Determining the Teacher Education Needs for the Treatment of the Problem Behaviors of Students with Autism Spectrum Disorder

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Abstract

This study was carried out to test the effect of the training program developed for teachers who are involved in the education of students with ASD to enable them to provide quality education in the education and training process. To determine the teacher training needs for the treatment of problem behaviors that occur in students with Autism Spectrum Disorder (ASD) is the aim of this study. For this purpose, inter-views under four sub-headings were conducted. These titles are the determination of behavior, programming, program implementation, and Program Evaluation. In the research, a qualitative case study design was preferred. The data were obtained from 22 teachers working with ASD students through face-to-face interviews, audio and video recordings using semi-structured interview forms. The analysis of the data was done through the descriptive analysis technique. As a result of the research, most of the teachers stated that they did not find themselves sufficient regarding the problem behaviors and treatment of students with ASD. The in-depth results of the study were discussed in line with the teacher needs, relevant qualitative research, and implications for future research and applications were suggested.

Contents

Contribution of this paper to the literature
This study contributes to existing literature by testing the effect of the training program developed for teachers who are involved in the education of students with ASD to enable them to provide quality education in the education and training process.

1. Introduction

Teacher training is an important topic in special education, as in all levels of education. Nowadays, the thought that each student can exhibit unique problem behaviors due to the different characteristics of each student has increased the importance given to the education of students with special needs. Parallel to this idea, the purpose of special education is defined as providing opportunities for students to reveal their potential and use them at the highest level, to become self-sufficient, environmentally compatible, and productive individuals. The quality of special education services depends on the quality of teacher who will provide these services (Akçamete, 2003; Kargin, 1997; Sarı, 2003). Since teaching has strategic importance among other professions in terms of better upbringing, development, and education of students who are the adults of the future, this research will have strategic importance in terms of the teaching profession of the future. Recently, with the increase in the number of children with autism, specially trained teachers are needed for these children to receive special education, and the importance of gaining practical competence for these teachers is emphasized (National Autism Center (NAC), 2009; Safran, 2008; Smith et al., 2007). For this reason, Birkan (2009) argues that besides criteria such as the intensity of education given to individuals with autism and starting education at an early age, educator competencies are an important variable that directly affects the results of educational services.

Need is the difference between an existing situation and an ideal situation (Reviere, Berkowitz, Carter, & Ferguson, 1996). For teachers, when it comes to education, learning, and teaching, it becomes important to identify needs, to make better decisions about planning education, to be more responsive to students, parents, and education politicians, to determine what priority needs are, and to use educational resources efficiently and effectively (Witkin & Berry, 1975). Needs analysis; (1) the process of defining the outcome, product, or outputs in curriculum development, (2) what to teach and how to evaluate, (3) a method that determines the required and desired innovation (Kaufman, 1975). The most important step that will make the program functional in curriculum development studies in education is to identify, evaluate and analyze the needs. Program development focuses on the needs of individuals, society, subject/subject area, and environment. Since need assessment is a process, planning is required to determine how this process can take place. The steps in determining the needs and the sub-steps are shown below.

Table-1. Three-Stage Plan for Needs Assessment (Witkin and Autschuld, 1995).

Stage 1 Pre-assessment (exploration)	Stage 2 Identification (data collection)	Stage 3 Final assessment
Planning for needs assessment	Defining the content, boundaries, and purpose of the needs assessment	Establishing priority needs at all applicable levels
Defining the general objectives of needs assessment	Collecting data on needs	Considering alternative solutions
Define the basic needs area or topics	Identify priority needs	Develop an action plan for implementing solutions
Defining the existing information about the area of need	Performing the analysis at Level 1, 2 and 3	Evaluating the need determination
Assessment 1) data collection 2) Resources 3) Method 4) Use of data	Analyze and synthesize all data	Combine results
Outputs: Preparing priority plan for Stages 2 and 3, creating an assessment plan to identify needs	Outputs: Setting criteria for high priority needs-based actions	Outputs: Action plans, written-oral presentations, and report

The stages of determining the needs are given in Table 1. Needs analysis stages consist of planning of needs assessment, data collection and final evaluation. In this study, data were collected by taking into account the opinions of teachers working in the field for the individual basis, family expectations for the community variable, and the opinions of field experts for the subject area variable in the needs analysis process.

- *Method*

In this section, the topics of Research Model, Participants, Data Collection Tools, and Analysis of Data are included.

1.1. Research Model

A qualitative Case Study design was preferred in this study. Case studies can be based on a mixture of qualitative and quantitative situations, or they can be used as an internal validity study of the research. A case study has an important place in program evaluation studies. A case study is one of the types of systematic design that includes steps such as gathering information, organizing the information gathered, interpreting it, and reaching research findings (Merriam, 1988). Hitchcock, Hitchcock, and Hughes (1995) stated that one of the features that the case study should have is a way of presenting the special situation that will enable the subject to be richly presented. In a case study, emphasis is placed on the draft of studying what is best understood from the

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situation instead of generalization (Denzin & Lincoln, 2000). In the study, Descriptive Case Study, one of the case study types, was determined and this approach is descriptive. This approach helps to interpret other similar data, especially if there is a reason that practitioners have little knowledge of an application or a program.

1.2. Participants

22 teachers were interviewed at the stage of determining the needs. Teachers, working in special education classes and schools in different regions of Turkey were selected from those participating in in-service activities in various provinces. An easily accessible sample selection method was used in the selection of the study group. The distribution of the participants in the needs analysis process based on seniority and gender is given in the table below.

Table-2. Demographic distribution of the participants in the needs analysis process.

0-5 years		6-10 years		11-15 years		16-20 years		21 and above	
F	M	F	M	F	M	F	M	F	M
1	2	4	3	3	2	3	1	2	1
3		7		5		4		3	
Total:				22					

When we look at the characteristics of the participants in Table 2, it is seen that 22 teachers consist of 13 female and 9 male teachers, and it is the largest group of teachers who have worked for 6-10 years (N:7).

1.3. Data Collection Process and Data Collection Tools

The data in the study were collected through the semi-structured interview form and demographic information form developed by the researchers in line with the literature. The interview technique is one of the important research techniques in revealing feelings and thoughts about the process, result, and collecting information about situations (Stewart & Cash, 1985). It is one of the convenient techniques to collect more detailed information from people. In this process; The relevant literature was searched and the question areas related to the need analysis were determined and these determined question areas were presented to the opinions of the field experts. It was revised according to the opinions of the experts. The questions regarding the areas determined to be asked in the interviews were prepared in a semi-structured manner. What? and why? directing markers were also added to the questions. Corrections and additions were made according to the feedback from field experts regarding the questions. After the data acquisition step of the need assessment process was developed, a semi-structured interview form was finalized. Data were collected using a face-to-face interview and a voice recording system. In the preparation of the interview questions developed by the researcher; Attention was paid to principles such as understanding the questions easily and each one for a single dimension and not directing the respondent. The opinions of the experts of the subject area and special education were taken to check to what extent the prepared interview form serves the purpose of determining the needs, its clarity, and applicability. In line with the suggestions of the experts, the interview form was rearranged and the question instructions were finalized.

Semi-Structured Interview Form Questions for Determining the Needs started with a basic question. The basic question in the form was "As a special education teacher, do you find yourself competent about the problem behaviors that occur in students with ASD and their treatment?". Then, the training needs of teachers were tried to be determined in 15 questions about determining the problem behavior, creating a program for the treatment of the determined problem behavior, and applying and evaluating the developed program.

1.4. Data Analysis

Semi-structured interviews and written transcripts conducted by the researcher with the teachers, audio/video recordings from which the interviews were obtained (total audio/video recording time was 14.5 hours = 870 minutes) were scripted without correction on them, and the words expressed by the teachers were written as they were heard. After scripting the documents, a total of 116 pages of qualitative data was obtained in Word form. Preliminary themes reflecting the opinions of the participants were created by repeated reading and taking notes for the written transcripts. The researcher examined the appropriateness of the themes by evaluating the interviews with the teachers independently from each other. During the data analysis process, descriptive analysis of the data was carried out on the themes created. To ensure internal validity in research; Expert opinions were received regarding the questions in the forms, research data, and comments. Besides, in order to ensure internal validity, 25% of the participants (3 teachers) were shown the results and comments made after the analysis of the data, and participant confirmation was provided. In this study, the transferability (external validity) of the study was provided by presenting examples of the sentences that the teachers gave their opinions, that is, by making "direct quotations". To ensure internal reliability, an expert was asked to perform a consistency review. As a result of the analysis, it was determined that the relations established between the analysis approaches and the results and the data were consistent.

2. Findings

Regarding the purpose of the study, "In line with the determination of teacher training needs for the treatment of problem behaviors that occur in students with Autism Spectrum Disorder (ASD); Findings for a. Determination of Behavior, b. Creating a Program, c. Program Implementation, d. Program Evaluation was tried to be presented under 15 question titles in the section from 18 Graphic / Figure. Findings for determining teacher training needs for determining problem behaviors.

In Graph 1, opinions about whether teachers are sufficient in dealing with problem behaviors are given.
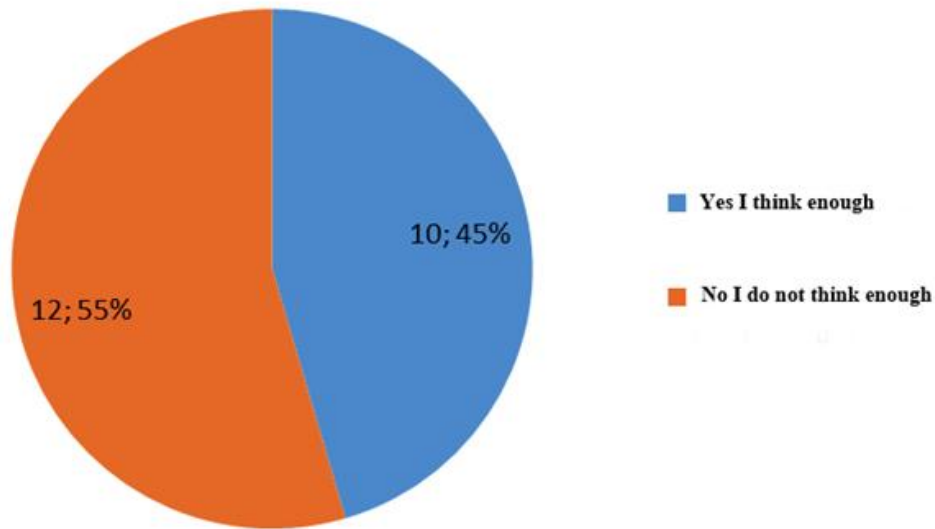
Figure-1. Distribution of the answers given to the question "As a special education teacher," Do you find yourself competent regarding the problem behaviors that occur in students with ASD and their treatment? "

According to the distribution of the data in the Figure 1, "As a special education teacher," Do you find yourself adequate regarding the problem behaviors and treatment of students with ASD? " When the main question of the research is asked to the participants; While 10 (45%) of 22 participants answered "yes, I find it sufficient", 12 (55%) participants answered, "no, I do not find it sufficient". Question 1: As a special education teacher, "What are your opinions about whether you have sufficient knowledge about your basic knowledge on problem behaviors?"

While explaining the graphical analysis data in this question of the needs analysis study, it is discussed in two parts. These have been explained below in the form of those who responded to "have sufficient knowledge and to indicate the source of this knowledge" in their opinions according to Question 1, and those who responded to "not have sufficient knowledge and why".
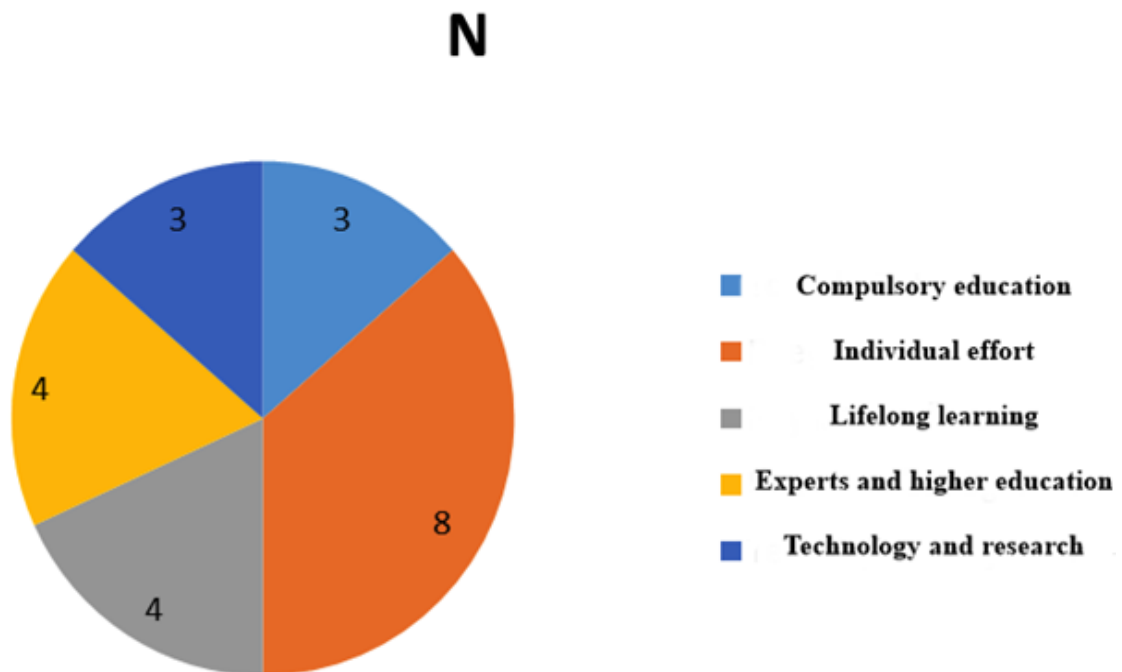

Figure-2. The distribution chart of the respondents regarding "having sufficient knowledge" to Question 1.

In Figure 2, the participants (N = 22) "What are your opinions about that you have sufficient knowledge about your basic knowledge on problem behaviors?" When the word codes of the answers to the question were transformed into themes, the answers of 8 (36.4%) participants were collected under the theme of "Individual Efforts". The responses of four (18.2%) participants were evaluated within the scope of the theme "Obtaining from Specialists and Higher Education" and 4 (18.2%) of the participants were evaluated within the scope of the theme "Lifelong Learning". In line with the answers of three (13.6%) participants, it is seen that the source from which they acquired their knowledge emerged as "Compulsory Education-Formal Education", and with the answers of 3 (13.6%) participants, a theme emerged as "Technology and Research".
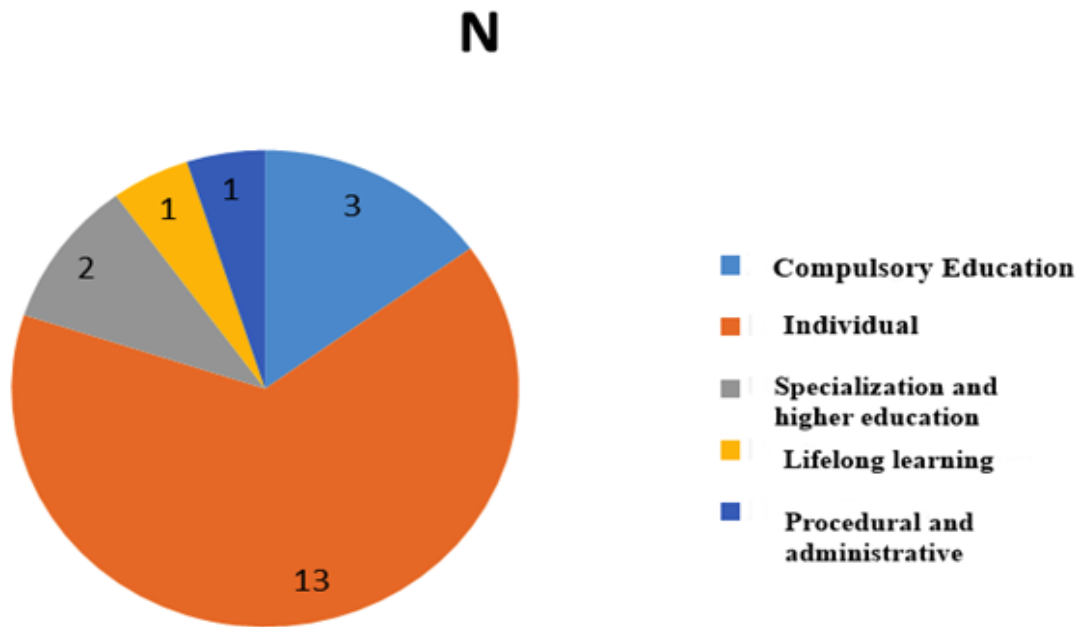
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Figure-3. The distribution chart of the respondents regarding "not having sufficient knowledge" to Question 1.

When Figure 3 above, which is the continuation of Question 1, is examined, "What are the opinions of the participants (N = 22) about not having enough knowledge about basic knowledge on problem behaviors?" The question has been asked. When the answers given to this question were transformed into themes, the answers of 13 (59.1%) participants were evaluated under the theme of "Lack of Individual Effort". The responses of three (13.6%) participants were collected under the theme of "Lifelong Learning". "Specialist and Upper Education" given by two (9.1%) participants were stated within the scope of the theme. The responses of one (4.5%) participant were evaluated under the theme "Compulsory Education-Formal Education" and 1 (4.5%) participant's responses were evaluated within the scope of the "Procedural and Managerial" theme.

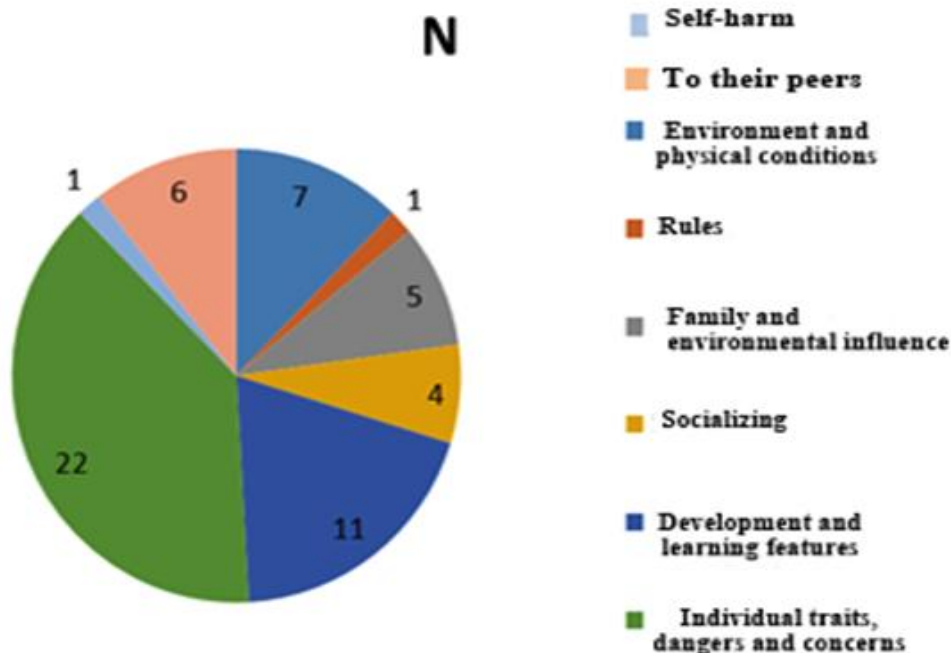Q2: What are your views about accepting or not accepting behavior problems in your student observations?

Figure-4. The distribution chart of the respondents for question 2.

In Figure 4, the participant's (N = 22) "What are your views about the behavior of the student, accepting or not accepting problems? When the word code themes were created, the responses of 22 (100%) participants and the answers of the "individual characteristics, dangers and anxieties" theme and 11 (50%) of the participants were collected under the theme of "development and learning characteristics". Seven (31.8%) participants were evaluated in the themed title "environment and physical conditions", 6 (27.3%) respondents "looking at their peers", and 5 (22.7%) respondents' family and environmental impact". The theme was determined as "characteristics related to socialization" of four (18.2%) participants. It is seen that the responses of one (4.5%) participant were evaluated within the scope of the theme "Rules" and the responses of 1 (4.5%) participant were evaluated within the scope of the "self-harm" theme.

Question 3: What are your opinions about what should be considered when determining the causes of problem behavior?
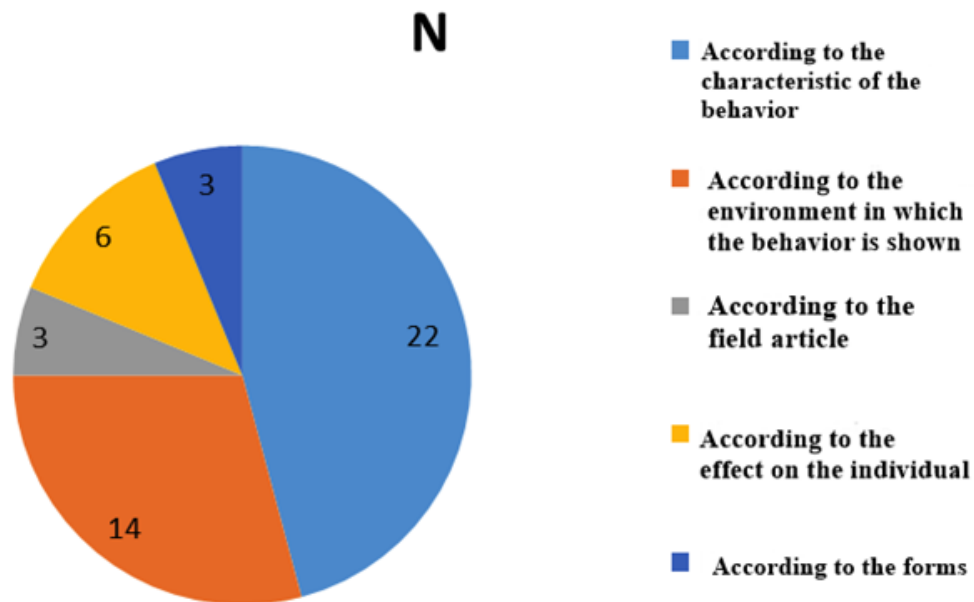
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Figure-5. Distribution Chart of the Respondents to Question 3.

When Figure 5 is examined, the participant's (N = 22) "What are your opinions about what should be considered while determining the causes of problem behaviors?" When the words (codes) were transformed into themes, the answers of all 22 (100%) participants were specified under the theme of "characteristic of behavior". It is seen that with the answers of fourteen (66.6%) participants, the theme of "the environment where the behavior is shown" was formed. The responses of six (27.3%) participants were evaluated with the theme "its effect on the individual". It is seen that with the responses of three (13.6%) participants, the themes "according to the literature" and the responses of 3 (13,6%) respondents "according to the forms".

Question 4: What are your views on which practices and activities should be used when determining the causes of problem behaviors?
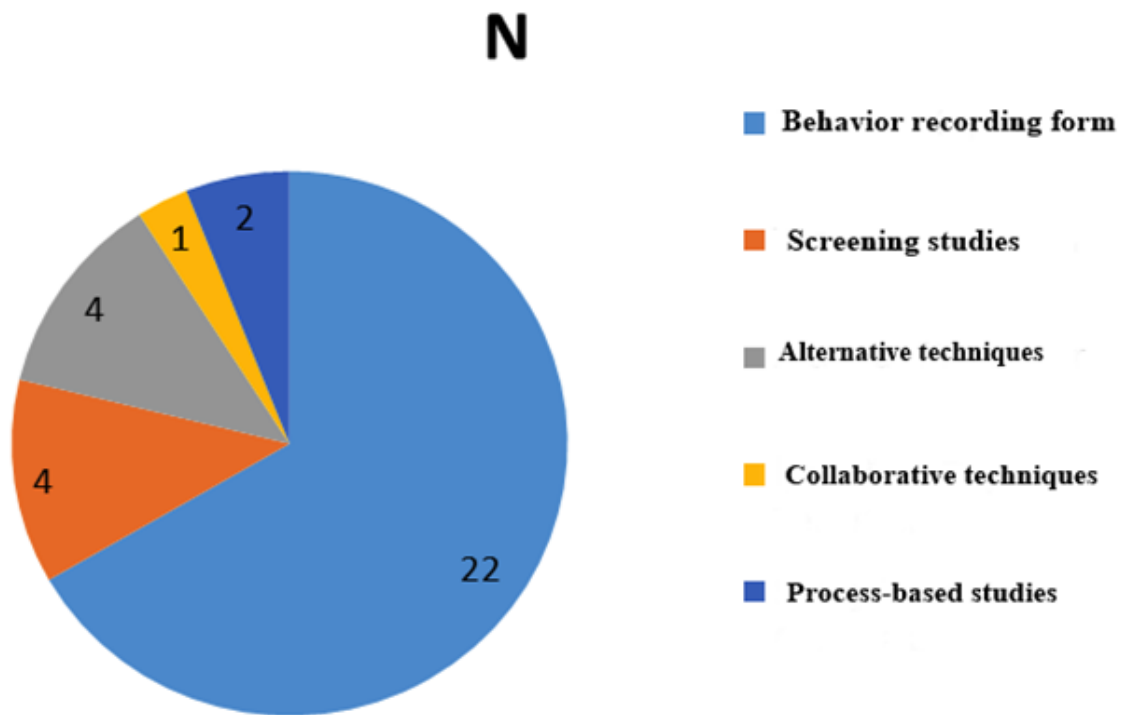
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Figure-6. Distribution Chart of the Answers to Question 4.

When Figure 6 is examined, the participants (N = 22) "What are your opinions about which practices and activities should be used while determining the causes of problem behaviors?" 22 (100%) of all respondents observed that the theme was created as "according to the behavior registration form". In terms of the responses of four (18.2%) participants, "alternative techniques" were evaluated within the scope of the theme "according to the screening studies" and with the answers of 4 (18.2%) participants. With the responses of two (9.1%) participants, the theme titled "process-based studies" was created. The answer of one (4.5%) participant is seen to be the theme of "collaborative techniques".

b. Findings of determining teacher training needs for preparing problem behavior treatment program;

Question 5: What steps do you take in determining an outcome (goal) while creating a behavior change program? What are your views on this question?
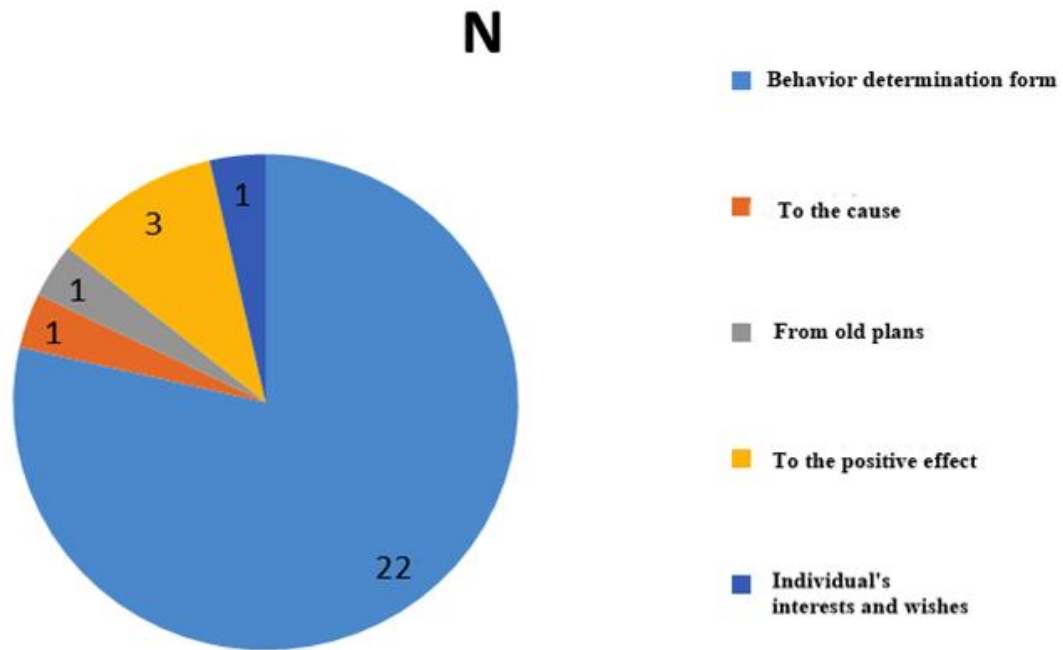
Figure-7. Scatter chart of those who answered Question 5.

When Figure 7 is examined, the participants (N = 22) "Which steps do you follow in determining the gain (goal) while creating a behavior change program? While the answers given to the question were transformed into theme titles by looking at the word (code) frequency numbers, the answers of 22 (100%) participants were collected within the scope of the theme "according to the behavior determination form". According to the answers given by three (13.6%) participants, it was seen that a theme of "positive effect" was created. The answer of one (4.5%) participant was based on the theme "according to the interests and wishes of the individual", 1 (4.5%) of the participant's answer and the theme "from his old plans" and 1 (4.5%) respondent's answer was a theme "to the reason".

Question 6: When creating a behavior change program, what are your opinions about creating content and learning experiences suitable for the outcome you have determined?
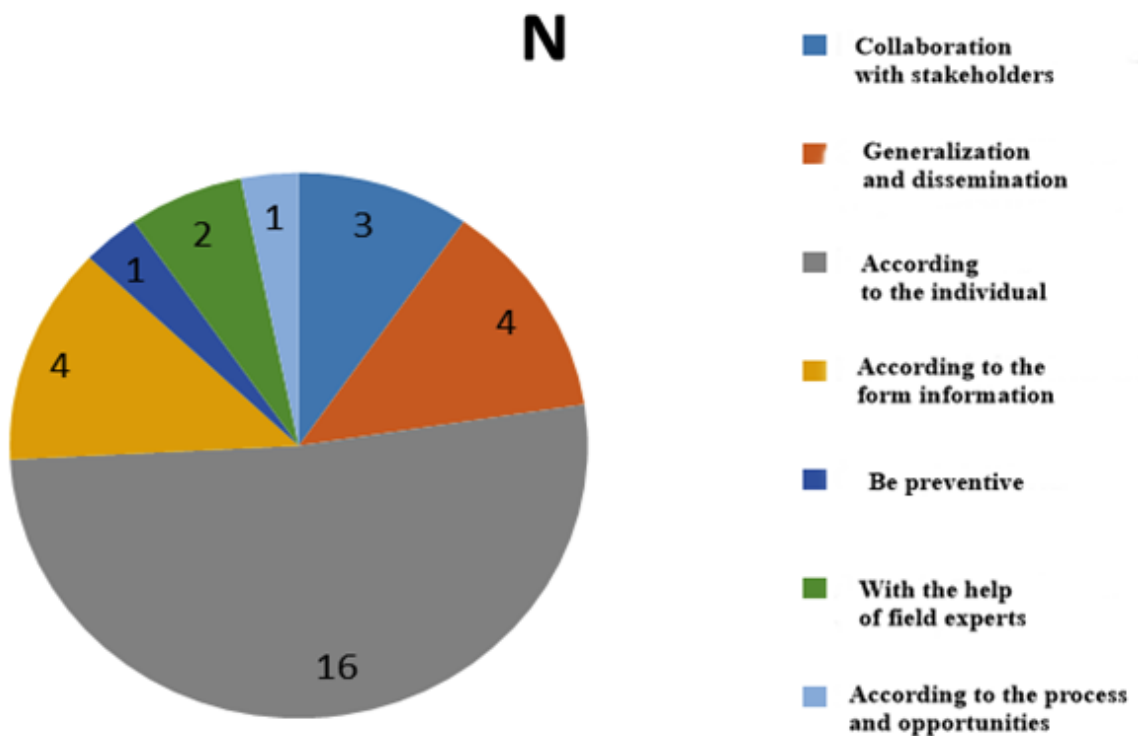

Figure-8. Distribution Chart of the Answers to Question 6.

When the Figure regarding the frequency and percentage distribution of the data in Figure 8 is examined (N = 22), the participant asked "What are your opinions about the creation of content and learning experiences suitable for the outcome you have determined while creating a behavior change program?" The question has been asked. Accordingly, it is seen that the theme "according to the individual" was created with the answers of 16 (72.7%) participants. The responses of 4 (18.2%) participants were evaluated within the scope of the theme "According to the form information" with the answers of 4 (18.2%) participants, where the theme was created "according to generalizability and dissemination". It is seen that the responses of three (13.6%) participants emphasize the theme "according to cooperation with stakeholders". The theme was created with the answers of 2 (9.1%) participants and "with the help of field experts", 1 (4.5%) of the participants answered the theme "according to the process and opportunities" and 1 (4.5%) of the participants as it has been created within the scope of the theme titled "According to its preventive features".

Question 7: What are your opinions about determining the method and technique suitable for the outcomes, content, and learning experiences you determined while creating a behavior change program?
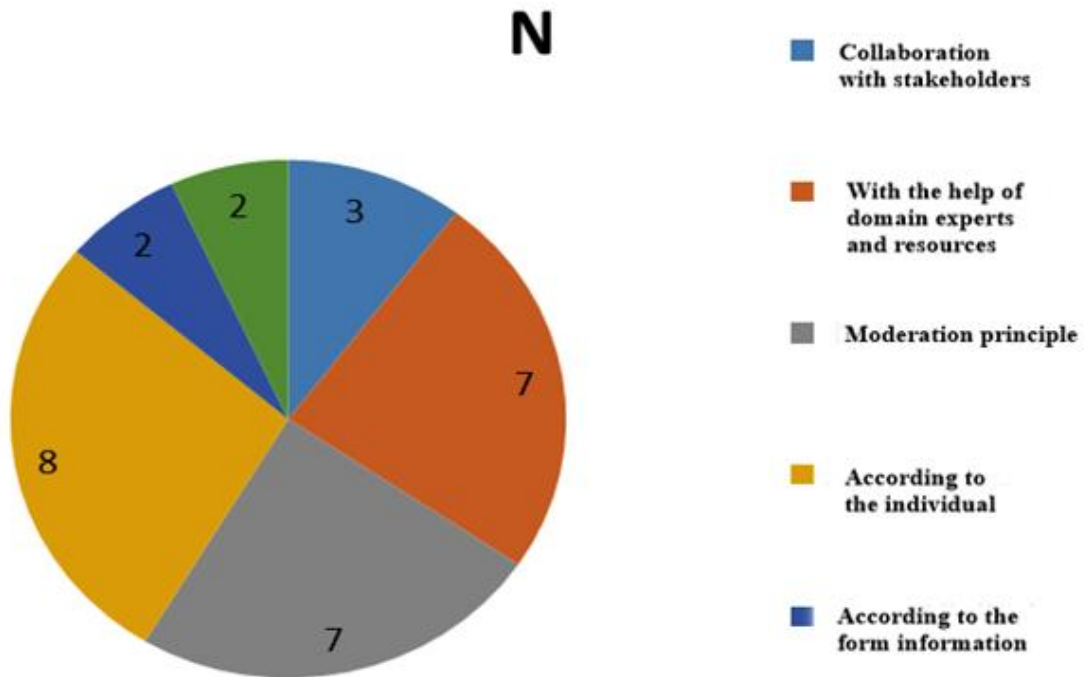

Figure-9. Distribution Chart of the Answers to Question 7.

When Figure 9 was examined (N = 22), the participant asked, "What are your opinions about determining the method and technique suitable for the outcomes, content, and learning experiences you have determined while creating a behavior change program?" The rates of answering this question are based on frequency and percentage distributions; With the responses of 8 (36.4%) participants, it is seen that the theme "according to the individual" was determined. It is seen that the theme "with the help of field experts and resources" was created with the responses of 7 (31.8%) participants, and 7 (31.8%) with the answers of the participants, within the scope of the theme of "moderation principle". The responses of 3 (13.6%) participants showed that the theme "according to cooperation with stakeholders" was emphasized. Responses of 2 (9.1%) participants were formed within the scope of the theme "according to the form information" and again with 2 (9.1%) "according to the behavior".

Question 8: What are your opinions about determining the tools and approaches used in measurement and evaluation while creating a behavior change program?
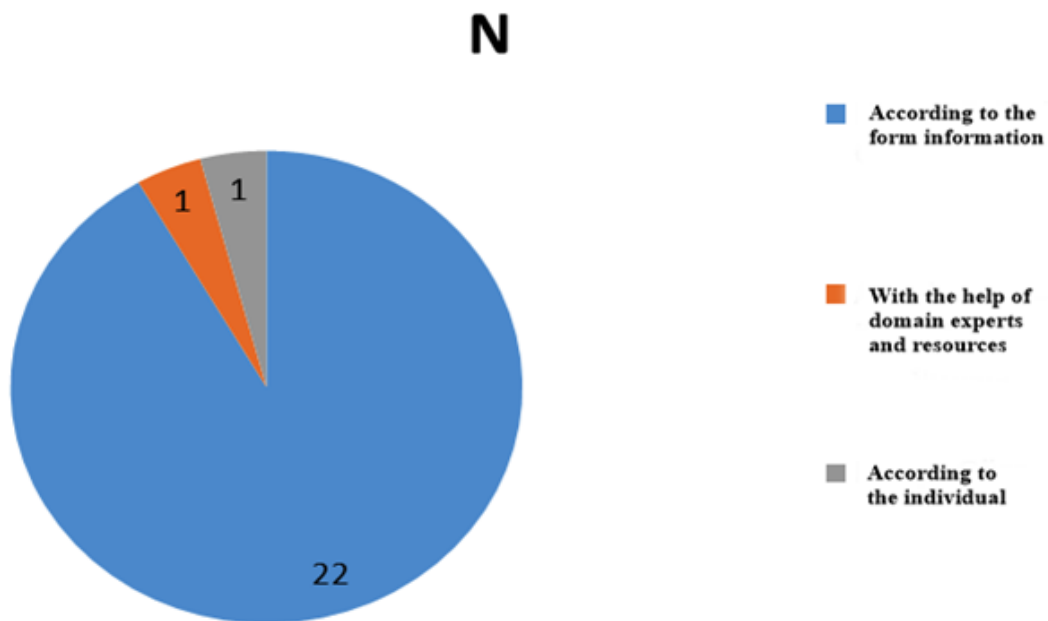
Figure-10. Distribution Chart of the Answers to Question 8.

When Figure 10 is examined, the participants (N = 22) "What are your opinions about determining the tools and approaches used in measurement and evaluation while creating a behavior change program?" The theme titles were created by looking at the word (code) frequency numbers in their answers to the question. With the answers given by 22 (100%) of the participants, the theme "according to the form information" was created. In the response of one (4.5%) participant, the theme "with the help of field experts and resources" was determined. In the answer given by one (4.5%) participant, it was evaluated within the scope of the theme titled "according to the individual".

c. Findings for determining teacher training needs for application of problem behavior treatment program;

Question 9: What are your views on transforming the developed behavior change program into plan steps?
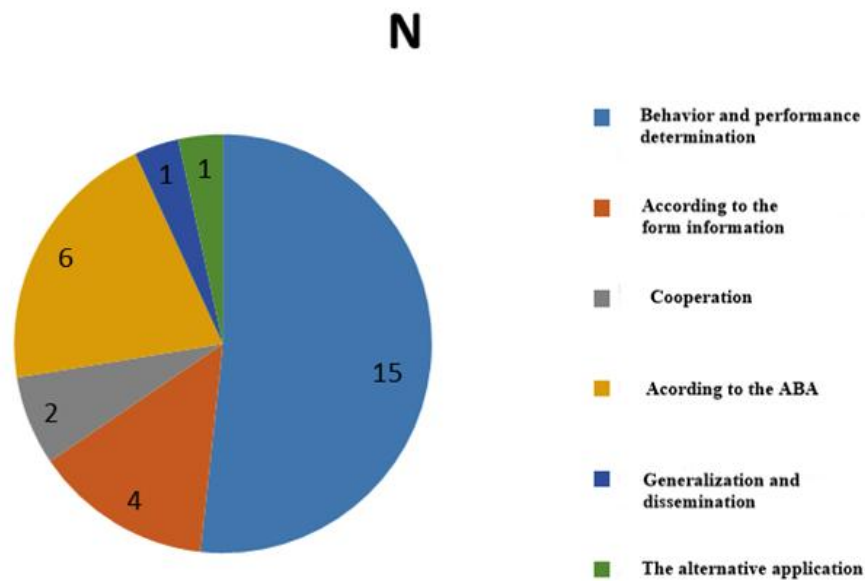
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Figure-11. Distribution Chart of the Respondents to Question 9.

When Figure 11 is examined, the question "What are your opinions about transforming the developed behavior change program into plan steps?" has been asked to the participant (N = 22) in the study. Accordingly, a title with the theme of "behavior and performance determination" was created for 15 (68.2%) participants. The answers given to question 9 by six (27.3%) participants were evaluated within the scope of the theme "according to ABA". According to the answers of four (18.2%) participants, it is seen that the theme titled "form information" was determined. The answers given by two (9.1%) participants formed a theme of "cooperation". With the answer of 1 (4.5%) participant, it is seen that the theme "according to its generalizability and dissemination" was formed and 1 (4.5%) participant formed the theme of "alternative practices".

Question 10: What are your views about who and how a team should be formed while preparing the behavior change plan?

Figure 12a "What are your opinions about who should a team consist of while preparing the behavior change plan?" and theme titles were created by looking at the frequency numbers and content similarities of the codes that were repeated to the least. Accordingly, according to the answers given by all 22 (100%) participants, the theme "there should be trainers" was created. According to the responses of nineteen (86.4%) participants, the theme "families should take part" was expressed. The responses of half of the participants, that is, 11 (50%) participants, "their peers should be included", and 10 (45.5%) of the participants stated that "should be included, field experts". With six (27.3%) participants, a theme was created as "having other researchers in it". It is seen that the theme of "the medical practitioner" is emphasized with the opinions of three (13.6%) participants. The answers of two (9.1%) participants were determined within the scope of the theme "everyone who will contribute to the individual". In the second phase; to the participant (N = 22), "What are your opinions about how a team should be formed while preparing the behavior change plan?" The question has been asked. Accordingly, in Figure 12b, it is seen that the responses of 5 (22.7%) respondents 'should be open to cooperation' theme was created. The responses of three (13.6%) participants were arranged according to repetitive codes within the scope of the "must be open-minded" theme. It is seen that in the responses of two (9.1%) participants the theme 'should be open to guidance' was determined. According to the answer of one (4.5%) participant, the theme "must be consistent" was created. The answer of 1 (4.5%) participant was emphasized as "it should have a constructive personality" as the theme. The answer of 1 (4.5%) participant was determined within the scope of the theme "without competence problem" and the answer of 2 (9%) of the participants was determined within the scope of the "researcher" theme.

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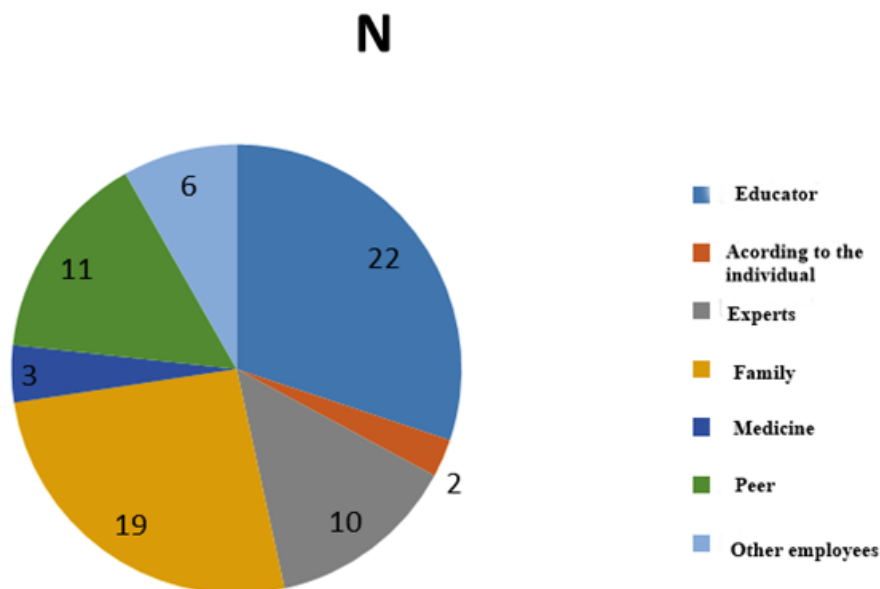
Figure-12a. The distribution chart of the respondents to Question 10. (Who)
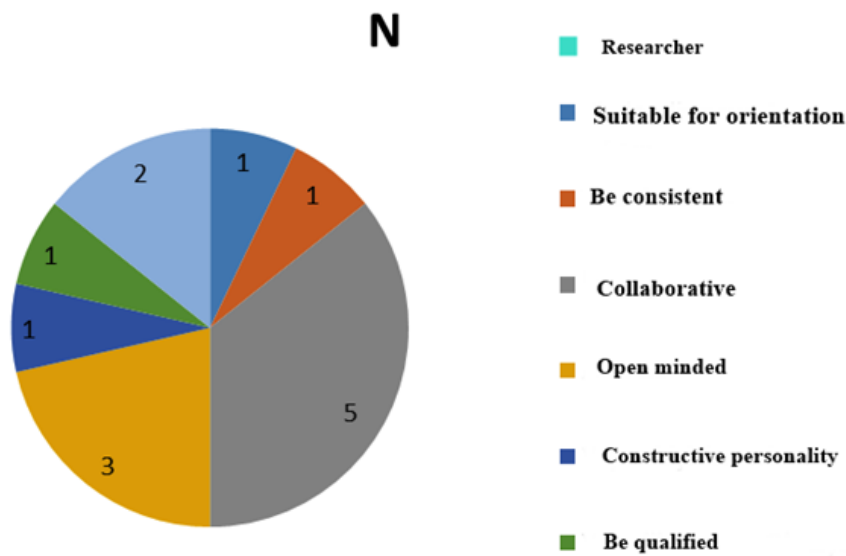
Figure-12b. The distribution chart of the respondents to Question 10. (How)

Question 11: What are your views on "How should effective application skills be in the behavior change program?" Findings related to this question are given in Graph 13.
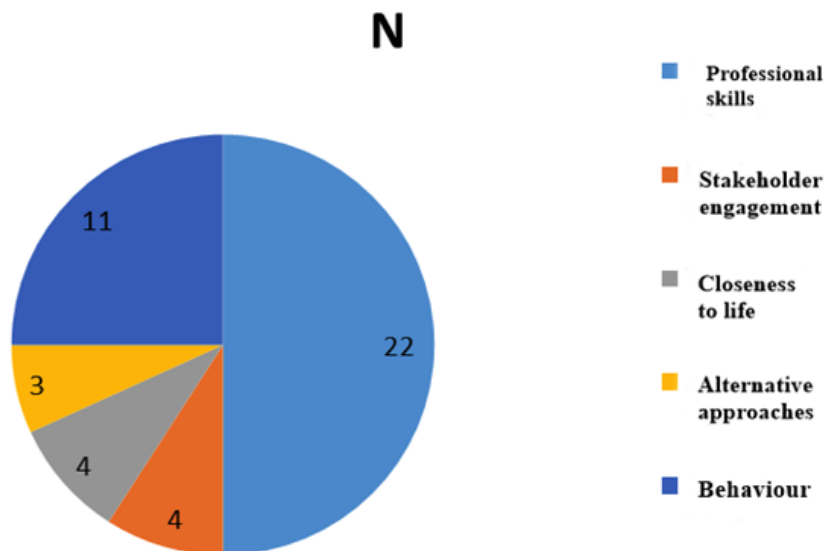
Figure-13. The distribution chart of those who answered Question 11.

When Figure 13 was examined, it was shown that the responses of 22 (100%) participants were themed as "professional skills". In terms of the answers given by half of the participants (N = 22), that is, 11 (50%) participants, a theme "based on behavior" was created. The theme "based on stakeholder engagement" was formed according to the responses of four (18,2%) participants, as well as the "life affinity feature" with the answers of 4 (18.2%) participants. The least repetitive codes were presented as a theme under the title of "alternative approaches" with the responses of three (13.6%) participants.

Question 12: What are your opinions about teamwork while implementing the behavior change program?
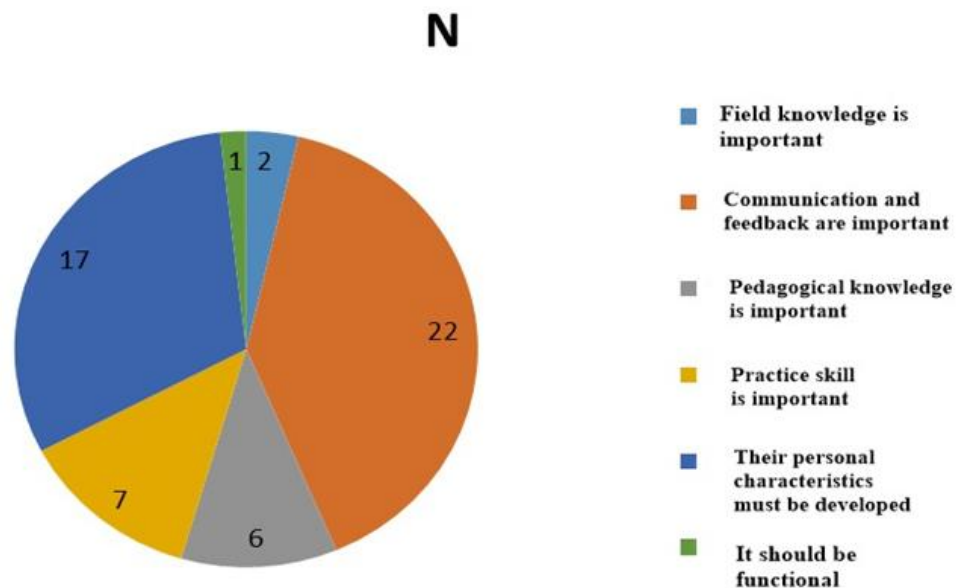
Figure-14. Distribution Chart of the Answers to Question 12.

When Figure 14 is examined, the question "What are your opinions about teamwork while implementing the behavior change program?" was asked to participants (N = 22). Theme titles were created by looking at the frequency numbers. According to this; with the answers of all (100%) of the participants (N = 22) the theme "communication and feedback are important" was identified. Answers of 17 (77.3%) participants were stated within the scope of the theme "personal characteristics must be developed". The responses of seven (31.8%) participants formed the theme "application skills are important". According to the answers given by 6 (27.3%) participants, the theme "pedagogical knowledge is important" was identified. Responses of two (9.1%) participants were expressed the theme "field knowledge is important" and the theme "should be functional" was created with the answer of 1 (4.5%) participant.

Question 13: While implementing the developed behavior change program, what are your opinions about the applications regarding that the problem behavior does not appear outside of the classroom?

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- Use of reinforcement
- Personal characteristics should be improved
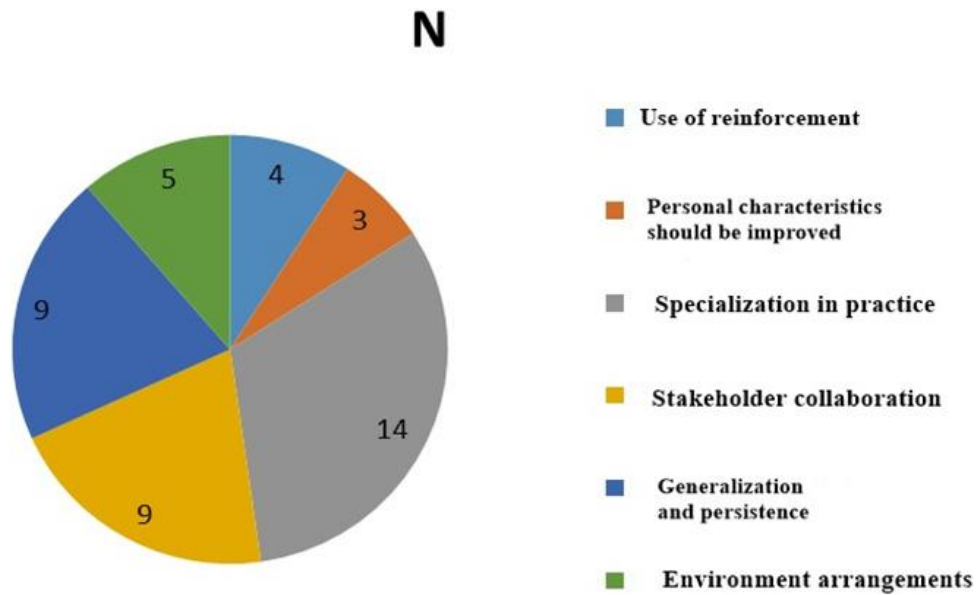- Specialization in practice
- Stakeholder collaboration
- Generalization and persistence
- Environment arrangements

Figure-15. Distribution Chart of Answers to Question 13.

When Figure 15 was examined, the participants (N = 22) answered the question "What are your opinions about the practices while implementing the developed behavior change program regarding that the problem behavior does not appear the outside of the classroom?" Among the answers they gave to the question, the most repetitive words (codes) used in the content to create themes were determined. These determined codes are shown in the Figure by proportioning them from large to small according to their frequency. "Information studies, effective environment, continuity with family, systematic support, permanence, generalization studies" are seen in the graphic as the most frequently repeated codes.In the second part of Figure 15; When the Figure regarding the frequency and percentage distribution of the data was examined, the participant (N = 22) answered the question "What are your opinions about the applications while applying the created behavior change program regarding that the problem behavior not to appear in the outside of the classroom?". The word (code) has been completed by looking at the number of frequencies. Accordingly, with the answers of 14 (63.6%) participants, it was shown that the theme was created in the form of "specialization in practice". The responses of nine (40.9%) participants were collected under the theme of "cooperation with stakeholders" and again under the theme of "generalization and permanence" with the responses of 9 (40.9%) participants. According to the answers given by five (22.7%) participants, the theme was presented in the form of "environment arrangements", it is shown that the theme of "use of reinforcers" was created with the answers of four (18.2%) participants. With the responses of three (13.6%) participants, the theme "personal characteristics should be improved" was created.

Question 14: What are your opinions about the arrangements to be made in the environment and setting while applying the behavior change plan?
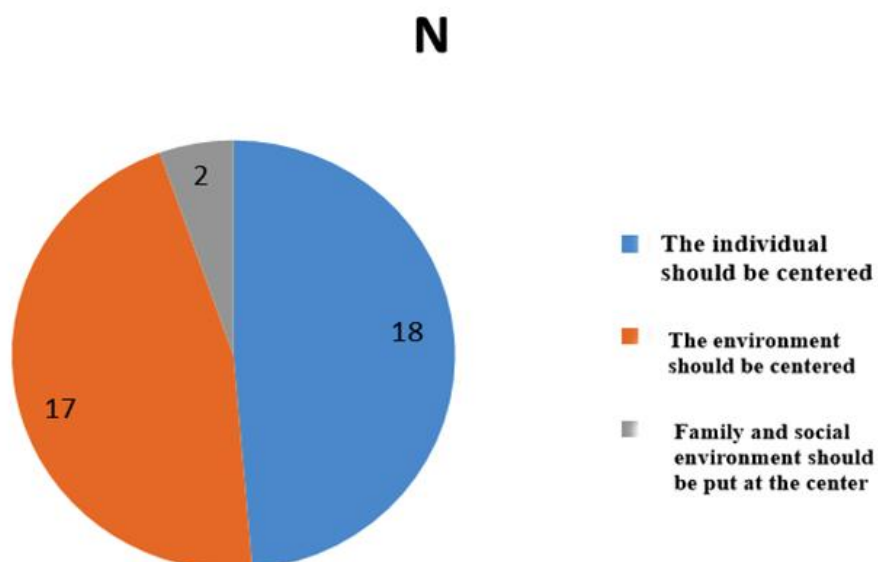

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- The individual should be centered
- The environment should be centered
- Family and social environment should be put at the center

Figure-16. Distribution Chart of Answers to Question 14.

When Figure 16 is examined and the Figure regarding the frequency and percentage distribution of the data is examined, the participant (N = 22) answered the question "What are your opinions about the arrangements to be made in the environment and environment while applying the behavior change plan?". The titles that will form the themes were determined by looking at the answers given to the code, the number of frequencies repeated from the highest to the lowest, and the percentage distribution. According to this; The answers of 18 (81.8%) participants were collected under the theme "individual should be taken as the basis". It was shown that the responses of 17 (77.3%) participants were based on the theme "physical environment should be taken as the basis" and 3 (9.1%) participants presented the theme "family and social environments should be taken as the basis".

Question 15: What are your opinions about which assessment and evaluation studies should be done to monitor and finally evaluate the behavior change program while implementing it?

Figure-17. Distribution Chart of the Respondents to Question 15.

When Figure 17 regarding the frequency and percentage distribution of the data is examined, the participants (N = 22) answered the question "What are your opinions about which assessment and evaluation studies should be done to monitor and fina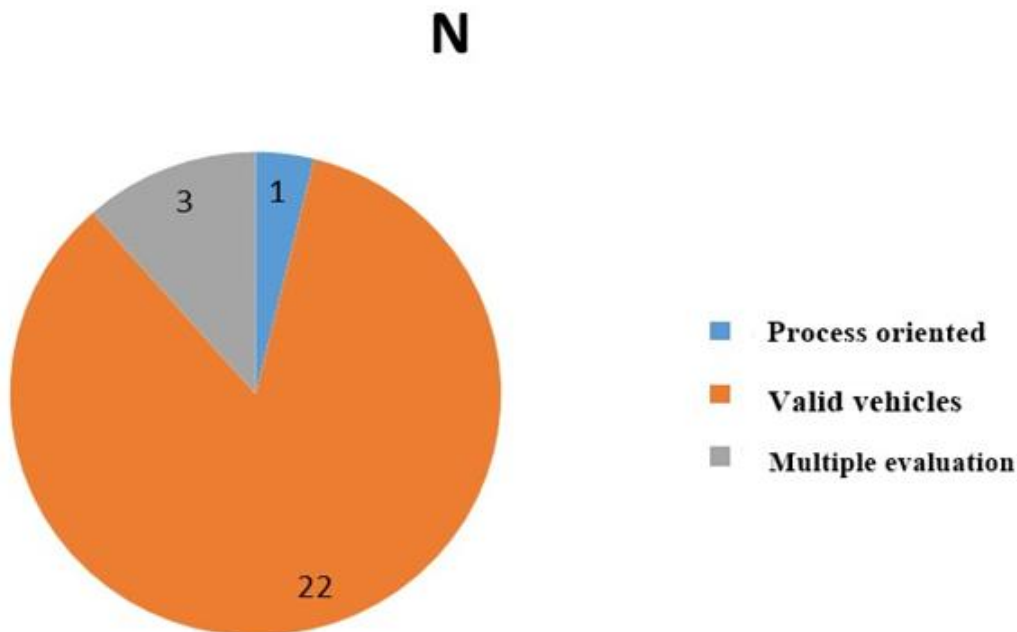lly evaluate the behavior change program while implementing?". The answers given to the question are shown as theme titles by looking at the frequency numbers of the codes that are repeated from the highest to the lowest when the codes of the graphic are examined. According to this; The responses of 22 (100%) participants were collected under the theme "valid tools". The responses of three (13.6%) participants were themed as "multiple evaluations" and it was shown that the theme was created as "process-based" with the answer of 1 (4.5%) participant.

3. Discussion

In the need analysis study conducted at the beginning of the program creation process, most of the teachers do not find themselves competent regarding the problem behaviors and treatment of students with ASD. Based on this result, as a result of the PDBD Program, the competence of teachers has increased. Ozcan (2014) in his study reported that there is a significant difference in the pre-test and post-test scores of special education teachers who stated that they need training in curriculum development, there is an increase in their self-efficacy perceptions after the training, and the teachers' opinions about the benefit of the education given and their knowledge about curriculum development. This result put forward by Ozcan (2014) coincides with the related result of this research. This similarity situation; We can express that in two studies (Koçak, 2011; Ozcan, 2014) it is based on needs analysis and the advantage of using mixed designs.

Regarding the problem behaviors and treatment of students with ASD, the source of their knowledge and skills and the source of deficiencies in knowledge and skills are shown by the teachers as individual learning efforts. The Family Education Program developed by Olcay and Tekin (2012) managed the family members with children diagnosed with ASD in the adolescent period to gain the knowledge and skills to apply social stories and the social stories presented by the family members who completed the program, the adolescents learned the target social skills one and four weeks after the end of the application. In their research, which aims to examine the effects of family members on their generalization to different people and environments, it was shown that family members acquired the knowledge and skills to write social stories accurately and apply them at a high level with a high level of reliability, that they preserved these skills and generalized them to story writing regarding teaching different skills. In this study, it can be emphasized that teachers and practitioners who are involved in training to develop self-learning individually, teach how to use the resources related to knowledge and skills, presenting and monitoring them in a systematic structure in practices.

In the study conducted by Rakap, Balikci, and Kalkan (2018) it is concluded that teachers' knowledge levels differ according to the educational levels they work at regarding their knowledge and perceptions about ASD and one of the results that support this research is that to overcome the problem behind the lack of educational knowledge and skills related to the professional development practical studies to realize individual learning should be organized in line with the needs of teachers and teacher candidates. Hsiao and Sorensen (2019) study on Teacher Training for Special Education Teachers and Evidence-Based Practices Provided in In-Service Training Programs for Students with Autism Spectrum Disorders reported that it is important for teachers to apply these practices

while working with these students; However, when teachers are uneducated and do not have information about these practices, they can't perform these practices in their classrooms. It showed that the level of use of evidence-based applications is positively correlated with the knowledge levels of these practices. That is, providers who knew more about evidence-based practices tended to use these apps more. Therefore, it is a necessity to provide teachers with the knowledge of evidence-based practices so that teachers can use these applications in their classrooms.

Alexander, Ayres, and Smith (2015) examined 23 studies in a literature review study of Teacher Training in Evidence-Based Practice for Individuals with Autism Spectrum Disorders. The findings that support this study are as follows; to strengthen the teachers' communication while working with autistic students it is striking that it is necessary to focus on individual education on evidence-based practices, and in all the studies examined, teachers provide information about the types of students they serve during the study and generally include information such as moderate, severe or severe developmental disability or autism. In this study, it should be kept in mind that teachers' self-learning about their students and their knowledge increases, and with the absence of on-the-job practices only access information sources in their in-service work cannot be enough for teachers. Therefore, while educating teachers, ways to reach knowledge on their own should be shown and teachers' individual learning should be enlightened in terms of professional development.

The fact that the information that teachers learn is one of the evidence-based practices in their own experience and practice will also have an important place in the planning of teacher training. In another process that supports the research conducted in this study, it should be kept in mind that teachers cannot meet the educational needs of students with autism with only theoretical knowledge. Combining applicable training strategies to ensure effective individual learning by teachers for deficiencies in knowledge and skills will support their professional development, where they will cope with a challenge and increase their self-efficacy.

Teachers focus on student behaviors, concerns about accepting or not accepting problems, child characteristics and dangerous situations, and ignore social situations. Helps, Newsom-Davis, and Callias (1999) in their study titled Autism; Teacher Opinion stated that there is widespread confusion about the frequently changing conceptualizations, precise nature, and etiology of autism and that teachers' educational needs and their opinions about autism are effective in accepting behaviors as problems. Helps et al. (1999) in their same study, describe the difficulties faced by teaching staff when working with children with autism concerning their educational needs as the lack of practical advice and support for behavior management and teaching methods, problems in the management of certain behaviors, such as aggressive behaviors, sometimes associated with children with autism. It was stated to cause frequently reported social and communication difficulties. This finding is similar to the dimension of their anxieties about accepting or not accepting behaviors problems of this research.

Based on the results of the research study, it can be argued that accepting or not accepting a behavior as a problem behavior will be very effective in ensuring certain norms on the individual characteristics of children with autism and the social judgments, cultures, and teachers' concerns. This study revealed that the majority of teachers do not have a basic and common theoretical understanding of the problem behaviors of children with autism. While many had outdated beliefs about the disorder, others simply gave the impression of being confused and indecisive. This situation is related to the inadequate education they receive on autism, which most teachers participating in the research are aware of. Despite these drawbacks, it is necessary to ensure that teachers working in special education settings gain an impressive understanding of appropriate strategies to facilitate the identification of problem behaviors in children with autism. Although they are not always aware of the theoretical basis of accepting a behavior as a problem or accepting it as positive behavior, using certain methods of practices based on observation in evaluating behaviors, such practice skills are highly encouraging, but not sufficient.

One of the results obtained in this study is that teachers' anxiety, the characteristics of the child with autism, their social situation, and giving importance to dangerous situations should be handled as important issues in the light of observing student behavior which is the most important element of the education of teachers who work or will work with children with autism. Especially, this study also revealed that teachers have only theoretical knowledge with an inadequate education in the skill of gathering information based on observation.

When determining the causes of problem behaviors, it is seen that teachers focus more on behaviors than their causes, that is, they focus on more "how" rather than the cause. In terms of forming goals from a causal definition of problem behaviors, it is seen in the literature that there are researches about how instead of addressing the causes of problem behavior. Alp and Camlier (2016) aimed to examine the relationship between movement training and physical activities with the correction of behavioral problems seen in autistic children, and his study coincides with the result of this research that the way of addressing the problem behaviors and how to solve the problem should be considered rather than a targeted study.

Roxburgh and Carbone (2013) stated that it will give positive results for the program if it is given by educators trained in the implementation of behavioral principles for the educational needs of children with autism. It should not be forgotten that the program that does not take the characteristics of students as a basis for educators and away from the basic principles of education will inevitably have negative consequences. Conducting an application only with ready-made guided programs will ignore the principle of individuality in the education of children with autism and will give negative results for the student.

Basic Principles of Special Education in MEB (Milli Eğitim Bakanlığı) (2018) Special Education Services Regulation are listed as follows; "In line with the general purpose and basic principles of Turkish National Education, to students; (a) Providing educational services by considering individual differences, developmental characteristics and educational needs, (b) Allowing individuals with special education needs to benefit from special education services in line with their interests, wishes, competencies, and abilities, (c) Starting special education services early) Planning and conducting special education services without separating individuals with special education needs from their social and physical environments as much as possible, (d) Adapting the purpose, content, and teaching processes in line with the educational performances of individuals with special education needs. (e) Cooperating with institutions and organizations to enable individuals with special education needs to continue their education at all levels, (f) Developing IEP for individuals with special education needs (g) Ensuring the active participation of families in every stage of the special education process, (ğ) Working in cooperation with

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the relevant departments of universities and non-governmental organizations working for individuals with special education needs is essential in developing special education policies". Within the framework of these basic principles, individuals with autism should use their capacities at the highest level in line with their educational needs, competencies, interests, and abilities, and their preparation for higher education, professional life, and social life, and individual characteristics should be taken into consideration in line with the above-listed items.

It will inevitably be beneficial to deal with the basic principles of education together, as well as to focus on the individual characteristics of the program objectives in the education of students or educators. However, it is seen from the results of the research that in many cases, practitioners moved away from the basic principles of education in determining the students' needs, which are one of the basic principles of education, and gaining features such as socialization and contributing to independent life. While the researcher was dealing with student characteristics in determining the problem behaviors of students in teacher education, the socialization and cultural characteristics of these problem behaviors were also conveyed by the researcher in the education process by reflecting the socialization and cultural characteristics to the targeted application programs. In the discussion of this judgment, it should not be ignored that the researcher is a judgment about the pre-education teachers' conclusions about what the teacher needs are in coping with problem behaviors.

In the study of Grey, Honan, McClean, and Daly (2005) Assessing the Effectiveness of Teacher Education in Applied Behavior Analysis, the educators participating in this study received training according to the basic principles of ABA, and at the end of this training, teachers made a functional assessment and this was effective supervision. Remarkably, the study was successful in designing a behavioral support plan. Providing certain principles, basic needs and personal expectations in trainers' training gives positive results. As a result of the training given to teachers in the study, 80% improvement in the problem behaviors of the students they work with was reported. In this study, considering the basic principles of special education together with individual needs in reflecting the situations such as target, content, and learning to the implementation steps in curriculum development supports that educators will have positive effects on the students they work with. Based on these results, it was seen that effective results were obtained at the end of the research in the programming competencies of teachers in problem behavior.

It is observed that teachers do not have knowledge about determining the tools and approaches used in the measurement and evaluation, do not differentiate and use the existing forms while creating a behavior change program. They stated during the interviews that they were inadequate in using and developing the tools used in measurement and evaluation in the program development process. In this judgment, the educators also emphasized that they believe that such assessment tools are unnecessary in determining the point where students have come with assessment tools in the interviews. It can be said that the most important point in the program is the evaluation. However, in this study, it is seen that the teachers are far from the needs that form the basis of the program with the wrong thoughts of the past and reluctance. Again, it can be argued that the teachers participating in the researcher education do not have sufficient knowledge and experience in developing evaluation tools and revealing an original tool, and they have judgments about the evaluation tools and evaluation forms developed by someone randomly without designing them in a way specific to the structure of the program.

As seen in the literature, Altunay (2008) stated that, at the end of his study, assessment tools were effective in line with the data obtained from checklists, written / verbal feedback, observations, and interviews, and that the practitioner-researcher should use the assessment tools he developed himself for effective results. Ünlü and Vuran (2012) used the Separated Trialized Instruction Assessment Form, the Turkish Early Language Development Test, and the Imitation Skills Assessment Tool, and Toper-Korkmaz (2015) used the Parental Behavior Assessment Scale-Turkish Version (EDDÖ-TV), the Child Behavior Assessment Scale-Turkish Version (CDCS-TV), Noyan (2019) State-Trait Anxiety Scale, Beck Depression Inventory, Parent Stress Scale, Parental Self-Efficacy Scale, Parental Behavior Assessment Scale-Turkish Version and Multidimensional Scale of Perceived Social Support. The 'Child Behavior Assessment Scale-Turkish Version' was used to measure children's interactional behaviors with the 'Scale', 'Language Development Screening Inventory' and 'Turkish Early Language Development Test' were used in the assessment of language development.

In the study conducted by Grey et al. (2005) it was emphasized that teachers made a comprehensive functional assessment and a behavior support plan targeting a behavior was designed for a child with autism. Campbell (2001) defined improving the quality of assessment through proper and good education for teachers as "strengthening the link between assessment and intervention". Suhrheinrich (2015) in his study titled A Sustainable Model for Teacher Training to Use Basic Intervention Education, stated that the criteria for mastery in assessment and providing feedback to teachers have an important place in the setting. Ruble, Usher, and McGrew (2011) reported in the study titled Pre-Examination of the Self-Efficacy Resources of Teachers of Autistic Students that teachers should also have the skills to evaluate autistic students in addition to teaching. Kossewska et al. (2019) in their article titled Educational Needs of Polish Teachers in the Field of Autism in the Context of the International ASD-East Project, stated that teachers demand to improve their assessment skills based on student assessment tools. Examples can be increased further in the discussion of this research result.

It supports the result of the research that the measurement tools and approaches that exist in most of the studies are used, the forms developed by the practitioners themselves during their education, but are in an informal structure far from a formal situation. It should be kept in mind that the measurement tools of the research can be developed by the practitioner or used tools developed by other researchers. However, in this study, another situation that draws the attention of the researcher in the pre-training meeting with the teachers in determining the pre-education needs of teachers in the process of coping with problem behaviors and in the curriculum development process was that the measurement and evaluation tools and approaches used to monitor while implementing the created behavior change program and to evaluate at the end were made using the existing valid tools, a concrete definition regarding validity was not specified.

It was stated in the pre-training interviews that the teachers did not have any information about the validity status of the measurement tools they used and they applied randomly. In order to talk about the validity of measuring tools, it is necessary to understand that the measuring tool is related to the "thing" it aims to measure. Regarding the content validity of the measurement tools used by the teachers; It was revealed in the needs analysis

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that they could not develop a simple way such as consulting experts, preparing a table of indicators at a simple level, making use of observations and interviews. Also, it can be said that assessment/measurement tools provide the information that a causal and functional relationship towards the purpose of the application can be exhibited by other people in other environments and whether it will work in generalizing to other situations. For example; Ulke-Kürkçüoğlu (2007) used multiple applications model from single-subject research models in the study in which four students aged 5-8 with autistic characteristics participated and the opinions of 17 special education teachers were taken and he suggested conducting it in similar studies based on the results of social validity findings with different participants, different practitioners in different environments. There is no finding supporting the result of this study. However, in terms of the scientific basis of the studies, it can be said that it is important to draw attention to the importance of visual analysis studies, teaching studies in behavior-based educator training together with internal validity, external validity, and social validity studies of assessment/measurement tools.

According to the result obtained in this study, it can be said to the program had an increase in the knowledge and experience of teachers in terms of providing validity studies with their own assessment/measurement tools and approaches. It was observed that the teachers did not have enough information about transforming the developed behavior change program into plan steps and they could only explain the step to start planning. In the research, it can be said by the researcher that there are explanations about how to do the planning in the interviews in determining the needs of pre-education teachers related to the implementation process of the program, but the statements indicating where to start do not provide sufficient information.

If you asked what should be done to reduce or eliminate problem behavior, anyone would mention the necessity of a process. As a result of this research, it was seen that although the teachers stated the importance of developing the program, they did not provide sufficient and complete information about how the program should be developed under which characteristics of the student. In addition, there is another problem that what will be the steps of the program, this problem was observed by the researcher that the teachers before the education did not have enough knowledge about which step to start the program when they encounter problem behavior. It can be said that in these and similar situations, it can be said that applied training should be given about how a systematic study should be planned in the applied behavior analysis approach studies about what steps will be when teachers encounter problem behavior. A teacher who wants to develop the ability to cope with problem behaviors should be able to plan appropriate program steps according to their knowledge, skills and value judgments, and the resources they have. No research has come across to support this conclusion discussed in this study. However, in the study conducted by Harjusola-Webb and Sandra (2012) it was stated that detailed performance feedback (for example, Excel data graphics and verbal feedback) given by the researchers during the intervention training meetings of teachers was useful to guide changes and improvements in classroom behavior.

In this study, it is very important that the researcher made a pre-education needs analysis in terms of revealing the pre-teaching situations. Erbaş, Kırcaali-İftar, and Tekin-İftar describe effectively behavior change as follows; 1) problem behavior should be functionally defined very clearly, 2) summarizing statements obtained in the evaluation process should be included, 3) including information about problem behavior as unrelated, ineffective, and environment, pre-behavior, intervention methods and post-behavior results, 4) describing the most difficult situations in which problem behavior occurs, 5) understandably explaining the process of evaluation. It can be said that it will contribute to teachers' improvement in planning steps. As a result of this research, it was observed that teachers made very serious improvements and applied their self-plan development processes.

While preparing the behavior change plan of teachers, the opinions about who and how a team should be formed varied in line with the literature and legislation. On the one hand, teachers emphasize that communication and personal characteristics of stakeholders are important in teamwork while implementing the behavior change program. Creating a team is the work of working with a group where stakeholders who have the knowledge, skills, education, and views in different fields combine their creative power, effort, and knowledge in order to achieve the goals effectively. Creating a team in terms of students with autism and the applied program may be beneficial to have a clear distribution of tasks in an organized manner, to solve problems encountered, to make decisions, to achieve high quality and efficiency by improving the work done, to use the knowledge and experience of team members at the highest potential and to provide a versatile evaluation. Besides, not only the development of the professional experience of the team members but also the development of an interdisciplinary working systematic between the team members can lead to the development of cooperation and interpersonal relations.

While Güleç-Aslan (2013) did not provide detailed information on how the team members were formed in their study named Behavioral Education Program for Autistic Children to carry out the home practice, they stated that in terms of the applied program, the team members made significant contributions to their families and children, as well as their knowledge and skills. McCabe (2008) examined and emphasized the aspects of the teacher training model in the Autism Institute that enabled the training of highly qualified, enthusiastic, and knowledgeable autism teachers in the study titled Effective Teacher Training in the Institute of Autism of the Republic of China. This study supports the results of the study by showing who and how a team should be formed and the communication and personality traits of team members are important.

Teachers' views on effective practice skills in the behavior change program developed during the needs determination process are mostly shaped based on classical teaching principles and remain far from effective teaching and learning approaches. Based on this result, effective results were obtained showing that teachers developed effective application skills and teacher competencies in effective teaching and learning approaches and gained experience in the use of evidence-based practices. Walker, Douglas, and Brewer (2020) in the study titled Training Given by Teachers to Encourage Professional Application of Systematic Teaching, emphasized that evidence-based practices will be much more effective on children with ASD in providing teachers effective teaching with on-the-job teaching.

4. Results and Implications

Below are the results and implications for practitioners and researchers for further research.

4.1. Results

In this study, the results regarding the determination of teacher needs with the Teacher Education Program to be developed in line with the teaching needs of students with Autism Spectrum Disorder (ASD) are included.

1) Most of the teachers do not find themselves competent regarding the problem behaviors that occur in students with ASD and their treatment.

2) Regarding the problem behaviors and treatment of students with ASD, the source of their knowledge and skills and the source of the deficiencies in knowledge and skills are shown by the teachers as individual learning efforts.

3) Teachers ignore social situations while observing student behaviors and focus on their concerns, the child's characteristics, and dangerous situations about accepting or not accepting problem behaviors.

4) When determining the reasons for problem behaviors, it is seen that teachers focus more on behaviors than the causes, that is, they focus more on "how" rather than the cause.

5) Teachers have problems in their ability to develop or use a common and standardized application and activity while determining the causes of problem behaviors.

6) Teachers take the interests and desires of the individual as a basis in determining the objectives and ignore most of the basic principles of education while developing a behavioral change program.

7) While teachers take into account the principle of individuality in creating or determining content suitable for the outcome in developing a behavior change program, many other principles in the content determination are ignored.

8) It was observed that the teachers while developing the behavior change program stated that they were based on individuality in choosing or determining the method and technique suitable for the acquisition, content, and learning experience they designed, and they gave less importance to socialization.

9) It is observed that teachers do not have knowledge about determining the tools and approaches used in measurement and evaluation, do not differentiate and use the existing forms while developing a behavior change program.

10) It was observed that the teachers did not have enough information about transforming the developed behavior change program into plan steps and they could only explain the step to start planning.

4.2. Implications

At the end of this research, the following recommendations can be made for practitioners and researchers for further research.

4.3. Implications for Practitioners

As a result of the research, implications for practitioners are listed below.

1) Observing the classroom practices in determining the practical training needs of teachers.

2) Observing learning and teaching environments with an impartial eye, and conducting observation studies with multi-faceted and objective tools based on the result that the needs determination results obtained from objective measurement tools are more effective in teaching.

3) Teachers show that teachers need to learn about behavior change systematics as a result of their anxieties about accepting or not accepting problems in student observations. In-service and on-the-job training can be provided for this.

4) Teachers reveal their lack of knowledge and skills by expressing not having enough knowledge about transforming the developed behavior change program into plan steps.

5) Teachers' opinions about effective practice skills in the behavior change program, which are mostly shaped based on classical teaching principles, point to their educational needs regarding effective teaching and learning approaches.

4.4. Implications for Researchers

As a result of the research, the implications for the researchers are listed below.

1) In line with the results of this study and the literature, similar studies can be carried out with families.

2) Teachers' concerns about accepting or not accepting problems in their student behavior observations can make the guidance of the studies in this field questionable. It is thought that the preparation of a guide, handbook, etc. for the treatment of problem behaviors will be beneficial.

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