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## **Determination of Educational Needs of Teachers Regarding the Education of Inclusive Students with Learning Disability**

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### **Abstract**

The aim of this study is to determine the educational needs of the teachers regarding the education of inclusive students with learning disabilities in their classes. A qualitative case study design was used in this paper. The study group consists of 20 teachers who work in primary, secondary and high schools in Duzce city center in the 2018-2019 academic year and they have students who were diagnosed with learning disabilities in their classrooms. The participating teachers were selected according to the maximum diversity sampling method. In this research, teacher opinions were asked through a semi-structured interview form and content analysis was employed to analyze the data. As a result of the research, the educational needs of the teachers were gathered in five themes which are the competence of recognizing learning difficulties of students, to use the educational diagnostic process for students with learning difficulties, to prepare an individualized education plan, to develop instructional adaptations, and to conduct a family education. Based on the findings of this study, the teachers were revealed to need education in recognizing learning disabilities and the features of students with learning disabilities. In addition to these, they were also detected to need education not only in the use and the interpretation of standard assessment tools but also the knowledge about vocational regulations. The participating teachers also stated that they lack knowledge in the establishment of support and cooperation mechanisms, having the content knowledge regarding the preparation of an individualized education plan, providing expert support as well as pre, while and post educational interventions and training for family education. In the light of the research findings, it was proposed to provide practical in-service training with expert support, improve the professional qualifications of teachers providing prevocational and on the job training, and to carry out awareness activities aiming at increasing family participation.

**Key words:** Special education, inclusive education, learning disability, teacher, educational needs

### **Introduction**

Today, individual differences play an important role in the structuring of the education system. In an education system where individual differences are taken into consideration, conditions appropriate to the educational, social and personal needs of individuals should be provided. Consistent with this understanding, special education is defined as the education offered to students with different and special needs. Through this education, it is aimed to enable gifted students to make the most of their abilities, prevent the disability of individuals from becoming an obstacle and enable these individuals to meet their own needs by equipping them with the skills that will help them to be independent and productive individuals (Ataman, 2011). In addition to this definition, the concept is also defined as the provision of comprehensive, research-based assessment, education and counseling services to gifted or students with disabilities in cognitive, behavioral, socio-affective, physical and sensory areas through specially prepared programs (Bryant, Smith, and Bryant, 2008; Salend, 2008). Determining the educational needs of students with special needs, providing them with appropriate education settings and services contributes them greatly to take part in their community as independent and productive members (Kircaali-İftar, 1998; Şahbaz and Kalay, 2010).

Individuals with special education needs are classified according to the type of disability they have as the ones with mild intellectual disability, moderate intellectual disability, severe intellectual disability, profound intellectual disability, attention deficit and hyperactivity disorder, emotional and behavioral disorders, speech and language disorders, visual processing disorders, auditory processing disorders, orthopedic impairments,

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cerebral palsy, autism spectrum disorder, specific learning disorders, persistent (chronic) diseases and gifted individuals (MoNE, 2018). Learning disability is defined as a heterogeneous disorder as a result of standard tests applied to an individual who has a certain difficulty in the acquisition of writing, speaking, reading, writing, reasoning or mathematical skills considering the person's age, determined intelligence level, and education level (American Psychiatric Association [APA], 2013; Ebert, Loosen, and Nurcombe, 2003; Sattler, 1998). Furthermore, learning disability was detected to be associated with the functions of the central nervous system (Swanson, 2008) and neurological structures of the brain (Rumsey, 2006), causing low academic achievement (Johnson, Humphrey, Mellard, Woods, and Swanson, 2010). It can be said that the difficulties leading to the student's academic failure are not directly related to brain functions and perceptual disorders (Bender and Shores, 2007). Hence, individuals with special learning disabilities can be expressed as individuals with a significant difference between their real performance levels and their estimated potential due to the problems in their learning process (Hallahan and Mercer, 2001). As a result of conducted individual and standardized tests, the reading, mathematics or written expression of children with learning difficulties is quite lower than their expected level considering their age, reading status and level of intelligence. These learning problems negatively affect their academic achievement or their daily activities that require reading, math or writing skills (Özsoy, Özyürek, and Eripek, 1998). These students are behind their peers in terms of reading skills and make more reading mistakes than their peers. They also have difficulty in distinguishing visual symbols such as colors and numbers. Besides, they have problems with their short-term, long-term, and working memory. Other problems that they have are the difficulty in remembering what they see, hearing and memorization (MoNE, 2008). In Turkey, students with learning disabilities are accepted as individuals in need of special education according to the special education services regulation. Moreover, they can benefit from educational support services and are included in inclusive education (Dadandi and Urfali-Dadandi, 2015).

Children with special needs have different educational settings according to the types and severity of their handicaps. These settings range from the least restrictive settings where they get education with their peers to private boarding schools (Ataman, 2011; Eripek, 2007). The education services in placing individuals to place them in appropriate education settings from the least restrictive to the most restrictive ones are primarily classes where their non-disabled peers attend, resource rooms, special education classes, separate schools, boarding schools and home or hospital schooling (MoNE, 2018; Salend, 2008; Dikici Sığırtaç, and Gül, 2014). The model that is most widely adopted and tried to be developed in Turkey and in the world is inclusive education interventions which isolate students least from their peers. Inclusive education is based on the idea of educating students with disabilities in ordinary classes, which provide education in a regular education setting with their typically developing peers (Batu and Iftar, 2011; Melekoğlu, Çakiroğlu, and Malmgren, 2009; Pijl, Meijer, and Hegarty, 1997; Sucuoğlu and Kargin, 2014).

Inclusive education intervention requires providing educational support services to the individuals with special needs who suffer from disabilities alongside their typically developing peers (Batu & Kircaali Iftar, 2011; De Boer, Pijl, and Minnaert, 2010; Osborne and DiMattia, 1994; Pijl, Meijer, and Hegarty, 1997; Rafferty, Boettcher, and Griffin, 2001). Being in the same educational setting with their non-disabled peers has positive emotional effects on children with special needs and provides them with a chance to learn some behaviors from their peers (Cagran and Schmidt, 2011; Eripek, 2003). According to the Regulation on Special Education Services of the Ministry of Education (2018), students with learning disabilities are considered individuals in need of special education. Thus, students who receive this diagnosis can benefit from educational support services and are included in inclusion education (MoNE, 2018). The rate of students who were diagnosed with learning disabilities in world is 3% among students with special needs (U.S Department of Education, 2016; Melekoğlu, 2017). Besides, 80% of individuals with learning disabilities are individuals with reading impairment (Ministry of family and social policies, 2014, p.39). It was also reported in DSM-V that the prevalence of specific learning disabilities is between 5% and 15% among school children. Considering the gender distribution, it can be said that learning disabilities are more common in boys than in girls (APA, 2013; Lagae, 2008; Liederman, Kantrowitz, and Flannery, 2005).

Educational arrangements that are made before starting the education of students with learning disabilities can promote to obtain effective results in achieving the goal of teaching. These arrangements are keeping the physical setting in which the student lives simple and free from any distracters, allowing the student to seat next to his / her favorite peer, determining daily routines and making a list of rules regarding obeying them, making adaptations in teaching materials, content and assessment for students, providing skills education for students to improve their weak skills, supporting the content of courses using audio-visual and technological materials, assessing student performance at certain intervals, ensuring and reinforcing class participation, making the instructions clear and intelligible, preparing individual activities and group works, introducing students to their

peers and providing peer support (Aktan and Budak, 2017; Downing and Parker, 2006; Fuchs and Fuchs, 1998; Güzel Özmen, 2013).

When the relevant literature is examined; it is seen that studies on the features of learning disability (Özçivit Asfuroğlu and Tülin Fidan, 2016; Turan and Yükselen, 2004), identifying individuals with learning disabilities (Çakıroğlu, 2015; Turan Turgut, Erdoğan Bakar, Erden, and Karakaş, 2016), problems experienced by teachers of learning disabled children (Dadandı and Urfalı- Dadandı, 2015; Birol and Aksoy Zor, 2018), misconceptions of classroom teachers related to learning disability (Başar and Göncü, 2018), learning disabilities in gifted students (Özkardeş and Şekeral, 2013), anxiety and depression levels of children with learning disabilities (Deniz, Yorgancı, and Özyeşil, 2009), education of students with learning difficulties (Çakıroğlu, 2015a; İlker and Melekoğlu, 2017; Kançeşme, 2015; Mutlu, 2016; Tatar and Dikici, 2008; Yıldırım Doğru, Alabay, and Kayılı, 2010), improving professional competencies of teachers regarding inclusive education (Acedo, 2011; Florian, Young, and Rouse, 2010; Griffin et al., 2017), were carried out. When studies are analyzed, it is understood that although research on different dimensions of learning disability were conducted with an emphasis on the education of students with learning disabilities, the research on the educational needs of teachers regarding the education of inclusive students with learning disabilities are limited.

In studies conducted for the education of students with learning difficulties, it was determined that teachers need in-service training about learning difficulties (Ergin, Akseki, and Deniz, 2012; Serin and Korkmaz, 2014), there is not enough cooperation for the education of students (Blecker and Boakes, 2010), teacher training is inadequate (Dadandı and Urfalı-Dadandı, 2015), teachers have both lack of information and misconceptions that will make diagnosis difficult (Başar and Göncü, 2018; Clark, 1997; Doğan, 2013; Kuruyer and Çakıroğlu, 2017; Özabacı and Ergün-Başak, 2013; Yeo, Chong, Neihart, and Huan, 2014); they have problems in not only identifying the difficulties of students with learning disabilities but also providing the support and education they need (Güzel Özmen, 2013), teachers' knowledge of the regulations regarding the education of students with learning disabilities is insufficient (Dapudong, 2013, Lee and Low, 2013). It was also found that providing support and cooperation in special education (Batu, 1998; Baykoç-Dönmez, Aslan, and Avcı, 1997; Demirdağ, 2014; Kaya, 2013; Lewis and Doorlag, 2011) and trying out different educational approaches (Demirdağ, 2014) to help students with specific learning disabilities to achieve success is of top priority.

It is aimed to meet the “continuing education” principle through the education received during the candidate teacher period and on the job training. In-service training programs are prepared according to the training needs of the personnel in accordance with the purpose of the institution (Ergin et al., 2012). In all branches of teaching, it is impossible for teachers to interpret the reflections of the changes and developments in education in the world and Turkey with the education they received before the service (Bilir, 2004). There are inclusion students with a diagnosis of learning disabilities in primary, secondary and high school education levels and they get education in the same class with their peers. To ensure the desired success of the inclusion of students with learning disabilities, teachers who are primarily responsible for the education of these students are required to improve their professional competencies. The number of students diagnosed with learning disabilities increase day by day with the development of assessment tools aimed at diagnosing students in terms of health and education (Butterworth and Kovas, 2013; Cortiella and Horowitz, 2014; Petretto and Masala, 2017). From this point on, the determination of the educational needs of the teachers to provide better education to students diagnosed with learning disabilities makes this research even more important. The aim of this research is to determine the educational needs of teachers working at different levels of education regarding the education of inclusion students diagnosed with learning disabilities.

## Method

### Research Design

In this study, the training needs of teachers working at different levels of education regarding the students diagnosed with learning disabilities were examined and the case study design that is among qualitative research methods was used. Case studies, in which different units from a single individual to a school can be addressed, provide researchers with rich and detailed data, but are not intended to generalize as in other qualitative research approaches (Lichtman, 2006). The case study involves an in-depth analysis of one or more events, settings, programs, social groups, societies, subjects, or other constrained systems without prejudice. (Cohen, Manion and Morrison, 2005; Stake, 1995; Silverman, 2006; Yin, 2003). Therefore, the research was conducted as a case study in order to determine the educational needs of teachers who take an active role in educational activities concerning learning disabilities more comprehensively.

## Study Group

The study group was selected among the teachers who served at different levels of education in Düzce province and who have inclusion students diagnosed with learning disabilities in their class in the 2018-2019 academic year. Maximum diversity sampling a special kind of purposeful sampling methods was used to create the study group. Maximum diversity sampling is used when the sample size is relatively small to reveal the diversity of individuals who may be party to the problem studied in this sample and the different dimensions of the problem according to this diversity (Yildirim and Simsek, 2013). In order to ensure the diversity in the study group, attention was paid to select participants with different features by taking into account the different characteristics of the participants such as their level of education, branch, professional seniority and educational status. The study group consists of 20 teachers selected within the framework of the pre-determined criteria.

## Data Collection

A structured interview form prepared by the researcher was used as a data collection tool in the research. This form consisting of eight open-ended questions prepared and implemented to determine the needs of the participating teachers for the education of inclusion students diagnosed with learning disabilities. For the structured interview questions prepared for the teachers, three different expert opinions were obtained and the intelligibility of the questions were tested by conducting pilot interviews with three teachers. After expert opinions and pilot interviews, one of the interview questions was removed from the form and one question was combined with another, hence; the interview form was given its final form. During the interviews, the participants were addressed by their names, however; during the analysis and reporting process, each participant was given a code name. The interviews with each participant were carried out by the researcher, and each interview took approximately 30 minutes. All the interviews with the participants were recorded with a recorder.

## Data Analysis

The data collected for the research was analyzed by content analysis method. The researcher conducted one-to-one interviews with the teachers and the interviews were recorded. Then the recordings were transcribed and analyzed. In order to increase the validity of the research results, maximum diversity sampling from purposeful sampling varieties was used in the research to be consistent with the qualitative research tradition. The data set was studied in detail in the research. In the analyses, each teacher was given a code, the data was analyzed and the themes and sub-themes were reached. While coding and editing themes and sub-themes, the researcher abode by the raw data. For this purpose, the data was depicted using direct quotations from teacher opinions. In order to ensure the reliability of the research, the opinions of the teachers were coded separately by the researcher, and in the creation of the themes and sub-themes, the opinions of three experts in qualitative research were compared, and the themes and categories were finalized. Moreover, to ensure the reliability of the data obtained through descriptive analysis, Miles and Huberman's (1994) " $\text{Consensus} / (\text{Consensus} + \text{Disagreement}) \times 100$ " formula was utilized. The reliability rate between the coding obtained by the researcher and the consistency between the theme and the sub-themes was determined as 87%.

## Findings

Within the scope of the research, the opinions of the teachers were analyzed and interpreted using direct citations. At the end of the interviews with the teachers, it was determined that the educational needs of teachers related to the education of inclusion students with learning difficulties were gathered in five themes. Below are the themes and sub-themes created according to the opinions, respectively.

### Theme 1. Recognizing Learning Difficulties

In the context of the research, the views of the teachers regarding the theme which is recognizing learning difficulties were given in Table 1.

Table 1. The teachers' educational needs related to recognizing learning difficulties of students

Theme	Sub theme	Opinions	Frequency (f)
<b>Recognizing learning difficulties</b>	Theoretical Foundations	Recognizing learning difficulties	14
		Features of students with learning disabilities	12
		Difficulty in reading	8
		Difficulty in writing	6
		Difficulty in mathematics	5
		Positive attitude development	4
		Empathetic thinking	1
		Conceptual integrity	1

When Table 1 is examined, it is seen that teachers explained the educational needs related to the theme of recognizing learning difficulties within the context of theoretical foundations (f=51) sub-theme. In line with the views of the teachers, the theoretical foundations are as follows: recognition of learning difficulties (f=14), characteristics of the students with learning difficulties (f=12) and reading difficulties (f=8). Below are direct citations of the teachers on this theme which is recognizing learning difficulties;

"... there is a confusion of concepts about this. The reading dimension should be considered separately, the writing dimension should be considered separately, and the mathematics subject should be considered separately. Each has a separate approach. If we want to get improvement in the education of these children, the competence of teachers needs to be improved in these matters. (T5)."

"..Some of the students in my class have serious behavioural problems. These behaviors can be analyzed to determine whether they are related to learning disabilities. A serious training in behavioural analysis is needed. (T12)."

"...unfortunately there is a negative perception about these students. When faced with such a student, as a general opinion, the prevailing idea is "a student I will have a problem with". The elimination of this idea and the inclusion of studies on the development of empathetic thinking and positive attitudes in this regard should be considered as a priority... (T4)"

".. what should be done to correct the writing of children with writing problems. In the same way, a systematic support is essential for how to follow a path for reading problems. Our own experience may be inadequate... (T3)"

"I think students with learning disabilities should be seriously monitored for a certain period of time in classroom settings. The student should be observed in classroom setting and decided according to the results of the observation. I think this has been neglected or we have had to be neglected in the intensive teaching processes. Besides, I don't think we're qualified enough for this observation. (T6)."

## Theme 2. Educational Diagnostic Process for Students with Learning Disabilities

In the context of the research, the teachers' views on the theme of educational diagnostic process for students with learning disabilities were presented in Table 2.

Table 2. The teachers' educational needs related to educational diagnostic process

Theme	Sub theme	Opinions	Frequency (f)
<b>Educational Diagnostic Process</b>	Informing	Knowledge regarding regulations	8
		Operational knowledge for Guidance and Research Center	4
	Diagnosis	Using and interpreting standard assessment tools	5
		Observation and interpretation	3
		Behavior analysis	2
	Cooperation	Receiving family support	11
		Receiving school administration support	7
		Receiving Guidance and Research Center support	6
		Collaboration with the guidance service	5
		Providing collaboration between teachers	4

When Table 2 is examined, it is seen that the teachers explained the educational needs related to the educational diagnostic process theme for students with learning disabilities in the context of information (f=12), diagnosis (f=10) and cooperation (f=33) sub-themes. In line with the teachers' views, the information sub-theme regulatory information (f=8) and guidance and research center working information (f=4) are the prominent

opinions. Using and interpreting standard measurement tools in diagnostic subtext (f=5), observing and interpreting (f=3), and behavior analysis (f=3) are the prominent opinions in line with the teacher opinions. In line with teacher opinions, cooperation is important in the sub-theme: receiving family support (f=11), receiving school administration support (f=7) and receiving guidance and research center support (f=5). Below are direct citations of the teachers' educational needs concerning the theme which is the educational diagnostic process for students with learning disabilities;

"Legislation related to the educational diagnostic process is sometimes up in the air, teachers should be informed about it (T17)."

"The process of educational identification must take place in cooperation. Efforts should be made to develop cooperation between the family, school administration, and counselling and research center. If this process is not dynamic, no results can be obtained (T11)."

"We can't get the support of the families. Teachers should be given guidance on providing family support (T2)."

"The school administration and the guidance service must do their part. However, most of the time, the teacher is the only person who takes the burden of this responsibility (T12)."

"The family should be more involved in the educational process (T18)."

"Information should be obtained from all teachers who provide education to students and it should be revealed in which subjects students' learning difficulties arise. Teachers should cooperate in order to implement a common attitude towards students and it is the guidance service that will make this happen with the support of the school administration (T20)."

"I think we need to get expert support on this issue to identify these students correctly and provide them with more support. I don't think I have the necessary diagnostic knowledge about this. Because I think this work is more accurate to be done by experts (T9)."

### Theme 3. Competence to prepare an Individualized Education Plan (IEP)

Within the scope of the research, the teachers' views on the competence to prepare IEP theme were presented in Table 3.

Table 3. The teachers' educational needs related to competence to prepare IEP

Theme	Sub theme	Opinions	Frequency (f)
IEP preparation qualification	Theory	Learning disability knowledge	8
		Educational assessment knowledge	4
		Program development knowledge	3
		IEP regulation knowledge	3
		Special education method and technical knowledge	2
		Development of assessment tools	1
		Attention tests	1
	Intervention	Receiving expert support	10
		Teamwork and collaboration	8
		IEP preparation	7
		Receiving family support	2
		Program adaptation	2
		Program assessment	1

When table 3 is analyzed, it is seen that the teachers explained the educational needs related to the theme of IEP preparation competence within the scope of the sub-themes of theory (f=22) and practice (f=30). In line with the teachers' views, knowledge of learning disabilities (f=8), knowledge of educational evaluation (f=4) and knowledge of program development (F=3), knowledge of IEP legislation are the prominent opinions. Below are the direct citations of the teachers for their educational needs regarding the IEP theme;

"I think IEP preparation requires expertise. Training should be provided with expert support before these plans are prepared at the beginning of the educational year (T3)."

"On the job training should be conducted with the participation of experts regarding the preparation and implementation of serious content for IEP in both planning and implementation stages. Besides, support should be provided on how to determine the gains and how to choose the appropriate method and technique (T8)".

"Everyone involved in the school should support the process of IEP preparation and coordination between the family, teachers and the administration should be ensured during the implementation phase (T11)".  
 "The professional competence of teachers should be improved in the field of IEP preparation. (T1)"  
 "...I don't think teachers are good enough at this. In particular, teachers should be made competent by trainings for the preparation of IEP (T16)".  
 "I believe the process will be more successful if the family is also involved (T20)".  
 "...as a result, long-term and short-term goals are written, a kind of program is developed. Teachers should have sufficient background in writing objectives and preparing programs, considering the existing curriculum (T7)".

#### Theme 4. Instructional Adaptations

Within the scope of the research, the teachers' views on the theme of IEP preparation competence were presented in Table 4.

Table 4. The teachers' educational needs related to the instructional adaptations

Theme	Sub theme	Opinions	Frequency (f)
Instructional Adaptations	Pre-teaching adaptations	Variety of methods and techniques	7
		Organizing content by topic	6
		Simplifying content	4
		Preparation of appropriate activity	3
		Communication skills	3
		Time management	2
		Selecting appropriate content	2
		Preparing material suitable for the content	2
		Choosing the appropriate method for the subject	1
	While-teaching adaptations	Classroom management	5
		Use of group studies in teaching	2
		Arranging the setting	2
		Peer teaching	1
	Post-teaching adaptations	Preparation of assessment tools appropriate for IEP gains	7
		Preparation of alternative assessment tools	3

As far as Table 4 is concerned, it can be seen that the theme of the teachers' educational needs related to the instructional adaptations was explained under three sub-themes, which are teaching pre-adaptations (F=30), adaptations during teaching (f=10), and adaptations at the end of the teaching (f=10). In line with the teachers' views, the most prominent views on the needs in pre-teaching adaptations sub-theme are; methods and diversity (f=7), organizing content by topic (f=5) and simplifying content (f=4). The noteworthy opinions in the while teaching adaptations regarding the needs related to the sub-theme are classroom management (f=5), use of group studies in teaching (f=2) and arranging the setting (f=3). Finally, the teacher's views for post-teaching adaptations sub-theme regarding the preparation of assessment tools appropriate for IEP gains (f=7), and preparing alternative assessment tools (f=3) were presented. Direct citations of the educational needs of the teachers regarding the relevant theme are as follows;

"...in-service training should be given not only about methods and techniques appropriate for students with learning disabilities but also on developing materials consistent with the course content (T12)".

"... often there are problems that arise from us as well, because we cannot communicate with the student. I need communication skills for students with learning disabilities (T6)".

"I think if we can manage the class, there will be time for those students. We cannot have efficient lessons in the classroom because of telling students to stop, sit down, do not do it. If classroom management is good, there will be an opportunity to deal with students with learning disabilities (T14)".

"I think our most important insufficiencies are on how to choose the method according to the subject and the features of the students, how to design the course based on the chosen method ... (T7)".

"...During teaching in the classroom, these children often fall behind the classroom. They cannot finish noting down in time or follow the lesson. I can say that I have difficulty in how to simplify the subject according to the level of the student or how to explain things more clearly (T20)".



"I have problems in how to plan a group work in class, getting support from other students, preparing exam paper appropriate for students and content, developing multiple-choice tests instead of open-ended exams, short-answer questions, matching questions, portfolio, observation, etc. preparation and application of assessment tools ...(T3)".  
 "...practical training should be given on how the assessment tools for students with learning disabilities are prepared and how they are implemented (T14)".

### Theme 5. Family Education

Within the scope of the research, the teachers' views on the *educational needs for family education theme* were presented in Table 5.

Table 5. The teachers' educational needs related to the family education

Theme	Sub theme	Opinions	Frequency (f)
Family Education	Individual development	Knowing the child	5
		Features of adolescence	5
		Psychological features of children	3
		Personality knowledge	2
		Social and emotional development	2
	Special education	Recognizing learning difficulties	13
		Providing family support in home setting	9
		Accepting the disability	3
		Inclusion education	3
		Problem behavior prevention	2
	Skills	Problem solving skills	3
		Communication skills	2

When table 5 is examined, it is seen that the teachers stated their educational needs related to the theme of family education under three sub-themes: individual development (f=17), special education (f=30) and skills (f=5). Knowing the child (f=5), features of adolescence (f=5) and psychological features of children (f=3) are prominent views in the theme of individual development. In the special education sub-theme, recognizing learning difficulties (f=13), providing family support in home setting (f=9), accepting the disability (f=3) were the prominent opinions. In the skills sub-theme, problem solving skills (f=3) and communication skills (f=2) were included. Direct citations of the teachers concerning their educational needs for the family education theme were presented below;

"...the family can be informed about how to support the student after school and the prevention of problem behaviors. (T3)"

"I think first of all, parents should be convinced to accept the situation regarding the learning disability of their children. The family does not support you or the student unless they do not accept this. (T5)"

"...education should be given about how to convince families to accept the learning difficulties of their children... (T9)".

"the priority must be placed on the characteristics of special education, the benefits of inclusion and the elimination of unwanted behavior (T13)".

"... issues should be taught regarding special education such as what a learning disability is and its characteristics (T7)"

"... topics such as recognizing the child or adolescence with learning disabilities, problem solving, and communication may be included (T20)".

"Personality formation, recognizing individual features, features of the adolescent, inclusion education, theoretical foundations of learning disability... (T17)".

### Discussion and Conclusion

In this study, the educational needs of teachers related to the education of inclusion students diagnosed with learning disabilities were determined. Based on the findings of the study, it was detected that the teachers need education in the recognition of not only learning disabilities and their features but also learning disabilities in reading, writing and math. In addition to these, they were also found to have difficulty in developing positive attitude, empathic thinking and conceptual integrity. In a study by Ergin et al (2012), which examined the in-

service needs of classroom teachers, the teachers were found to consider learning difficulties among their primary in-service education needs. The findings of this study support the findings of educational needs related to learning disabilities identified in our research. Research findings suggesting that teachers have inadequate knowledge regarding learning disabilities (Başar and Göncü, 2018; Dogan, 2013; Güner, 2011; Kuruyer and Çakiroğlu, 2017; Özabacı and Ergun-Basak, 2013; Yeo, Chong, Neihart, and Huan, 2014), supports the educational needs of teachers for learning disabilities in general.

In the light of the findings of this study, it was emphasized that the primary educational needs of the teachers are having the necessary knowledge regarding vocational regulations, operational knowledge of the counseling and research center, using and interpreting standard assessment tools, providing observation and interpretation to families and obtaining support from school administration and guidance and research center. In the research conducted by the training, research and development department of the Ministry of Education (2010), about half of the teachers surveyed stated that they did not have any knowledge about the vocational regulations. Similarly, research findings by Dapudong (2013), Lee and Low (2013) support the findings that teachers lack the knowledge related to vocational regulations for the education of students with learning disabilities. The research carried out by Kaya (2013) pointed out the support of the school administration in achieving the success of inclusion education. Aslanargun (2007) suggested that family participation in education is not sufficient, while the research conducted by Erdoğan and Demirkasimoğlu (2010) stated that teachers and managers do not receive family support during the education process. Research by Leatherman (2007) and Metin, Güleç and Şahin (2009) also determined that teachers need the support of the school administration. The results of these studies are consistent with the results of our research that teachers have educational needs to cooperate with families and school managements and to provide support from school administrations in the educational process of students with learning disabilities.

In the IEP preparation competence theme, the participating teachers expressed that they had educational needs in the theoretical knowledge aspect of learning difficulties, educational assessment, curriculum development, methodological and technical knowledge and the knowledge of vocational regulations. As for the intervention aspect, they stated that they had primary training needs in expert support, teamwork and cooperation, preparing IEP, providing family support, and adapting programs. In the research conducted by Sadioğlu, Bilgin, Batu and Oksal (2013), teachers stated that they needed the most expert support in inclusion practices, and then they needed material support, family support, special education class and support training room support respectively. In different studies, providing support and cooperation in special education (Batu, 1998; Baykoç-Dönmez, Aslan and Avcı, 1997; Demirdağ, 2014; Kaya, 2013; Lewis and Doorlag, 2011), and trying different teaching methods in teaching (Demirdağ, 2014) was claimed to be effective for students with specific learning disabilities to achieve success. In research conducted by Blecker and Boakes (2010) and Vlachou, Didaskalou and Kontofryou (2015), participants expressed that there was a lack of efficient cooperation in inclusion and that teacher training in the field of special education was not sufficient. In order to achieve the desired success in inclusion education, it is necessary to establish an effective cooperation mechanism with teachers, school administration, special education teachers and other partners (Colak, Vuran, and Uzuner, 2013; Sucuoğlu and Kargin, 2014). The findings of the research regarding the importance of providing support and cooperation, applying different methods and techniques, and improving teacher qualifications support our findings. In the research carried out by Dadandı and Urfalı-Dadandı (2015), half of the teachers who participated in the research did not find themselves sufficient about the education of students with learning difficulties, whereas in another study conducted by Serin and Kormaz (2014), teachers stated that they needed in-service training (Altun and Uzuner, 2016; Doyran and Canca, 2013; Polat, 2013) to meet their needs about the education of students with learning difficulties. In the research conducted by Camadan (2012), it was revealed that the in-service trainings for teachers were beneficial. It can be said that similar results have been obtained in support of the research results in the studies on the education of students with learning disabilities in line with our research findings.

In the teaching adaptations theme; it was determined that while teachers needed education in mastering a variety of methods and techniques, organizing content by topic, simplifying content, communication skills, time management during pre-teaching period, they needed education in classroom management, use of group studies in teaching and arranging the setting during while teaching period. As for the post-teaching period, it was detected that teachers needed education in the preparation of assessment tools appropriate for IEP gains and the preparation of alternative assessment tools. Teachers aiming the success of all students in the classroom make necessary instructional adaptations in accordance with the needs of their student (Friend and Bursuck, 2014). In order for students with special needs to receive education with their peers in inclusive settings, adaptations should be made in educational programs, educational purposes, teaching methods and tools (Sucuoğlu and Kargin, 2014; Tyagi, 2016). The general purpose of the instructional adaptations to be made in the classroom is to enable students to participate in the activities at the top level (Sucuoğlu, 2006; Sucuoğlu and Kargin, 2014). It

has been revealed through research that instructional adaptations lead to a positive development in learning and instructional adaptations is particularly effective in the education of individuals with special needs (Yönter, 2009). Today, the primary role of teachers in teaching is to use methods and techniques to convey each subject in the most effective and permanent way and to make adaptations in methods and techniques according to the needs of students (Hakima, 2013; Okur Akçay, Akçay, and Kurt, 2016). The diversity of teaching methods provides opportunities for teachers to enrich and improve their teaching and educational expertise, enabling students to learn more effectively (Darling-Hammond, Hyler, and Gardner, 2017; Skutil, Haclickova, and Matejickova, 2016). Providing a diversity of methods and techniques in educational interventions for students with learning difficulties is necessary to promote the effective teaching of teaching adaptations, and it can be said that teachers do not consider themselves sufficient in this regard. Providing teachers with on the job trainings on different methods and techniques (Ergin et al., 2012) can increase the success in teaching (Demirdağ, 2014).

Based on the opinions of the teachers, it was determined that they needed training in the preparation of appropriate assessment tools and alternative assessment tools. In the studies carried out by Çakan (2004) and Gelbal and Kelecioğlu (2007), a great majority of the teachers considered themselves insufficient or incompetent in assessment and evaluation, while in the research conducted by Anıl and Acar (2008), the majority of the teachers stated that they did not have adequate knowledge about traditional assessment and the in-service trainings they needed for the intervention phase of alternative assessment tools were not sufficient. In the research conducted by the Ministry of National Education (2008a), approximately half of the teachers who participated in the research expressed that they needed in-service training not only in the development and use of assessment and evaluation tools, but also in the assessment and evaluation for individual learning activities. Research results support our research findings.

As for the family education theme; while student families having children with learning disabilities were determined to have educational needs in knowing the child, features of adolescence, psychological features of children, personality knowledge and social and emotional development in individual development sub-theme, they were found to need education in recognizing learning difficulties, providing family support in home setting, accepting the disability, inclusion education and problem behavior prevention in the special education sub-theme. Considering the skills sub-theme, the families were revealed to need problems in problem solving and communication skills. In the research carried out by Dadandı and Urfalı-Dadandı (2015), teachers stated that they had problems with the families of the children with specific learning difficulties because they did not care about communicating with the teachers, did not accept the disability of their children, had unrealistically high expectations about their children and they were not interested in the education of their children. Demir (2005) stated that families are insufficient in terms of knowledge about learning disabilities. The findings of the research support the findings on families' (or parents') recognition of learning disability, acceptance of disability and communication skills, and the educational needs. In the research conducted by Gür and Kurt (2011) which aimed to identify the educational needs of families in Turkey, the findings suggesting that families needed education in preventing and controlling undesirable behavior of their children, child development, relationships with individuals with disabilities and supporting children's studies at home are consistent with our research.

## Limitations

In this research, where the educational needs of teachers working at different stages at schools regarding the education of inclusive students with learning difficulties are examined, the findings obtained by qualitative research method are limited. The research is limited to the views of twenty teachers working in the province of Düzce. The reliability of the research is limited by the objectivity of the teachers' answers. Therefore, the results of the research should be evaluated considering the working group of the research.

## Suggestions

It is believed that considering the following suggestions in the light of the results of this research will be beneficial in the effectiveness of teachers responsible for education of inclusive students with learning disabilities.

- a. Vocational competencies of teachers about recognizing students with learning disorders can be improved through pre-service and on the job trainings.
- b. Practice-based in-service trainings that teachers need primarily can be organized with the participation of field experts.

- c. In order to increase the professional competencies of teachers of learning disabled students, the program content of the classes for learning disabilities can be increased in undergraduate programs.
- d. In order to promote teamwork and cooperation in the education of students with learning disorders, projects involving stakeholders can be prepared.
- e. For the generalizability of research results, the issue can be examined more thoroughly with qualitative research, quantitative or mixed pattern research that include larger workgroups in the future.

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