach to adapt to technology. This adaptation can be possible if individuals receive sufficient training to use computer technologies (Ulug, 2002). Furthermore constraints caused by diseases that cause pandemics, such as COVID-19, force coaches to use technology. By using remote information technologies, coaches may maintain the athlete's performance in the quarantine process. It seems to be an essential step for coaches to keep up with these technological developments to increase their athletes to the highest level of performance.

Since people use technology-containing devices (such as smart phones, tablets) in their daily lives, it can be expected that coaches will adopt technology in their work. At the very least, they may have embraced the use of technology in their work. In previous studies, coaches have a positive attitude to the use of technology in the field of sports. However, they do not want to transfer these positive attitudes into their training or competition (Lieberman et al., 2005). Especially during the COVID 19 epidemic, coaches had to use technology to train their athletes (that is, online training), thus their attitudes towards technology usage may have changed. Moreover, when the literature on technology usage habits and skill levels of coaches was reviewed, it is remarkable that the studies on this subject were limited. Therefore, the aim of the present study was to examine the attitudes and levels of use of technology by coaches working in individual and team sports in terms of athlete education.

Table 1. Descriptive statistics.

Variable		Number	Percent
Sex	Women	50	24.4
	Men	155	75.4
Seniority	1	42	20.5
	2	61	29.8
	3	68	33.2
	4	34	16.6
Branches	Individual	113	55.1
	Team	92	44.9
Total		205	100

METHOD

Research model

In line with the present study, conducted to determine coach behaviour and usage levels of technology, the instant scanning model as one of the general survey models and the relational survey model were used. The instant scanning approach aims to describe the situation as it is within the specified time (Karasar, 2002).

Research population-sample (study group)

The study population comprised of coaches belonging to different sport specialities. The sample group consisted of 205 participants, 155 men and 50 women, selected by the random sampling method, which is one of the convenience sampling methods.

Data collection tool

The “Teacher Technology Acceptance Measure: T-TAM” consisted of 38 items and 11 sub-dimensions developed by Ursavas et al. (2014) was used as the data collection tool for the study. The Cronbach’s alpha internal consistency values of the sub-dimensions of the scale for this study were determined as follows: α=0.94 for perceived usefulness, α=0.91 for perceived ease of use, α=0.90 for attitude towards use, α=0.91 for behavioral intention, α=0.86 for facilitating conditions, α=0.93 for perceived enjoyment, α=0.86 for self-efficacy, α=0.81 for technological complexity, α=0.91 for compatibility, α=0.88 for anxiety, and α=0.68 for subjective norms. The Cronbach’s alpha internal consistency values of the total scale were found as α=0.94. The data collected with the five-point Likert scoring system were scored as disagree 1 to strongly agree=5.

Research ethics

The authors study, entitled “The examination of attitudes of coaches towards technology and usage levels,” was evaluated ethically with the protocol number 2021/294 at the meeting of the Ethics Committee of Human Research in Social Sciences of Abant Izzet Baysal University, dated 30/06/2021 and 2021/07, and was found to be ethically appropriate.

Data collection

The scale form created for data collection was collected via the internet and delivered to the participants through various social media tools.

Data analysis

Data collected were analyzed statistically using IBM SPSS for Windows v.23.0 (SPSS, Chicago, USA). The normality test of the data collected from the participants for the dependent and independent variables was performed with the skewness and kurtosis tests, and it was determined that these values were less than +2 and -2. The skewness and kurtosis coefficients can be valued between -∞ and +∞. If these values are in the range of (+2 to -2) according to some authors and (+3 to -3) according to the other, it is accepted that the collected data show a normal distribution (Kalayci, 2010). Hence, data were analyzed by using a T-test to compare two groups from parametric hypothesis tests, One-Way Multivariate Analysis of Variance (MANOVA) for groups of more than two, and correlation analysis for continuous numerical data.

RESULTS

When Table 1 was examined a total of 205 coaches, 50 women and 155 men participated in the study. It was also determined that 33.2% of the coaches hd a third-level coaching certificate, and 55.1% were coaching in individual sports branches. When Table 2 is considered, it is indicated that there was a negative and low-level significant relationship between the sub-dimensions of technological complexity and anxiety and years of coaching.

When Table 3 was reviewed, a significant difference was found between the sex variable and the sub-dimensions of compatibility and subjective norms in favor of male coaches.

When Table 4 was examined, statistically significant

Table 2. Examination of the relationship between the age of the participants and the years of coaching and the sub-dimensions.

Variable		Perceived usefulness	Perceived ease of use	Attitude towards use	Behavioral intention	Facilitating conditions	Perceived enjoyment	Self-efficacy	Technological complexity	Compatibility	Anxiety	Subjective norms
Age	r	0.038	-0.074	-0.033	-0.067	0.047	-0.042	-0.090	-0.098	0.034	-0.059	0.050
Years of coaching	r	-0.001	-0.003	-0.021	-0.021	0.079	0.044	0.72	-0.178*	0.71	-0.172*	0.104

*: p<0.05

Table 3. Differences in gender and sub-dimensions of the scale (T-Test).

Variable	Group	N	x̄	Std.	t	df	p
Perceived usefulness	Women	50	4.33	0.688	1.64	203	0.102
	Men	155	4.51	0.651			
Perceived ease of use	Women	50	4.04	0.731	1.16	203	0.247
	Men	155	4.17	0.671			
Attitude towards use	Women	50	4.22	0.648	1.737	203	0.084
	Men	155	4.40	0.656			
Behavioral intention	Women	50	4.19	0.591	1.640	203	0.103
	Men	155	4.36	0.640			
Facilitating conditions	Women	50	4.12	0.554	-.613	203	0.541
	Men	155	4.05	0.695			
Perceived enjoyment	Women	50	3.96	0.780	1.938	203	0.054
	Men	155	4.18	0.657			
Self-efficacy	Women	50	4.25	0.727	.774	203	0.440
	Men	155	4.32	0.555			
Technological complexity	Women	50	3.42	0.954	-1.230	203	0.220
	Men	155	3.23	0.948			
Compatibility	Women	50	3.92	0.839	2.4033	203	0.017*
	Men	155	4.21	0.710			
Anxiety	Women	50	3.84	0.841	-1.485	203	0.139
	Men	155	3.61	0.946			
Subjective norms	Women	50	3.51	0.777	2.416	203	0.017*
	Men	155	3.79	0.683			

*: p<0.05.

Table 4. Differences between the seniority variable and the sub-dimensions of the scale (MANOVA).

Variable	Seniority	N	x̄	Std.	df	F	p	η 2	Difference between groups
Perceived usefulness	1	42	4.32	0.67	3-201	2.89	0.037*	0.041	LSD
	2	61	4.40	0.70					3>2
	3	68	4.65	0.46					3>1
	4	34	4.40	0.83					3>2>1
Perceived ease of use	1	42	4.14	0.70	3-201	0.22	0.880	0.003	
	2	61	4.10	0.71					
	3	68	4.20	0.63					
	4	34	4.12	0.75					
Attitude towards use	1	42	4.42	0.56	3-201	0.82	0.481	0.012	
	2	61	4.30	0.71					
	3	68	4.42	0.54					
	4	34	4.25	0.85					
Behavioral intention	1	42	4.36	0.60	3-201	0.71	0.545	0.011	
	2	61	4.23	0.66					
	3	68	4.39	0.56					
	4	34	4.28	0.73					
Facilitating conditions	1	42	4.06	0.67	3-201	0.76	0.518	0.011	
	2	61	4.09	0.56					
	3	68	3.99	0.70					
	4	34	4.19	0.75					
Perceived enjoyment	1	42	4.18	0.64	3-201	0.16	0.918	0.002	
	2	61	4.08	0.74					
	3	68	4.13	0.64					
	4	34	4.14	0.77					
Self-efficacy	1	42	4.34	0.54	3-201	0.27	0.844	0.004	
	2	61	4.26	0.62					
	3	68	4.34	0.56					
	4	34	4.28	0.71					
Technological complexity	1	42	3.27	0.85	3-201	1.27	0.285	0.019	
	2	61	3.46	0.80					
	3	68	3.22	1.01					
	4	34	3.10	1.15					
Compatibility	1	42	4.08	0.76	3-201	0.33	0.800	0.005	
	2	61	4.09	0.69					
	3	68	4.09	0.75					
	4	34	4.20	0.86					
Anxiety	1	42	3.56	0.99	3-201	0.41	0.745	0.006	
	2	61	3.76	0.79					
	3	68	3.67	0.94					
	4	34	3.64	1.03					
Subjective norms	1	42	3.73	0.60	3-201	1.61	0.188	0.023	
	2	61	3.65	0.74					
	3	68	3.66	0.71					
	4	34	3.96	0.77					

*: $p<0.05$.

Table 5. Differences between technology, frequency of use and the sub-dimensions of the scale (MANOVA).

Variable	Technology use frequency	N	x̄	Std.	df	F	p	η 2	Difference between groups
Perceived usefulness	Rarely	38	4.60	0.70	4-200	1.67	0.04*	0.032	LSD Very often > Frequently
	Occasionally	39	4.50	0.55					
	Moderately	83	4.39	0.74					
	Frequently	28	4.33	0.59					
	Very often	17	4.73	0.41					
Perceived ease of use	Rarely	38	4.03	0.81	4-200	.97	0.42	0.019	
	Occasionally	39	4.15	0.56					
	Moderately	83	4.11	0.70					
	Frequently	28	4.20	0.56					
	Very often	17	4.41	0.72					
Attitude towards use	Rarely	38	4.50	0.63	4-200	1.42	0.22	0.028	
	Occasionally	39	4.37	0.62					
	Moderately	83	4.27	0.72					
	Frequently	28	4.28	0.58					
	Very often	17	4.57	0.46					
Behavioral intention	Rarely	38	4.30	0.66	4-200	1.56	0.01*	0.030	LSD Very often > Moderately
	Occasionally	39	4.34	0.60					
	Moderately	83	4.24	0.68					
	Frequently	28	4.36	0.53					
	Very often	17	4.65	0.46					
Facilitating conditions	Rarely	38	4.17	0.59	4-200	1.75	0.02*	0.034	LSD Very often > Occasionally
	Occasionally	39	3.89	0.68					
	Moderately	83	4.03	0.70					
	Frequently	28	4.17	0.59					
	Very often	17	4.31	0.60					
Perceived enjoyment	Rarely	38	4.22	0.58	4-200	.61	0.65	0.012	
	Occasionally	39	4.09	0.77					
	Moderately	83	4.08	0.75					
	Frequently	28	4.10	0.57					
	Very often	17	4.31	0.61					
Self-efficacy	Rarely	38	4.31	0.54	4-200	1.59	0.01*	0.031	LSD Very often > Moderately
	Occasionally	39	4.32	0.50					
	Moderately	83	4.22	0.69					
	Frequently	28	4.37	0.51					
	Very often	17	4.61	0.50					
Technological complexity	Rarely	38	2.98	1.02	4-200	1.30	0.04*	0.025	LSD Moderately > Rarely
	Occasionally	39	3.34	0.87					
	Moderately	83	3.36	0.87					
	Frequently	28	3.43	1.02					
	Very often	17	3.21	1.18					
Compatibility	Rarely	38	4.11	0.83	4-200	.70	0.59	0.014	
	Occasionally	39	4.11	0.75					
	Moderately	83	4.08	0.75					
	Frequently	28	4.22	0.69					
	Very often	17	4.39	0.69					

Table 5. Cont'd Differences between technology, frequency of use and the sub-dimensions of the scale (MANOVA).

Anxiety	Rarely	38	3.50	1.09	4-200	1.37	0.03*	0.027	LSD Frequently > Rarely
	Occasionally	39	3.56	0.97					
	Moderately	83	3.70	0.84					
	Frequently	28	4.00	0.77					
	Very often	17	3.63	1.00					
Subjective norms	Rarely	38	3.75	0.71	4-200	2.26	0.01*	0.043	LSD Very often > Frequently. Frequently < Moderately
	Occasionally	39	3.64	0.73					
	Moderately	83	3.80	0.64					
	Frequently	28	3.41	0.76					
	Very often	17	3.98	0.84					

*: $p<0.05$.

differences were found in favor of the 3rd level coaches in the perceived usefulness sub-dimension according to the seniority variable of the coaches. Besides, it is concluded that the effect size of the perceived usefulness sub-dimension was larger than the other dimensions.

When Table 5 was examined, it is observed that according to the technology usage frequency variable of the coaches, significant differences were found in favor of those who use "very often" in the sub-dimensions of perceived usefulness, behavioral intention, facilitating conditions, self-efficacy, and subjective norms, "moderate" in the sub-dimension of technological complexity, and "frequent" in the anxiety sub-dimension. It was also inferred that the effect size of the subjective norm sub-dimension, which is one of the sub-dimensions with significant differences, was larger than the other dimensions.

When Table 6 was considered, statistically significant differences were found in favor of the coaches who had sufficient opportunity in facilitating conditions and self-efficacy sub-dimension based on the technological opportunity variable of the coaches. It is seen that the effect size of the facilitating conditions sub-dimension, among these sub-dimensions, in which a significant difference was detected, compared with the other dimension.

DISCUSSION

The research results, which was conducted to determine the attitudes and level of use of the coaches working in the Turkish leagues towards the use of technological equipment in training and competition, concluded that while there was no statistically significant relationship between the age of the coaches and the sub-dimensions of the technology usage scale, it was found that there was a negative and low-level significant relationship between the technological complexity and anxiety sub-dimensions and the variable of years of coaching (Table 2). The fact that the participants did not show a statistically significant difference in terms of sub-dimensions by the age variable can be attributed to the fact that the average age of 205 coaches, who participated in this study and were between 18 and 65 years old. To this end, it is known that young people adapt quickly to technological developments and also show a rapid change in the use and access of information through technological tools (Cakmak and Yalcin, 2013). Based on this result, it can be suggested that the young coaches included in the study adapt quickly to technological change and use technological opportunities easily. Based on the years of coaching, 40% of the participants had been coaching for 1-10 years and 60% had been coaches for 11-35 years. The negative relationship between the age of coaching and the sub-dimensions of technological complexity and anxiety in our study may be due to the advanced age of the coaches ($\geq$40 years). Studies on the subject revealed that although technological innovations increase the welfare of elderly individuals, they are the last group to adopt innovations involving products, services, or ideas when compared to young people (Ozkan and Purutcuoglu, 2010). The reason for this is that technology shows some complex features, problems related to skillfulness and mobility of the elderly, technical terms, and their perceptions that technology is dangerous, expensive, complicated, surprising, and difficult to learn (Blaschke et al., 2009). Due to these reasons it may cause coaches with many years of experience to feel confusion and or feel worried when using technology.

When the present study was considered in terms of sex, there is a statistical difference in the sub-dimensions of compatibility in favor of male coaches and subjective norms compared to female coaches (Table 3). In other words, it can be argued that male coaches use technology more than women, that it is a critical necessity for their profession, and that the people around them (athletes, managers, etc.) accordingly have high expectations from them. Nevertheless, some researchers

Table 6. Differences between the technological opportunity variable and the sub-dimensions of the scale (MANOVA).

Variable	Opportunity	N	x̄	Std.	df	F	p	η 2	Difference between groups
Perceived usefulness	Insufficient	61	4.54	0.63	2-202	0.56	0.567	0.006	
	Limited	107	4.45	0.71					
	Sufficient	37	4.40	0.57					
Perceived ease of use	Insufficient	61	4.04	0.78	2-202	0.92	0.399	0.009	
	Limited	107	4.17	0.67					
	Sufficient	37	4.22	0.54					
Attitude towards use	Insufficient	61	4.39	0.70	2-202	0.27	0.760	0.003	
	Limited	107	4.32	0.69					
	Sufficient	37	4.40	0.46					
Behavioral intention	Insufficient	61	4.27	0.66	2-202	0.27	0.760	0.003	
	Limited	107	4.33	0.65					
	Sufficient	37	4.36	0.50					
Facilitating conditions	Insufficient	61	3.93	0.70	2-202	2.62	0.**025***	0.025	LSD sufficient > insufficient
	Limited	107	4.08	0.67					
	Sufficient	37	4.25	0.52					
Perceived enjoyment	Insufficient	61	4.11	0.67	2-202	0.78	0.460	0.008	
	Limited	107	4.09	0.76					
	Sufficient	37	4.25	0.50					
Self-efficacy	Insufficient	61	4.18	0.69	2-202	2.47	**0.037***	0.024	LSD sufficient > insufficient
	Limited	107	4.34	0.57					
	Sufficient	37	4.44	0.47					
Technological complexity	Insufficient	61	3.27	0.96	2-202	0.22	0.803	0.002	
	Limited	107	3.32	0.94					
	Sufficient	37	3.20	0.99					
Compatibility	Insufficient	61	4.10	0.67	2-202	0.21	0.805	0.002	
	Limited	107	4.14	0.82					
	Sufficient	37	4.21	0.68					
Anxiety	Insufficient	61	3.51	1.06	2-202	1.60	0.203	0.016	
	Limited	107	3.69	0.88					
	Sufficient	37	3.85	0.79					
Subjective norms	Insufficient	61	3.77	0.69	2-202	0.18	0.831	0.002	
	Limited	107	3.70	0.74					
	Sufficient	37	3.70	0.70					

did not find a significant difference between woman and man coaches in the attitudes of technology usage in sports (Lieberman et al., 2005; Mohammadi et al., 2013). One of the reasons being a significant difference between female and male coaches in this current study may stem from being low number of female coaches working in the sports environments. This may have a negative impact on women's feelings of staying in the background and their attitudes towards technology. When the literature on the subject is examined, it is seen that female employees who have to work using technology are affected by gender discrimination and experience technostress and technophobia psychologically (Savci, 1999). In their study, Atilgan and Tukel (2021) concluded that female coaches and physical education teachers have lower individual innovative perceptions than men, and they tend to take fewer risks. When these results are analyzed together, we can suggest that female coaches tend to use technology less than male coaches and that they feel inadequate and incapable of technology due to gender-based social pressure.

According to the seniority variable, it can be suggested

that 3rd level coaching certificate differ statistically in the perceived usefulness sub-dimension and have a higher mean score than their colleagues with the 1st and 2nd level coaching certificates, and the effect size of the perceived usefulness sub-dimension is larger than the other dimensions (Table 4). According to this result, it can be indicated that 3rd level coaches use technology more widely in training and competitions than their 1st and 2nd level colleagues. Level 3rd coaches are head coaches whose leadership aspect is more prominent than lower-level coaches. For this reason, the main task of these coaches is to train, motivate, organize and provide the necessary knowledge and skill for individuals who want to participate in sport. A qualified coach should research the necessary information and technologies in light of science and use them for the success of his/her athletes to enable them to gain these skills (Sagsan et al., 2016). In the evaluation of the performance of the athletes, the analyzes of the matches they played and the training undertaken are generally used. In other words, making the right decision, applying the right skills, and acting together with teammates, that is, support activities, have become very important in the analysis of the matches, especially with the fact that the games have started to be played very quickly in today's sports (Cakit and Karadeniz, 2020). For instance, the performance of the AC Milan football team in the European Cup and World Cup of Soccer in 2005 and 2006 was examined by sports scientists and linked to NFB (Neuro Feedback) and BFB (Biological Feedback) training of initiatives that affect their success. Bruno Demichelis applied the Milan model, which he determined as the 'Mind Room,' to the English Chelsea club football team. The Mind Room model aims to control the comfort, arousal, and focus on the field by using meditation, physiological relaxation, and imagery techniques (Perry et al., 2011). In light of this information, coaches can maximize their own and their athletes' performance by using technology frequently and continuously to achieve success.

According to the variable of frequency of use of technology by coaches, it is statistically significant in the perceived usefulness, behavioral intention, perceived ease of use, self-efficacy, and subjective norms sub-dimensions in favor of those who use it "very often," in the technological complexity sub-dimension in favor of those who use it "moderately," and in the anxiety sub-dimension in favor of those who use it "frequently." It was seen that the effect size of the subjective norms sub-dimension, which is one of the sub-dimensions with significant differences, was higher than the other dimensions (Table 5). When these results are evaluated together, it can be asserted that the coaches who use technology very often use technology comfortably, their work becomes more manageable, they find it fun to use technology, and thus they can meet the expectations of the athletes and administrators around them. On the other hand, coaches who use technology moderately, emphasize that they experience anxiety due to the risk of making mistakes, while coaches who use technology at a moderate level emphasize that they experience difficulties in using technology and lose much time.

Today there are many expectations for high-level athletes preparing for global competitions and Olympic Games; such as increasing their technical capacity, preventing injury, creating safe training facilities and the desire of the athletes to attain a high level of performance – which requires the adoption of sport technology to attain the best results for the athlete. 'Best results' combing traditional coaching methods with sports technology although the latter can be costly (Camkiran et al., 2021).

Statistically significant differences were found in favor of the coaches who had sufficient opportunities in facilitating conditions and self-efficacy sub-dimension according to the technological opportunity variable of the coaches (Table 6). According to the Technology Acceptance Model, the level of use of information technology is primarily affected by the behavioral intention factor. Perceived usefulness and ease of use have positive effects on an individual's behavioral intention (Civici and Kale, 2007). Based on these findings coaches with sufficient technological knowledge also use technology well and can also access technical support when needed.

According to Akpinar's (2003) study on teachers, it was determined that teachers who completed their higher education in major cities use technology more in their work for out-of-class education than those who completed their higher education in cities in the Eastern, South Eastern, and Central Anatolia Regions. In the study conducted by Yilmaz (2008), it was concluded that two-thirds of the teaching staff in Turkey do not find the institutions within which they work to be adequately equipped in terms of technology. A similar study was conducted by Uzum et al. (2020) on students studying at the faculty of sports sciences, and a significant difference in the use of technology was found between the students of the Coaching Department and the Sports Management Department students in favor of the Coaching students. According to these results, it was emphasized that it is necessary to develop computer and technology skills, and attitudes, for students in Faculties of Sports Sciences, to improve existing facilities on University sites, furthermore to develop the level of sports technology in school. From this point of view it can be suggested that University Departments that train coaches should also provide sufficient technological opportunities for coaches in their Educational Programs.

Conclusion

According to the findings of this study, it can be suggested that the coaches working at various levels in

individual and team sports in Turkey tend to use technology very often in line with the opportunities they have in competitions and training. It was determined that young coaches use technology more efficiently and adapt to change more quickly, whereas older coaches have difficulties and anxiety in learning to use technology. On the other hand, female coaches were not proficient in using technology, and they say that they are not expected to do so. Consequently, the authors can say that the coaches have a positive attitude towards the use of technology and try to use it at the highest level. It is highly recommended for sports federations and clubs to provide coaches with technological tools and equipment in the field they need and work to increase coaches' motivation to use technology, and provide more detailed training on the use of technology in coaching programs.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Review

Strategic cocktail: Cognition and metacognition

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This theoretical reflection implies the main proposal that the activities of planning and teaching are linked; it is the main ingredient to cognition and metacognition. Two main parts make up this article: a theoretical discussion of the linkage, detailing a descriptive letter and content to be taught in the classroom. Within this part, a flowchart related to the master, content and topic is proposed, which are the results of the theoretical reflection. The concluding part of this reflection is considerations associated with improving the planning of teaching.

Key words: Planning, cognition, metacognition, learning to learn, teaching, learning strategies.

INTRODUCTION

Classroom means, among other things, the teaching processes that require a reference framework for planning the activities of teachers and students. The strategies are "ingredient" to consolidate learning spaces meaningfully and have quality teaching.

THEORETICAL DISCUSSION

Programming acquires key meaning and functions to sequence students' tasks and activities: its engine is the didactic and involves sustaining the general purposes of the subject, objectives, competencies, contents (conceptual, attitudinal resources), teaching resources and assessments. All of the above supports the activities and tasks that give meaning to the school project: it is up to the teacher to combine them in his/her daily schedules. Thus, and according to Parrilla (1996), this set involves developing a system of supports and the organization of resources, with three possibilities: a) pedagogical reinforcement, before the classroom, b) simultaneous reinforcement in the classroom and c) post-reveres reinforcement classroom. This indicates important planning moments: the possible combinations are many and there is no single way. It is from the classroom, from the students and from the content that it delimits the planning and determines if there is a need for special aids.

Teaching should consider, in addition to the above, that in daily or weekly programming the curriculum plays the guiding axis, since it points to the object of knowledge and takes into account the characteristics of the students, determines the adaptations and interaction formats for them. The learning hypothesis also shows both individual

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and group organizational supports. This hypothesis weighs optimal conditions for all to consolidate important learning. Therefore, the teacher, from this hypothesis, regarding content, makes the adjustments and can consolidate inclusive educational environments: strategies - tools of psycho-educational support - guide learning and accompany the teaching.

Follow-up is essential for the educational process to continue in the best conditions without forgetting that the student learns in a culturally determined way, building new knowledge from his previous knowledge and experience. This relationship between the new and the previous will be three conditions: the first is associated with your learning style, then there are the learning strategies that he or she has already used and, finally, her cognitive and metacognitive skills.

As for the styles used are the ones you have used, they can be preferences in the use of certain skills, vary according to tasks and situations, are flexible and can vary over time: the problem lies when there is no congruence in the classroom and the style of a schoolboy and the one used by the teacher. This last consideration is where the schedule fits: if the teacher can guide in the process of identifying different styles of their schoolchildren in the classroom, they could "act" on the modalities in an attempt to increase taking advantage of them.

Identifying styles allows you to describe the strategies of the students they use: it is up to the teacher to be attentive to the performance to make the student "face" with the new, more thoughtful information about why and for what. This one can be accompanied and guided by the teacher. There are, according to Pimienta and Prieto (2012), different types of strategies that can be used both in reflection and participation. There are four types of this reflection: strategies to investigate previous knowledge; strategies to promote the organization of information, group working strategists, and strategies to contribute to the development of skills.

By relating them to content and promoting reflection, the student modifies his knowledge; the teacher proposes an interrelationship between the new and the old, the strategy guides the process. If another strategy is required, it can be used and retried by schoolchildren and in that chain you "learn to learn". Teaching strategies are intertwined with learning and schoolchildren are almost certain to face and build more meaningful learning.

Thus, teaching and learning strategies are an interrelated set of functions and resources capable of generating action schemes that will make it possible for students to act more effectively in classroom educational situations. In this interrelationship process, metacognitive skills are necessary and useful for the acquisition, use, control of knowledge and also of other skills, such as the planning and regulation of the effective use of the resources themselves and bringing together strategies, most of the time, have a positive impact on students' performance. Using metacognition as a resource in the classroom, students participate in complex cognitive development processes.

According to Pimienta (2012), the most significant metacognitive skills are: the planning and formulation of how, the control and evaluation of one's knowledge and the recognition of the usefulness of the chosen skill or, if necessary, choose ability. It is claimed that these ingredients are in the classroom and are resources that can be used from teaching and learning, as it will involve thoughtful thinking as a class resource.

The teacher can reflect on how, what plan, content characteristics, if there is previous experience, what worked and what did not work, which problems were solved and which were not, how I will know if the goal was achieved, there is a plan B and how I identify criteria for strategy programming.

These considerations will have as a backdrop the programming of strategies in the classroom where the difference is respected, the old knowledge is related to the new, conceptual, procedural and at-adytum content is linked, use different channels of perception and processing for learning, encourage participatory learning, teach metacognitive strategies, promote complex levels of thinking, and use different evaluation systems. This interrelationship of teaching and learning strategies could be outlined in a descriptive letter prepared by the teacher: each teaching strategy has one of the learning strategies. Activities are associated only with students (Table 1).

The preparation of this educational letter of facts involves identifying previous knowledge through the use of strategies, since previous knowledge and skills that have been used and that students have must be recovered and explained: it is recommended to use situations known to lead them to reflect on what has already been acquired and used. Once the previous knowledge and skills have been identified, it must be transferred to a target classification that must be developed in the form of purpose(s) and objective(s).

According to Bloom (1956), there are levels (knowledge, understanding, application, analysis, synthesis and evaluation) and there are verbs associated with these levels. From this it must be passed to the identification of knowledge through thematic delimitation. Teaching strategies should mix metacognitive with techniques associated with group dynamics: learning strategies should allow the student to develop, organize and integrate the new information. The teacher must promote group dynamics that promote analysis and synthesis, from the metacognitive and cognition of the students, the activities are associated with know-how: the metacognitive must be adjusted to the age of the students.

The main focus of this reflection is related to the cognitive approach and various assumptions to analyze

Table 1. Descriptive letter: Planning.

Primary school meaning of numbers	**Grade**		**Unit**		
Matematices	**Teaching strategies**	**Learning strategies**	**Activities**	**Resources**	**Evaluation**
example: Number sense and algebraic thinking theme: Significance and use of numbers subtheme: Natural numbers expected learnings: -interprets and represents numbers, at least up to 10. -comparating and collections, at least 30 elements. -communicates orally or through characteristic drawings of composed figures -use the reference system to play, describe and occupy positions of people or objects (Cfr. SEP. 2019)	Brainstorming Previous organizer Guided discussion Modeling in all these strategies the professor should explain the reasons to learn, such as the case of increase expectations and value success. Promote attention	Analysis Discussion debate and Learning to together Note: promote the intrinsic attraction of the use and utility of understanding numbers. Promote individual participation. formulating the self-evaluation of activities. activation of previous knowledge. from the whole group. Training of small groups to do a debate and promote analysis. Individual reading and elaboration of notes and exercises. Training small groups to identify characteristics of composed figures. Elaboration of individual summary	Activation of previous knowledge from the whole group. Training of small groups to do a debate and promote analysis. Individual reading and elaboration of notes and exercises. Training small groups to identify characteristics y composed figures. Elaborating of individual summaries.	Book Paper Pencils Colors Paint	Assistance Participation Elaborate a drawing where he or she can use a reference system to describe and occupy positions of people or objects. Develop an example

Public Education Secretariat (2019).

the educational process: it is interesting to insist that the participants in this process act and represent the context in which they are immersed. Likewise, the understanding of the working of the mind has been modeled on the metaphor of the workings of a computer. It serves as an explanatory model of how the psychological subject perceives information, how it represents, organizes and retrieves it with the purpose of directing its action in the world.

The main activity of the subject, then, is the information process and its result is the construction of knowledge about the world. Theoretical advances on the subject of cognition have developed a set of novel formulations about the process of functioning of learning, teaching and instructional theme. Two basic principles for this reflection are: a) the student and the teacher carry out construction and re-construction of the knowledge during socially framed situations and b) teaching and learning are social in nature and fulfill a socialization function.

From these principles, it is necessary to re-think the planning / programing and its impact on the participants of the educational process, such as the case of teachers, students, family and the accumulated development of science. For the same reason, it is necessary to know and insist on re-conceptualization of the teaching as a systematic aid; that it is necessary to pay attention to the cognitive development of students in educational activities (formal and informal); to be able to design, in a very detailed way, the role of cognition and metacognition in the classroom and how learning will be achieved in the knowledge acquisition process (Bransford et al., 2004).

The constructivist theory has proposed the following formulation:

1. Knowledge is the result of the interaction between the content to be taught, the students' previous knowledge and the new information given to the teacher,
2. This process of re-construction continues continuously,
3. It is "operated" from this interaction combining on "…what is known, what is learned, what can be used, what can be improved and how can it be changed"
4. From the planning and programing of teaching, the

strategies can be related to the cognitive and metacognitive skills and can be designed to promote meaningful learning (Pimienta, 2008) and
5. It is necessary that the metacognitive skills are made explicit from the teaching and how they can be learned by the students for use in the class. This is associated with the idea of “transferring” useful information and actions when carrying out educational activities.

Thus, the decisions and link cognition and metacognition is a “proposition” for the teacher to plan class or sessions that promote development of complex thinking of the students. At the same time, planning /programing is cognitive metacognitive reflective, it is conscious, it is explicative and uses explanatory hypothesis understanding facts, concepts, procedures and inference. Self-directions emphatically use complex thinking skills both: simple [describes, and finds differences] and complex [explore, deduce, experiments] can be used when the students perform activities and tasks (Herrera 2005), and when they are needed.

Its importance is justified by also relating incidental learning with formal-academic learning, in that is possible to make use of previous experience and new ones, so that the deduction/inference is related to more significant learning of participants in the session (Rogoff, 1918). The teacher can design training activities, modeling, problem solving and work undertaken by novice-expert: it insists on the need to promote autonomy, positive interdependence and regulation (Swart et al., 2017). So there are enough conditions to promote participations, dialogues and complex thinking so that everyone perform socially and valued functions, both in projects and procedural activities, by just mentioning some tasks.

In the activities that are planned, it is a matter of making accessible the content to be addressed: the guide/supervision uses cognitive and metacognitive strategies, resources and tactics associated with instruction of the teaching process. The instructions are deliberative and systematic resources of how to accompany the re-working of what has been learned: it is “a staging process” where questions and examples are designed; those are resources not only of the teacher but also of the students, in friendly dialogues with academic content, and the conclusion is a result of working together.

This activation, which in addition is being relaxed with the cognitive and metacognitive strategies, allows re-elaborating activities to explore, discover and systematize the academic information (Das et al., 1998). During the intellectual advance there are dialogues related to negotiation of arguments, with readjustments of behavior: an identical interest is not promoted, but exchange between peers, between teachers to agree on the characteristics of the action plan, on the points of differential views, on what has been useful is needed.

From the above, the participants move toward three possible actions:

1. To explore
2. To describe
3. To solve

To know how to do with sense of belonging; there are progressive empowerments; there are supports; there are links between peers / teachers and there is union between cognition and metacognition (Cfr. Das et al., 1998).

Therefore, they are the activities that give vigor to strategies since they can modify and adjust the skills and potentialities. In this dimension of programming, teachers must use a variety of techniques associated with group dynamics, preferences and interests.

Teachers should pay attention that activities can change learning and improve skills mastery, develop organizational habits and constancy at work: identify the importance of effective study strategies, improve social integration in the group, school and environment. Activities can be scheduled to increase motivation to participate: the more they are detailed, the more work is linked with goals and purposes together increasing participations. Perhaps using preferences and dimensions in scheduled actions will enable students to differentiate what assumes responsibility for such or such activity.

Learning activities should be characterized by a variety of individual and peer actions that allow everyone to contribute important aspects to the goal; they should pay attention to individual differences and group integration processes. An activity can include one or more students’ skills. The role of the teaching is to monitor the actions so that everyone feels that the activity is relevant and the students "do" demonstrate" what they have already acquired, as a goal.
The programming of the activities may have three important considerations: actions involving autonomous activity, actions involving joint activity and how the negotiation of intensions is carried out (Aramburu, 2013: 54). The educational situations that delimit intertwining the circumstances of an activity, "... as a set of elements that frame and accompany the actions and interactions they generate…" in students. Activities may be related to motivational strategies that promote the intrinsic appeal of learning tasks through curiosity and interest and fostering self-assessment: giving reasons for learning, such as expanding expectations and value success, participation, autonomy and responsibility. Special attention will be given to those activities that recover and transfer to learning, since, according to Pozo (2000), re-cognition and evocation are important aspects in the processes of representation and acquisition of knowledge: cognition and metacognition can be useful to this process.

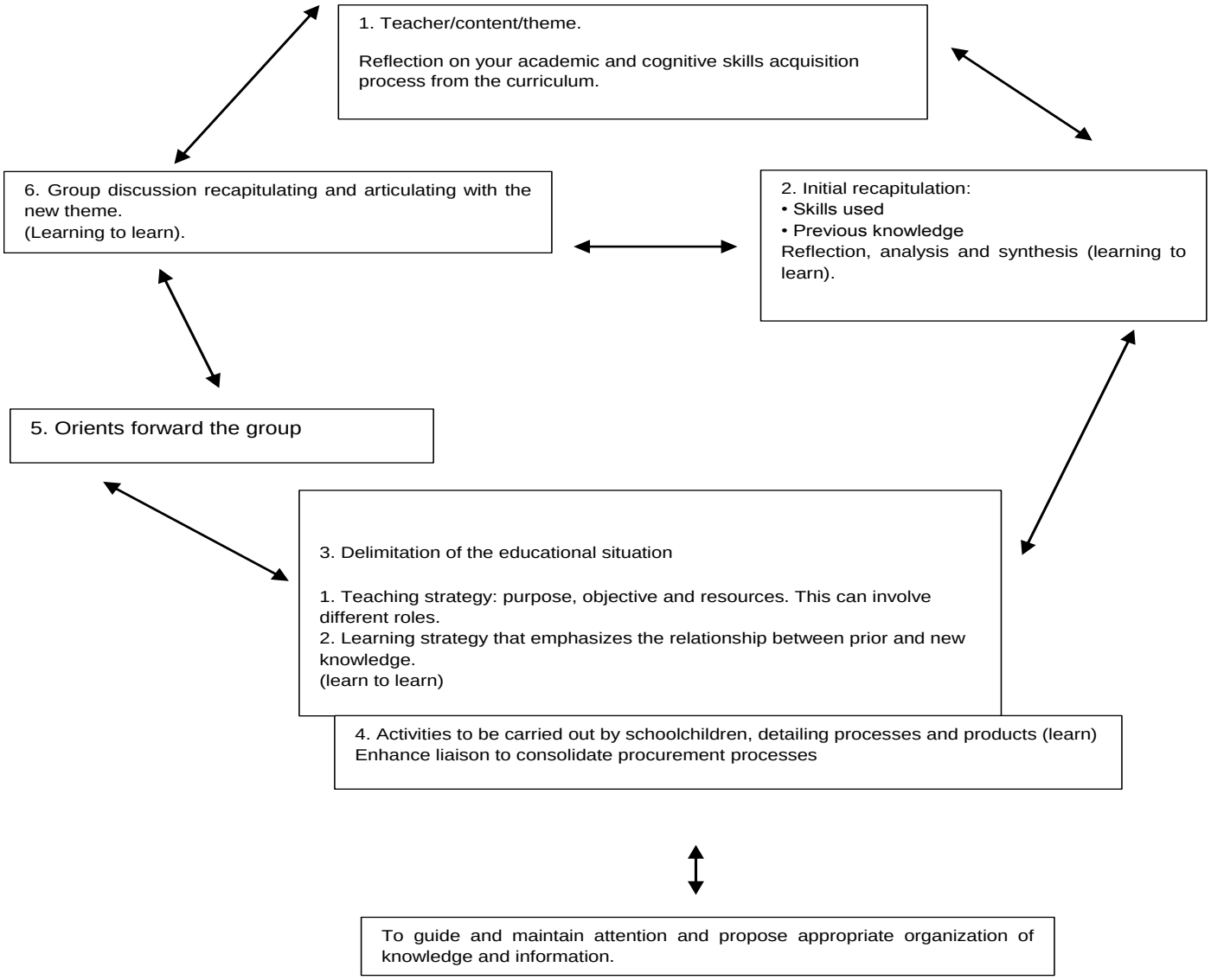

Figure 1. Flowchart: teacher/theme.

Thus, the learning contexts will allow the retrieval of information and transfer through the elaboration and organization of new information and constructive learning: it is what the student does that is meaningful, properly mastering, increasing understanding, remembrance, promoting the development of strategic thinking and cognitive progress of students. Special attention is to link the expected learning with the conceptualization of the student as an active subject that re-constructs their learning: the processes involved will be related to identifying, characterizing and recognizing situations to use and apply what they learned by promoting interest, curiosity and understanding of the meaning of the activities to be carried out.

Teaching strategies "scafate" because their use is related to the level of competence presented by students in carrying out activities and to the level of prior learning that students have. They are modifiable, flexible and adaptable to the characteristics of the group: it is about them having progressive control of their skills and active participation of the educator and teacher is promoted by explaining forms of interaction and complex thinking skills.

Figure 1 is a flowchart that recapitulates this from the programming of teaching/learning strategies: as in a cocktail where the flavors make a pleasant palate of the taste taker. This metaphor refers to the idea of an integral whole, where the result is more than a sum of parts and the relevance only makes sense if it is conceptualized as an entity that self-regulates according to the needs of the

students, the type of content and the thematic delimited in the educational letter of facts.

The cocktail involves detailing, through strategies, the positive effects of group work, because you learn to accept differences, to cooperate, to increase personal safety and to facilitate the reflection on how to do: special attention will be given to create an environment that leads to the resolution of problems and in the development of group objectives, since there is a follow-up of goals and achievements allowing a purification of cognitive and metacognitive skills.

The purpose is to transform, through changes in their skills already achieved, the functioning of the group: reflection will allow the teacher/student to actively participate in the recognition of the most effective skills in autonomy, creativity, problem solving and self-regulation, just to mention significant characteristics of this learning to learn.

So, "... learning to learn involves the ability to reflect in a way that learns and acts accordingly, self-regulating the learning process itself through the use of flexible and appropriate strategies that are transferred and adapted to new situations (Diaz and Hernandez, p:12, cited by Herrera, 2005).

The detail of the ingredients of the programming (Flowchart) progress can be made in the humanistic content of the reflection of the classroom members, since metacognitive skills can be individualized. For example, from a previous organizer the breakdown of your most specialized considerations can make the role of the teacher guidance, since schools follow in the process in their know-how and use.

Consequently, the group learns to learn, since know-how is a property of the group that will mean that the procedures, by which the means are selected, are explicit and it is the responsibility of the group to make efficient the activities scheduled : your organization is circular (Russell, 1979) and the roles are role-playing. This cocktail meets basic skills and through reflection, they learn and teach efficiently: it is safe to do so and use them, they will, even if others of their own age will motivate them to want to acquire them. Of course, the role of the teacher is to guide through instruction when necessary.

Cognitive psychology (Klinger and Vadillo, 1997) provides a referential framework for cognitive strategies, as they promote activities to be skill-making and to enable an active and meaningful learning process towards students: that is, "... promote progressively more robust processes [supported by] the integration of old and new knowledge... [with] better storage and a retraction of knowledge... [more]... longer [and] more efficient" (p. 33).
In addition to the above, and according to Klinger and Vadillo (1997), it is associated with cognitive modification ability and allows,"... improve performance, and skills..." reflection that will help identify significance of cognitive and metacognitive strategies.

Thus, metacognition involves self-regulation and self-assessment: control from learning to identify differences and similarities of chosen procedures and classroom resources. The teacher can be a mediator in reflection with the aim of recapitulating and completing the task accomplished.

Therefore, the teacher can clarify the problem, set priorities, define specific objectives, and schedule a discussion/reflection of the group, list resources and criteria, to mention just a few activities of the teaching practice. In short, choices, decisions and action plan are occupied and assisted, from at least two considerations: those involving the entire classroom and those involving individual or peer-to-peer activities.

The cocktail is programmed from different situations (real or simulated); from the idea of learning to learn, from a particular content and from think tanks around an objective that involves important modifications in the "know-how". It should be noted that the modifications to the curriculum and the conditions of organization of the activities do not have a definitive determination, nor imply a response of all or nothing, are purposeful, re-educational and intend to change adverse situations of participation and learning.

Programming activities should maintain a positive interdependence between peers and individuals: the teaching role can, through observations, detail capacities in the execution of actions and schedule actions of reflection/discussion in the face of a certain situation. Its accompaniment should reduce mechanisms that hinder the actions determined and the use of interpersonal skills if problems are to be solved, both personal and academy.

Resources incorporated into the activities will help explore, discover, and resolve. Everyone shares the know-how. Each student can be a facilitator in the activities: it is observed, analyzed, re-opened and procedures and skills can be restructured to make the usefulness in the activity evident and that with the idea that "there are small daily successes in each student."

CONCLUSION

It is suggested that planning and programming frame its considerations from four philosophical dimensions: environmental optimization, empowerment, self-determination and psychological strengthening of students; it is about consolidating access and participation in schooling process.

Teaching and learning activities suggest modifications associated with how I will do, what will be done and how I will evaluate; it is a question of planning detailing such activities for promoting autonomy, creativity, reflection and learning to learn. The design of planning and programming, then, will allow to take advantage of the diversity of the students, develop support systems and the organization of pedagogical teaching resources

whether before, simultaneous and subsequent to the activities, that will be carried out by the students.

Cognition and metacognition are two and go together in the process of being and individual with complex thinking skills. They gather us and separate us; together they make the survival of the specie: the strategies are the instrument and the operative of the activities that can be used for all. The may be spontaneous or deliberated; planning / programing the class is good. They can also promote creativity, innovation and change in the classroom.

Cognition and metacognition strategies should be flexible and, if possible, determine the type of help to identify or attribute meaning to learning, or to detail certain activities; it is the link between teacher/student/ content that delimits the strategy. The school project consolidates purposes, such as providing quality in educational processes. The central theme of this reflection is the nature of the relationship between cognition and metacognition in teaching/learning strategies to identify areas of opportunity in teaching activities and to be reflected in the educational letter of facts. Many considerations have been left out; it is necessary to improve the quality of teaching for students and improve the conditions of access and permanency in the educational system.

These reflections are the result of more than twenty years of teaching in higher education that is not only for bibliographic investigation, but also a reflection of teaching practice. It is necessary to carry out research on the development of more data of learning {*in situ*]. Therefore it is only a reflective beginning that can be shared.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Identification of the processes of preparing Individualized Education Programs (IEP) by special education teachers, and of problems encountered therein

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There are qualitative studies aimed at identifying the problems encountered in the course of preparing individualized education programs (IEP). However, these studies are conducted with only a few participants. There is a need to test the results on a larger sample size. A questionnaire based on findings of interview techniques, used in qualitative research methodology, is developed. Using this questionnaire will identify the actual problems based on wider sample size, creating guidance for the required measures and actions. Thus, the purpose of this study is to identify the processes of preparing individualized education programs by special education teachers and of the problems they encounter. The sample group for this study, which utilized cross-sectional screening methods, is 1,000 teachers working in the special education field. At the end of the study, in addition to characteristics of IEP planning, performance measurement and IEP drafting by teachers, findings on problems faced due to teacher, room, material, parent, student, and personnel, in the course of preparation of IEP, were identified.

Key words: Individualized education program, individualized instruction plan, problems, questionnaire, cross-sectional screening.

INTRODUCTION

Individualized education programs (IEP) are special education programs, developed in writing, by an educational institution specifically for a student with disabilities, intending to meet the special needs and requirements of the students, teachers, and parents (Gibb and Taylor, 2016; Vuran, 2000). IEPs also referred to as complete service plans, are plans in which all services to be provided to students with disabilities are planned and coordinated (Fiscus and Mandell, 2002; Özyürek, 2004).

IEP covers the present levels of educational performance of the student in areas affected by the

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disability, annual goals and short-term objectives, description of the needed special education and related services, description of general curriculum areas the students can participate in, assessment period, and information on how and how often the parents will be informed (Pierangelo and Giuliani, 2007; Siegal, 2003).

Individualized instruction plans (IIP) are plans that are developed based on IEP and describe in detail the education to be carried out by teachers with the student. Common elements of IEP and IIP are present levels of educational performance of the student, annual goals, and short-term objectives. IIP, differing from IEP, contains such information as instructional goals, instructional method, materials, prompt level, reinforcement type and schedule, assessment method and, frequency (Fiscus and Mandell, 2002; Özyürek, 2004). For the sake of fluency in this article, we have opted to use only abbreviations of both of these terms. The IEP preparation process comprises three stages; planning, determination of performance level, and drafting.

IEP development planning

Collection of information

The first step in the determination of performance level is the collection of information about the student. First, to get to know the student, all existing records must be collected, filed, and reviewed. Documents suggested for this review are medical and health information, school reports or development reports indicating the school's success, student personal file, etc. (Downing, 2010; Ireland, 2006). In addition, interviews are held with the student's parents, present teacher or previous teachers, school counselor, and other school personnel who may have student information, or with the student himself/herself to learn his/her prioritized needs. Observation of the student at different times of day and in different environments also provides significant information about the student (Browder et al., 2011; Downing, 2010; Ireland, 2006). Furthermore, review of standardized test results such as intelligence tests, communication, and language skills assessment tests, applied in the previous years, and developmental scale results such as Denver, Portage, etc., and criterion-referenced tests applied in the previous instruction period, and if any, student's portfolio and portfolio development reports are also helpful and useful for getting to know the student (DM Browder et al., 2011; Gürsel, 2000; Gürsel and Vuran, 2010).

IEP planning meetings

IEP team members participate in IEP planning meetings. IEP team members consist of the educational institution's directors, school counselor, psychological counselor, the teacher assigned for preparation of education program, educators who play a role in the education of the student outside the educational institution, and teachers, classroom teachers and/or branch teachers who have taught the student in previous years, support service professionals who provide the support needed by the student such as physiotherapists, speech-language therapists, occupational therapists, student's parents, and the student himself/herself. IEP meetings are repeated several times during the year for exchange of information among team members and/or for assessment of the development of the student prior to preparation of IEP (Batu, 2000; Blackwell and Rossetti, 2014; Bryant et al., 2008; Gibb and Taylor, 2016; Winterman and Rosas, 2014).

Determination of performance level

Preliminary assessment

Following the collection of general information about the student, more systematic work is performed for the guidance of planning of instruction. The first study performed is preliminary assessment activity. Preliminary assessment activities are rough assessments performed without entering into details for both determining the strong and weak skills of the student in the developmental areas dimension, and identifying the units and subjects the student did or did not learn in the curriculum courses. Developmental scales providing systematic information are suggested to be used for preliminary assessment of student in developmental areas (Browder et al., 2011; Gürsel, 2000; Ireland, 2006; Siegal, 2003). Included among the main developmental scales used in Turkey are Denver Developmental Screening Inventory, Ankara Developmental Screening Inventory (AGTE), Gazi Early Childhood Assessment Tool (GEÇDA), Portage Developmental Assessment Inventory, Küçük Adımlar Developmental Screening Inventory, and Early Development Phases Inventory (EGE). In Turkey, education programs and performance measurement forms, published by the Special Education General Directorate of the Ministry of National Education, are used for curriculum-based preliminary assessment. The programs and forms include "Special Education and Rehabilitation Centre Mentally Disabled Individuals Support Education Program", "Performance Measurement Form for Individuals with Speech and Language Disturbances", "Performance Measurement Form for Individuals with Special Learning Disability", "Performance Measurement Form for Individuals with Pervasive Developmental Disorders". In addition, development and curriculum preliminary assessment forms prepared by the

related field teachers themselves by scanning the body of literature or curriculum program and by taking into consideration the peculiarities and general levels of students of their own classes are also used.

Detailed assessment

Weak skills determined as a result of preliminary assessment are prioritized, and detailed assessment is started on skill level. Detailed assessment on skill level is performed by means of criterion-referenced tests. In criterion-referenced tests developed based on skill analysis, concept analysis, or unit analysis, a certain knowledge, skill or subject may be accepted to have been learned only if and to the extent, it meets the targeted mastery level criteria (Gürsel, 2000; Ünal, 2017). In IEP, criterion-referenced tests are used basically for two purposes. First, these tests make a significant contribution to the planning of individualized instruction by ensuring detailed assessment of the student in terms of a single skill/task, thus determining the steps of that skill/task the student can or cannot do, and identification of the level of help the student needs for fulfilment of the steps that the student could not do. Secondly, benchmarks determined in the student's IEP make it possible to monitor the progress of the student towards annual goals and short-term objectives. Therefore, it is important for teachers entrusted with the task of preparation of IEP to know how to prepare and apply criterion-referenced tests (Browder et al., 2011; Bryant et al., 2008; Gürsel and Vuran, 2010).

Collection of information about the student, use of preliminary assessment forms and performance of detailed assessments on each of the weak skills to determine the student's performance level is a time-consuming process.

IEP drafting

Scope of IEP

IEP covers mainly the areas of development and curriculum. Included among the main developmental areas are cognitive, social, motor, language skills, and daily life and self-care abilities. Scope of IEP changes according to student's age and degree of effects of disability. While it is limited to only developmental areas in the early childhood period, at the preschool age range, preschool curriculum programs are also added (Browder et al., 2011; Bryant et al., 2008; Erbaş, 2000). As the student grows older, in addition to the developmental areas, curriculum program areas compatible with age groups are also included in the IEP. Regardless of the age of the student, as the student is affected by disability, developmental areas which may negatively affect the student's educational performance are included in the program (Ireland, 2006; Siegal, 2003; Winterman and Rosas, 2014). Therefore, to keep the scope of IEP of a student affected from disability limited to only curriculum areas, and to disregard the fact that there may also be deficiencies in student's developmental areas cause the preparation of an unrealistic IEP.

Parts of IEP

IEPs, also known as complete service plans, are programs prepared to meet the needs and requirements of students affected by disability and their parents and teachers and contain the planning of all services to be provided to the students. An IEP comprises the following parts: a) present levels of educational performance, b) annual goals and short-term objectives, c) planning for personnel, location, time and duration of the special education and support services, d) planning for the level, frequency and duration of the student's participation in general education applications, and e) methods by which the student's development will be measured, and the method and frequency of information sharing with the parents (Downing, 2010; Gibb and Taylor Dyches, 2016; Siegal, 2003; Vuran, 2000). On the other hand, IIPs are developed based on IEP and contain detailed planning regarding instruction to be provided to the student. An IIP covers the following: a) performance level, b) annual goals, short-term objectives, benchmarks, c) instruction materials, d) instructional adaptations, e) instructional method, f) prompt levels, g) reinforcement types and schedules, and h) assessment method, frequency, and criteria (D. M. Browder et al., 2011; Fiscus and Mandell, 2002; Gibb and Taylor, 2016; Winterman and Rosas, 2014).

Preparation of IEP specifically for each student with special education needs is made a legal obligation by the Decree-Law no. 573 enacted and issued in 1997. How the IEP will be prepared is taught in the course titled "Preparation of Individualized Education and Transitory Education Programs" included in the curriculum of Special Education Departments of universities. However, due to the insufficient number of special education teachers trained in special education area, in addition to special education teachers, preschool education teachers, classroom teachers, etc. teachers from other areas are also assigned in this area. Some problems may be faced in the process of preparation of IEP. Some studies have been conducted for the identification of problems encountered in the course of preparation and application of IEP in the country. As a result, the problems encountered in the course of preparation and application of IEP have been put forth generally under the headings of teacher (Bafra and Kargın, 2009; Camadan,

2012; Çimen and Eraltay, 2010; Pektaş, 2008; Yılmaz and Batu, 2016), location (Avcıoğlu, 2009; Çimen and Eraltay, 2010; Çuhadar, 2006; Pektaş, 2008; Yılmaz, 2013), material (Ayanoğlu and Gür-Erdoğan, 2019; Camadan, 2012; Çimen and Eraltay, 2010; Çuhadar, 2006; Yılmaz, 2013), parent (Ayanoğlu and Gür-Erdoğan, 2019; Çimen and Eraltay, 2010; Çuhadar, 2006; Pektaş, 2008; Yaman, 2017; Yılmaz and Batu, 2016; Yılmaz, 2013), student (Pektaş, 2008), personnel (Avcıoğlu, 2009), and IEP team (Avcıoğlu, 2009; Çuhadar, 2006; Pektaş, 2008; Yılmaz and Batu, 2016). These studies have already made significant contributions. However, a fairly low number of participants in these studies do not allow generalization of study findings. Therefore, the problems faced in the field need to be examined from a wider point of view on the basis of data collected about a wider sample of participants by using a questionnaire. The questionnaire will be prepared based on qualitative research results already published in this area. The methods followed in the preparation of IEP's both by special education teachers and by teachers from other areas but assigned in the special education area, and types of problems encountered by them during this process will surely shed a light on the measures that need to be taken. It will further make it possible not only to determine the difficulties faced and the supports such as materials or education needed by teachers working in special education area in the course of preparation of IEP but also to develop suggestions for arrangement of course contents and hours in curriculum programs designed for training special education teachers.

The purpose of this study is to determine the processes of preparation of IEP by teachers working in special education area, and the problems encountered by them. Within this framework, the following study questions are asked to teachers working in special education area:

a. Which types of planning studies do they perform in order to develop IEP?
b. Which types of studies do they perform in order to determine performance level?
c. What are the scope and parts of IEP prepared by them?
d. What are the problems encountered during the preparation of IEP?

MATERIALS AND METHODS

Study model

In this study, cross-sectional screening research, as a quantitative research method, is used. Research covering the observation of the situation of a case or a sample at a certain time is called cross-sectional screening research. This method resembles taking a snapshot of a population because the data collection process is conducted at one time (Metin, 2014). In its meeting no. 8-19, with a date of approval of 15.09.2021, Marmara University Institute of Educational Sciences Research and Publication Ethics Committee has discussed this study, and decided by unanimous vote that this study is non-objectionable in ethical terms.

Population and sample group

The population of this study consists of teachers working in special education centers or special rehabilitation centers of the Ministry of National Education in Istanbul in 2021. The sample group consists of 1,000 volunteer teachers accessible face to face or online based on the accessibility.

Participants

Information on gender, age, education and profession of participants is as detailed below: *Gender and age:* 710 (71%) of participants are women, and 290 (29%) are men. Ages of participants vary from 20 to 60 (M=32.34, SD=6.39). A review of distribution of participants in ages reveals the following: 20-30 ages (n=525, 52.5%), 31-40 ages (n=328, 32.8%), 41-50 ages (n=108, 10.8%), 51-60 ages (n=27, 2.7%) and 61-70 (n=12, 1.2%). *Education level and area of graduation:* 6% of participants hold associate's degrees (n= 63), 84% undergraduate degrees (n=833), 10% postgraduate degrees (n=95) and only two of them hold doctorate degrees. Distribution of areas of graduation of participants is as follows: teacher of mentally handicapped (n=320, 32%), classroom teacher (n=147, 14.7%), preschool education teacher (n=75, 7.5%), child development and education teacher (n=70, 7%), psychological counselling and guidance (n=43, 4.3%), teacher of hearing-impaired (n=36, 3.6%), teacher of visually-impaired (n=27, 2.7%) and others (music, mathematics, sociology, fine arts, physical training, history, geography, etc.) (n=282, 28.2%). *Period of Service:* Periods of service of participants vary from 4 months to 28 years (M=11, SD=11). A review of these periods of service reveals that 22 are less than 1 year (3%), 308 within a range of 1 to 4 years (38%), 215 within a range of 5 to 9 years (27%), 139 within a range of 10 to 14 years (17%), 55 within a range of 15 to 19 years (7%), and 65 equal to or above 20 years (8%). *School Status:* 75% of participants (n=750) are working in public schools, 23.5% (n=235) in private schools, and 1.5% (n=15) in foundation schools. *School Types:* 24.4% (n=244) of participants work in special education and rehabilitation centers, 23.2% (n=232) in special education classes, 16.7% (n=167) in special education work application centers III. Stage (high school / severe – moderate disabilities), 11.2% (n=112) in special education vocational education centre (high school / slight mental disabilities – autism), 9% (n=9) in special education school (kindergarten + primary school + secondary school), 8.1% (n=81) in special education application centers, Stage 1 (primary school / severe – moderate disabilities), and 7.4% (n=74) in special education application centers, Stage 2 (secondary school / severe – moderate disabilities).

Data collection tool

Features of and development of the questionnaire

In this study, a tripartite questionnaire titled "Identification of Processes of Preparation of Individualized Education Programs and Problems Encountered" developed by the researcher is used. The questionnaire is composed of three parts, namely demographic data, determination of processes of preparation of IEP, and determination of problems encountered during the preparation of

Table 1. Collection of information.

Information (N=1000)	n	%
Special education assessment reports received from RAM	724	72.4
IEPs of previous years	682	68.2
Students' personal file	665	66.5
Hospital reports	355	35.5
Other documents	131	13.1

IEP. The first part contains demographic questions (five closed-end and four open-ended questions) aiming to determine the province and township of work, age, gender, education level, area of graduation, period of service, the status of school, and type of the school of the participant. The second part contains ten closed-end questions aiming to determine IEP preparation processes such as IEP development planning, performance level determination, and IEP drafting by participants. The third part contains seven closed-end questions aiming to determine the teacher, location, material, parent, student, personnel and IEP team sourced problems encountered by participants in preparation of IEP. Choices of answers to closed-end questions are designed based on results of interview-based research conducted in connection with the subject (Avcıoğlu, 2011; Camadan, 2012; Çıkılı et al., 2020; Çimen and Eraltay, 2010; Çuhadar, 2006; Pektaş, 2008; Şahin and Gürler, 2018; Vuran, 1996; Yılmaz and Batu, 2016, 2016b). In both parts, participants are allowed to mark more than one choice, and each question contains an "other" choice where participants may express their own opinions and comments thereon. The resulting questionnaire is sent to five special education specialists working in the field for control in terms of scope and comprehensibility, and to one measurement and evaluation specialist for eligibility check, and the required corrections are made in tandem with the opinions and other feedback received from them.

Analysis of data

Average, standard deviation, and percentage values of demographic data collected from participants are calculated. An analysis of closed-end questions included in other parts, the number of participants marking certain choices contained in questions and the percentage of this number in the total number of participants are given.

RESULTS AND DISCUSSION

Research findings are organized under four headings, planning of IEP development, determination of performance level, IEP drafting, and problems encountered in the course of preparation of IEP. The answers given by 1000 teachers participating in the research to the questions are shown with "n", the number of participants who chose that option on the basis of each question. It is aimed to show the trends on the basis of total participants in the tables. For this reason, since it is possible for the participants to mark more than one option in the questions and it is aimed to show how many participants preferred the option among the total participants; the frequency was calculated by calculating the rate of preference for each option among the total participants, and the percentage value was determined.

Planning of IEP development

The planning work for IEP development consists of the collection of information aimed to get to know the students, and IEP team meetings held with individuals who contribute to the education and instruction of the students to determine what should be included in the contents of IEP.

Collection of information

The collection of information aimed to get to know the students includes observation and interviews in addition to reviewing the student-related documents. Participants are asked: "Which records and reports do you examine and review related to the student before preparation of IEP?" (Table 1).

In this question, 72.4% of participants say they examine special education assessment reports received from RAM, while 68.2% refer to IEPs of previous years, 66.5% to student's personal file, 35.5% to hospital reports, and 13.1% to other documents. Participants are asked "Which assessment work do you perform in order to get to know the student?" (Table 2)

In this question, 82.3% of participants make mention of observations, 77.2% of interviews, 25.7% of already applied developmental scale results, 11.9% of already applied standardized test results, 7.2% of already applied criterion-referenced test results, and 2.8% of student's portfolio. Yaman (2017) argues that educational diagnosis received from RAM occasionally does not reflect the truth, is not comprehensible, and fails to inform the teacher well as to what the teacher should do. It is noted that participants used informal assessment methods such as observations and interviews but opted less to the review of already applied developmental scale, standardized test and criterion-referenced test results, or student's portfolio. In Pektaş (2008)' study, it is stated that teachers deem the family interview forms filled

Table 2. Informal assesment methods.

Methods (N=1000)	n	%
Observation	823	82.3
Interview	772	77.2
Already applied developmental scale results	257	25.7
Already applied standardized test results	119	11.9
Already applied criterion-referenced test results	72	7.2
Student's portfolio	28	2.8

Table 3. Participants of IEP planning meetings.

Participant (N=1000)	n	%
Special education teacher	727	72.7
School counsellor	677	67.7
Parents	536	53.6
Administrative personnel (principal, vice principal)	521	52.1
Classroom teacher	425	42.5
Branch teachers	382	38.2
Branch teachers	279	27.9
Student himself/herself	155	15.5
Psychologist	143	14.3
Rehabilitation teacher	142	14.2
Physiotherapist	92	9.2
Speech-language therapist,	59	5.9
Other people	48	4.8
Occupational therapist	26	2.6

in the interviews with parents adequate for preliminary assessment and do not separately use a preliminary assessment form. Similarly, Avcıoğlu (2011a) reports that the interview is limited to the student, and only very few teachers hold an interview with parents.

Participants of IEP planning meetings

IEP planning meetings are meetings held with the IEP team in the course of the IEP development process. The purpose of these meetings is to bring those making contributions to the student's education together to assess the student in a multi-dimensional, sophisticated and holistic manner and to decide on the contents of the student's IEP (Table 3). Answers given to the question: "Who participates in your IEP meetings?" asked to participants are as follows: 72.7% special education teacher, 67.7% school counsellor, 53.6% parents, 52.1% administrative personnel (principal, vice principal), 42.5% classroom teacher, 38.2% branch teachers, 15.5% student himself/herself, 14.3% psychologist, 14.2% rehabilitation teacher, 9.2% physiotherapist, 5.9% speech-language therapist, 4.8% other people, and 2.6% occupational therapist.

However, it is reported in Yazıcıoğlu (2019)'s study that according to arguments of school counsellors, IEP meetings are not organized, IEP team members do not enter into cooperation, and parents cannot play an effective role therein even though they are encouraged by the school management to participate in such meetings.

Determination of performance level

In the determination of annual goals and short-term objectives to be included in the IEP, it is fairly important to correctly measure the performance level of the student. Determining the performance level is done in two consecutive stages, preliminary assessment and detailed assessment.

Preliminary assessment

Preliminary assessment work represents the first stage of determining the performance level. Although, preliminary

Table 4. Preliminary assessment.

Assessment forms (N=1000)	n	%
Preliminary assessment forms of curriculum areas	**1458**	
The forms prepared by teachers themselves	489	48.9
Special Education and Rehabilitation Centre Mentally Disabled Individuals Support Education Program Form	422	42.2
Performance Measurement Form for Individuals with Pervasive Developmental Disorders	361	36.1
Performance Measurement Form for Individuals with Special Learning Disability	127	12.7
Performance Measurement Form for Individuals with Speech and Language Disturbances	59	5.9
Preliminary assessment forms of developmental areas	**661**	
The forms prepared by participants themselves	253	25.3
Denver Developmental Screening Inventory	102	10.2
Ankara Developmental Screening Inventory (AGTE)	101	10.1
Portage Developmental Assessment Inventory	75	7.5
Gazi Early Childhood Assessment Tool (GEÇDA)	62	6.2
Küçük Adımlar Developmental Screening Inventory	51	5.1
Early Development Phases Inventory (EGE)	17	1.7

assessment work is fairly important in the determination of skills required for a detailed assessment, to limit the determination of performance level only by preliminary assessment work points to a serious limitation. In the question containing choices of names of preliminary assessment forms commonly used in the field by participation for preliminary assessment of their students in curriculum and developmental areas, the participants are asked: “Which forms do you use to assess the curriculum and developmental areas in the course of a preliminary assessment?” (Table 4).

It is noted that participants generally use preliminary assessment forms of curriculum areas (n=1458) more than preliminary assessment forms of developmental areas. Forms most commonly used in the assessment of curriculum areas are the forms prepared by teachers themselves (48.9%), followed by “Special Education and Rehabilitation Centre Mentally Disabled Individuals Support Education Program Form” (42.2%), “Performance Measurement Form for Individuals with Pervasive Developmental Disorders” (36.1%), “Performance Measurement Form for Individuals with Special Learning Disability” (12.7%) and “Performance Measurement Form for Individuals with Speech and Language Disturbances” (5.9%). Likewise, the forms most commonly used by participants in the assessment of developmental areas are the forms prepared by participants themselves. In addition, for preliminary assessment of developmental areas, developmental scales such as Denver Developmental Screening Inventory (10.2%), Ankara Developmental Screening Inventory (AGTE) (10.1%), Portage Developmental Assessment Inventory (7.5%), Gazi Early Childhood Assessment Tool (GEÇDA) (6.2%), Küçük Adımlar Developmental Screening Inventory (5.1%), and Early Development Phases Inventory (EGE) (1.7%) are noted to be used.

Findings regarding the use of preliminary assessment forms by teachers are considered to be consistent with the findings of Pektaş (2008). Mentally disabled children also have disabilities in many developmental areas in varying different degrees (Browder et al., 2009; Browder, 2001; Browder et al., 2011). In the education of these children, work on the disabilities in developmental areas needs to be prioritized to be planned and carried out. A preliminary assessment made first and/or only in curriculum areas without developing their disabilities encountered in developmental areas leads to the preparation of an IEP covering only curriculum areas (Avcıoğlu, 2011; Bafra and Kargın, 2009).

Detailed assessment

In order to determine whether participants use criterion-referenced tests, the participants are asked: “Do you use criterion-referenced tests for determination of your student’s performance level?” (Table 5).

This question is answered as “Preliminary assessment results are sufficient. I do not engage in a detailed assessment.” by 53.9% of participants, and as “I don’t use criterion-referenced tests because I don’t know how to use them.” by 47.8%, and as “I develop and use a criterion-referenced test best fit to the skill I am working on.” by 39.6%, and as “I don’t know how to prepare a criterion-referenced test. For this reason, I use ready-made criterion-referenced tests.” by 6.5%. In light of these findings, it may be opined that teachers working in special education areas are developing IEP without using

Table 5. Detailed assesment.

Assesment (N=1000)	n	%
Preliminary assessment results are sufficient. I do not engage in a detailed assessment.	539	53.9
I don't use criterion-referenced tests because I don't know how to use them.	478	47.8
I develop and use a criterion-referenced test best fit to the skill I am working on.	396	39.6
I don't know how to prepare a criterion-referenced test	65	6.5

Table 6. Problems encountered in the determination of performance

Problems (N=1000)	n	%
Lack of adequate time for measurement of performance	319	31.9
Inadequacy of their knowledge and skills in the development of criterion-referenced tests for a detailed assessment	280	28
Inadequacy of their knowledge and skills in the application of criterion-referenced tests for a detailed assessment	227	22.7
Failure to access to preliminary assessment forms relating to curriculum areas	204	20.4
Failure to access to preliminary assessment forms relating to developmental areas	167	16.7
Not knowing how to measure performance	139	13.9

criterion-referenced tests. It is possible to say that these findings regarding the use of criterion-referenced tests are greatly similar to the results of Pektaş (2008). Pektaş (2008)'study emphasizes that 16% of graduates of a special education program and 8% of graduates of other different programs are using criterion-referenced tests.

Problems encountered in the determination of performance

Participants are asked to select from the choices of problems encountered in the determination of performance in the course of preparation of IEP (Table 6).

The problems encountered are expressed as "lack of adequate time for measurement of performance" by 31.9% of participants, and as "inadequacy of their knowledge and skills in the development of criterion-referenced tests for a detailed assessment" by 28%, and as "inadequacy of their knowledge and skills in the application of criterion-referenced tests for a detailed assessment" by 22.78%, and as "failure to access to preliminary assessment forms relating to curriculum areas" by 20.4%, and as "failure to access to preliminary assessment forms relating to developmental areas" by 16.7%, and "not knowing how to measure performance" by 13.9%.

IEP drafting

Determination of the performance of level of the students is followed by drafting of an IEP for the students. Under this heading, in addition to the scope of IEP's prepared by participants, and the parts included in an IEP, the findings relating to IEP preparation time, method followed in drafting of IEP, and challenges faced in drafting of IEP are included.

Scope of IEP

A review of scope of IEPs prepared by teachers working in special education area reveals that the most commonly used curriculum areas are mathematics (80.1%) and Turkish (75.5%), followed by life sciences (39.5%), physical training (36%), visual arts (35.6%), social studies (35.1%), musical education (33.6%), science (19.1%), traffic and first aid (14.2%), informatics and technology (8.2%) and foreign language (5.6%). A review of developmental areas inserted by participants in their IEPS reveals that the most commonly used developmental area is self-care and daily life skills (75.6%), followed by social life skills (69.9%), psycho-motor skills (69.8%), cognitive skills (59.6%), social skills (68.6%), language and communication skills (67.2%) and emotional skills (45.4%) (Table 7).

In the evaluation of these findings, if we take into consideration that the preferred forms for preliminary assessment are the forms aiming to assess curriculum areas, it may be said that IEP scope is also mainly inclined to curriculum areas. Avcıoğlu (2009)'s study reporting the opinions of RAM managers that IEP contents are not concentrated on the development of communication and social skills also supports the findings

Table 7. Scope of IEP.

Curriculum Areas	n	%	Developmental Areas	n	%
Mathematics	801	80.1	Daily Life Skills	756	75.6
Turkish	755	75.5	Social Life Skills	699	69.9
Life Sciences	395	39.5	Psycho-Motor Skills	698	69.8
Physical Training	360	36	Cognitive Skills	696	69.6
Visual Arts	356	35.6	Social Skills	686	68.6
Social Studies	351	35.1	Language and Communication Skills	672	67.2
Musical Education	336	33.6	Emotional Skills	454	45.4
Science	191	19.1			
Traffic and First Aid	142	14.2			
Informatic and Technology	82	8.2			
Foreign language	56	5.6			

Table 8. Parts of IEP.

IEP Parts (N=1000)	n	%
Annual goals and short-term objectives and benchmarks	914	91.4
Starting and ending dates of IEP	869	86.9
Student identity information	787	78.7
Names and signatures of team members	759	75.9
Present levels of educational performance	754	75.4
Methods to be used in instruction	656	65.6
Tools and instruments to be used in instruction	598	59.8
By which tools the instruction will be evaluated and assessed	355	35.5
Instructional adaptations	347	34.7
How often IEP will be revised	341	34.1
How often IEP will be revised	266	27.5
Venue, period and weekly plan of support services to be given to student	275	26.6
How and how often the parents will be informed (23.1%), how the parents will be incorporated in education	231	23.1
How the parents will be incorporated in education	213	21.3
Courses the student may and/or may not participate in inclusive education	172	17.2
Other information	18	18

of this study.

Parts of IEP

The question of “Which parts do you insert in IEP prepared by you?” asked participants are answered as follows (Table 8): annual goals and short-term objectives and benchmarks (91.4%), starting and ending dates of IEP (86.9%), student identity information (78.7%), names and signatures of team members (75.9%), present levels of educational performance (75.4%), methods to be used in instruction (65.6), tools and instruments to be used in instruction (59.8%), by which tools the instruction will be evaluated and assessed (35.5%), instructional adaptations (34.1%), how often IEP will be revised (27.5%), venue, period and weekly plan of support services to be given to students (26.6%), how and how often the parents will be informed (23.1%), how the parents will be incorporated in education (21.3%), courses the student may and/or may not participate in inclusive education (17.2%) and other information (18%).

A look at the parts of plans prepared by teachers working in special education area demonstrates that these parts mostly comprise contents of an IIP such as present levels of educational performance, annual goals and short-term objectives, benchmarks, instructional methods, materials, tools of evaluation and assessment, etc. On the other hand, it may be said that elements of an IEP such as venue, period and weekly plan of support

Table 9. IEP drafting ways.

Drafting ways (N=1000)	n	%
I prepare the IEP	608	60.8
By using IEP samples as a model	366	36.6
By making use of computer software programs developed for IEP	327	32.7
By getting help from my friend	171	17.2
By getting help from my own course notes	170	17
By adapting a sample downloaded from the internet	141	14.1
Other methods	42	4.2

Table 10. Challenges faced in the drafting of the IEP.

Challenges (N=1000)	n	%
Developing a criterion-referenced test	610	61
Developing instructional materials	281	28.1
Determining performance level	245	24.5
Deciding on instructional methods and tools	217	21.7
Drafting measurable and observable purposes	186	18.6
Having access to preliminary assessment tools	166	16.6
Determining and choosing the skills to be worked on with priority	146	14.6
Determine special education support services	119	11.9
Other duties	104	10.4

services, how and how often the parents will be informed, and courses the student may and/or may not participate in inclusive education are less commonly used in the plans prepared by teachers. Thus, it is concluded that these findings are also consistent with those of Avcıoğlu (2011).

IEP preparation time

The question “How much time does it take for you to prepare an IEP for a student?” asked participants is answered as one week by 28.3% of participants, one month by 24%, a few days by 23.1%, two weeks by 14% and three weeks by 13.6%.

IEP drafting ways

The question “Which methods do you follow in preparation of IEP?” asked participants is answered as “I prepare the IEP.” by 60.8% of participants, “by using IEP samples as a model” by 36%, “by making use of computer software programs developed for IEP” by 32.7%, “by getting help from my friend” by 17.2%, “by getting help from my own course notes” by 17%, “by adapting a sample downloaded from the internet” by 14.1% and other methods by 4.2% (Table 9).

These findings also are greatly consistent with the results of previous studies performed (Bafra and Kargın, 2009; Yılmaz and Batu, 2016).

Challenges faced in the drafting of the IEP

Participants have given the following answers to the question: “What are the challenges you faced in the drafting of the IEP?” (Table 10): developing a criterion-referenced test by 61%, developing instructional materials by 28.1%, determining performance level by 24.5%, deciding on instructional methods and tools by 21.7%, drafting measurable and observable purposes by 18.6%, having access to preliminary assessment tools by 16.6%, determining and choosing the skills to be worked on with priority by 14.6%, to determine special education support services by 11.9% and other duties by 10.4%.

The findings of previous related studies may be listed as “determination of performance level” (Pektaş, 2008), development of instructional materials (Ayanoğlu and Gür-Erdoğan, 2019; Pektaş, 2008; Şahin and Gürler, 2018; Tekin and Ata, 2016), and drafting of purposes (Avcıoğlu, 2011; Kuyumcu, 2011).

Table 11. Problems originating from teachers.

Problems (N=1000)	n	%
Arising out of social and motivational factors	***1409***	
Lack of separate and adequate time for preparation of IEP	370	37
Preparation of IEPs by cut and paste method in computer	288	28.8
Not being open to cooperation	236	23.6
Being reluctant to prepare IEP	217	21.7
Using the readymade IEP samples regardless of their being fit and convenient to student	165	16.5
Thinking that IEP is unnecessary	133	13.3
Arising out of lack of knowledge and skills	***722***	
Not knowing how to prepare a criterion-referenced test	270	27
Not knowing how to prepare an IEP	257	25.7
Not knowing how to use a readymade criterion-referenced test	195	19.5

Problems encountered in the preparation of IEP

Both preparatory work and IEP drafting for the development of an IEP require particular knowledge, skills, and experiences. A lot of problems may be encountered during this process. This heading deals with the findings relating to teacher, location, material, parent, student, personnel and IEP team-sourced problems encountered by participants in the process of preparation, and drafting of IEP.

Teacher

Participants are asked to select from choices of problems that may arise from a teacher in preparing the IEP (Table 11).

It is seen that the teacher-sourced problems expressed by the participants as the problems they face in preparation of IEP are focused on two main headings, arising out of social and motivational factors and arising out of lack of knowledge and skills. “Problems arising out of social and motivational factors” (n=1409) constitute the heading of problems most commonly expressed by participants. Under this heading, the problems are listed as “lack of separate and adequate time for preparation of IEP” (37%), “preparation of IEPs by cut and paste method in computer” (28.8%), “not being open to cooperation” (23.6%), “being reluctant to prepare IEP” (21.7%), “using the readymade IEP samples regardless of their being fit and convenient to student” (16.5%), and “thinking that IEP is unnecessary” (13.3%). The second group of teacher-sourced problems expressed to be encountered by participants in the preparation of IEP is composed of problems arising from lack of knowledge and skills of teachers (n=722). Included in this group are problems such as “not knowing how to prepare a criterion-referenced test” (27%), “not knowing how to prepare an IEP” (25.7%), and “not knowing how to use a readymade criterion-referenced test” (19.5%). Teacher-sourced problems expressed to be encountered in preparation of IEP by teachers working in special education area are greatly comprised of “problems arising out of social and motivational factors”. The basic reason is the “lack of separate and adequate time for preparation of IEP”, followed by “preparation of IEPs by cut and paste method on the computer”. Yılmaz and Batu (2016a) emphasize that “not knowing how to prepare a criterion-referenced test” is the primary problem arising from the lack of knowledge and skills of teachers.

Room

Participants are asked to select from choices of problems that may arise out of location in preparation of the IEP. Participants have expressed mainly two problems arising out of location in the process of preparation of the IEP (Table 12). They are “lack of a separate location for making an assessment” (57.4%) and “small movement area of the student due to small classrooms” (42.2%).

Material

Participants are asked to select from choices of problems that may arise from materials in preparation of the IEP (Table 13).

Participants have expressed mainly three problems arising from materials in the process of preparation of the IEP. They are “lack of variety of materials” (73.1%), “old materials” (30.9%) and “lack of materials needed for different purposes” (19.7%). These study findings are considered to be greatly consistent with results of

Table 12. Problems originating from room.

Problems (N=1000)	n	%
Lack of a separate location for making an assessment	574	57.4
Small movement area of the student due to small classrooms	422	42.2

Table 13. Problems originating from material

Problems (N=1000)	n	%
Lack of variety of materials	731	73.1
Old materials	309	30.9
Lack of materials needed for different purposes	197	19.7

Table 14. Problems originating from parent.

Problems (N=1000)	n	%
Parents' having very high and unrealistic expectations related to the student	646	64.6
Parents' lacking knowledge and skills about education of their children	525	52.5
Parents' putting the complete responsibility of education of their child on shoulders of the school and the teacher	524	52.4
Parents' being reluctant to cooperate with the school and the teacher	501	50.1
Parents' being unconcerned about their children	496	49.6
Parents' being insistent on their child's acquiring skills far above the child's limits	425	42.5
Inaccessibility of parents for getting information about student	363	36.3
Parents' lacking any hopes and efforts for the progress of their child	328	32.8
Parents' failing to report all needs in student's daily life	317	31.7

previous related studies (Avcıoğlu, 2009; Camadan, 2012; Çimen and Eraltay, 2010; Çuhadar, 2006; Pektaş, 2008; Yılmaz, 2013).

Parent

Participants are asked to select from choices of problems that may arise from parents in the preparation of the IEP. Participants have expressed a lot of problems arising out of parents in preparation of the IEP (Table 14).

The problems are led by "parents' having very high and unrealistic expectations related to the student" (64.6%), and followed by "parents' lacking knowledge and skills about education of their children" (52.5%), "parents' putting the complete responsibility of education of their child on shoulders of the school and the teacher" (52.4%), "parents' being reluctant to cooperate with the school and the teacher" (50.1%), "parents' being unconcerned about their children" (49.6%), "parents' being insistent on their child's acquiring skills far above the child's limits" (42.5%), "inaccessibility of parents for getting information about student" (36.3%), "parents' lacking any hopes and efforts for the progress of their child" (32.8%) and "parents' failing to report all needs in student's daily life" (31.7%). It may be said that these findings are also greatly similar to the results of previous studies (Çimen and Eraltay, 2010; Şahin and Gürler, 2018; Yaman, 2017; Yılmaz and Batu, 2016; Yılmaz, 2013).

Student

Participants are asked to select from choices of problems that may arise out of the student in the preparation of the IEP (Table 15).

Participants have expressed mainly four problems arising from the student in the preparation of the IEP. They are led by "student's absenteeism due to various reasons (transfer or health problems, etc.)" (52.5%) and followed by "accompanying psychological disorder complicating the student's orientation" (44.3%), "medical problems (using medication or change of dose) of student

Table 15. Problems originating from student.

Problems (N=1000)	n	%
Student's absenteeism due to various reasons (transfer or health problems, etc.)	525	52.5
Accompanying psychological disorder complicating the student's orientation	443	44.3
Medical problems (using medication or change of dose) of student in the course of preparation and application of the IEP	374	37.4
Failure to access to expert support which may solve these problems, despite written applications	220	22

Table 16. Problems originating from personnel.

Problems (N=1000)	n	%
Lack of adequate auxiliary staff	354	35.4
Lack of administrative personnel support	306	30.6
Inadequacy of careworkers	185	18.5
Replacement of personnel	142	14.2

Table 17. Problems originating from IEP Team.

Problems (N=1000)	n	%
The duty of preparation of IEP being mostly left to and limited by special education teacher	530	53
Lack of various experts in IEP team	381	38.1
Difficulty in bringing IEP team members together in terms of timing	296	29.6
IEP team members lacking the co-working and collaboration skills	240	24
IEP team members' not being dutiful	211	21.1
Role conflicts among IEP team members	197	19.7
Lack of healthy communication among IEP team members	195	19.5
Uncertainty of responsibility for coordination among IEP team members	160	16
Difficulty in coming to consensus on the purposes of the IEP's	94	9.4
Lack of adequate venues for meetings of IEP team members	90	9

in the course of preparation and application of the IEP" (37.4%) and "failure to access to expert support which may solve these problems, despite written applications" (22%). These findings are considered to be consistent with other study results (Camadan, 2012; Can, 2015; Çimen and Eraltay, 2010).

Personnel

Participants are asked to select from choices of problems that may arise out of personnel in preparation of the IEP. Participants have expressed mainly four problems arising from personnel in preparation of the IEP (Table 16). The personnel-sourced problems are "lack of adequate auxiliary staff" (35.4%), "lack of administrative personnel support" (30.6%), "inadequacy of careworkers" (18.5%), and "replacement of personnel" (14.2%).

IEP team

Participants are asked to select from choices of problems that may arise out of IEP team in preparation of the IEP. Participants have expressed a lot of problems arising out of the IEP team in preparation of the IEP (Table 17).

The IEP team-sourced problem most commonly marked by participants is "the duty of preparation of IEP being mostly left to and limited by special education teacher" (53%), and this problem is followed by "lack of various experts in IEP team" (38.1%), "difficulty in bringing IEP team members together in terms of timing" (29.6%), "IEP team members lacking the co-working and collaboration skills" (24%), "IEP team members' not being dutiful" (21.1%), "role conflicts among IEP team members" (19.7%), "lack of healthy communication among IEP team members" (19.5%), "uncertainty of responsibility for coordination among IEP team members"

(16%), “difficulty in coming to consensus on the purposes of the IEP’s” (9.4%), and “lack of adequate venues for meetings of IEP team members” (9%). These study findings may be said to show great similarities to the results of previous studies (Avcıoğlu, 2009; Çuhadar, 2006; Yılmaz and Batu, 2016).

Conclusions

In conclusion, it may be said that the results of this study are significantly consistent with the results of other studies previously conducted in the special education area by using interview techniques based on qualitative research methods and by examining the opinions and comments of participants in depth. It is observed that although the plans prepared in practice correspond mainly to (IIP) in terms of contents, they are commonly named as (IEP), also known as Complete Service Plan. However, they do not cover support education services, information of families, and course/activity participation planning in inclusive education applications.

It is therefore required to introduce the existing preliminary assessment tools to teachers working in the special education area, and to give on-the-job training to and publish guidebooks for these teachers for skill/concept/unit analyses, preparation and application of criterion-referenced tests, drafting of present levels of educational performance of students based on results of said tests, drafting of annual goals/short-term objectives and benchmarks, and preparation of an IIP containing elements such as instructional methods, materials, prompt levels, reinforcement types, assessment methods, frequency, etc. This questionnaire to be reviewed by also making use of qualitative study findings newly introduced to the special education area may be repeated with greater numbers of participants. Furthermore, repetition of similar studies focused on special education professionals working with different child groups in need of special education, such as children with special learning disabilities, gifted children, etc. will ensure the determination of their specific requirements as well.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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