INSTRUCTIONAL VARIABLES OF INCLUSIVE ELEMENTARY CLASSROOMS IN TURKEY

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The purpose of this study is twofold: to determine the instructional variables of the inclusive classrooms in Turkey and to investigate to what extent the student behaviors change according to eco-behavioral characteristics of inclusive classrooms. The study group consisted of 44 students between the ages of six and 12 with mild disabilities who were placed in regular classrooms and their teachers. The Turkish version of the Code for Instructional Structure and Student Academic Response-Mainstream Version (MS-CISSAR) was used for data collection which was based on a momentary time-sampling. The results of molar analysis indicated that the student behaviors displayed the most were no academic response, no task management, and no competing response. Attention and academic talk were found to be the teacher behaviors displayed the most during instruction. In addition, ecological analysis showed that some student behaviors such as no academic response, no task management, writing, and self-stimulation were not affected by instructional grouping while the attention behaviors of the students were found to be affected by no instruction, no task, no activity, and paper-pen activity conditions. On the other hand, the writing behaviors of the students increased in math and decreased in the discussion condition. All the findings were discussed based on the Turkish inclusion system along with the difficulties to be encountered by students and teachers during mainstreaming implementation.

In 1983, mainstreaming was accepted as an educational model for students with disabilities in Turkey. Since then, a large number of children with disabilities have been placed in regular classrooms, and, in accordance with the latest statistics given by the Ministry of Education, approximately 70,000 students with mild mental retardation, visual or hearing impairment, and emotional and behavioral disorders have been educated in the general education system (MEB, 2010). The implementation of mainstreaming has been examined by researchers in terms of the characteristics of the children who were placed into elementary schools (Çolak, 2007; Vuran, 2005; Deretarla, 2000) and the attitudes of the teachers (Atay, 1995; Uysal, 1995; Kayaoğlu, 1999; Diken, 1998), parents (Özbaba, 2000; Öncül & Batu, 2004; Temir, 2002), students without disabilities towards mainstreaming, and children with special needs (Aral & Dikici, 1998; Turhan, 2007). Several researchers have investigated the effectiveness of mainstreaming, and their results indicate that mainstreaming had a positive effect on reading comprehension (Güldenoğlu, 2008), social skills, social status (Çolak, 2007), computational skills (Can-Çalık, 2008), and peer relationships (Batu & Uysal, 2006) of the students with disabilities who were placed in regular classrooms.

- The results of all these studies provided valuable information regarding the mainstreaming system in Turkey and also revealed that there were several problems and difficulties with the educational system in terms of implementation. Turkish teachers have limited knowledge and experience in teaching students with disabilities, and they do not know how to deal with the problem behavior displayed by the students of different ability levels during instruction. Unfortunately, the support system for teachers and students with disabilities has not yet been

well established; therefore, teachers struggle when they teach students with disabilities in general education classrooms. Although teachers believed that students with disabilities should be in regular classrooms with their peers without disabilities, they reported that these students cause many problems while teaching, and they disturb the learning environment (Uysal, 1995; Kargın, Acarlar, & Sucuoğlu; 2005). In addition, because of the fact that the preschool and elementary school curricula are not modified by the teachers to account for the needs and characteristics of students with disabilities, the students have serious difficulties in accessing the curriculum and cannot learn as much as the parents and teachers expect. On the other hand, despite the fact that the majority of parents believe that being with their peers without disabilities in general classrooms is the best opportunity for their children with disabilities to be successfully involved with the community, they are not sure that the general classrooms can provide sufficient learning opportunities for them because of the difficulties encountered during the school day (Kargın, Acarlar, Sucuoğlu, 2005).

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- Considering the studies related to mainstreaming that have been conducted in Turkey, it can be clearly seen that we implicitly know what the people involved with the mainstreaming process think about educating children with disabilities in general classrooms and to what extent the difficulties were experienced by the teachers, parents and students with disabilities during its implementation in Turkey. However, we have limited information on what is happening in the mainstream classrooms in terms of variables related to student behavior, teacher behavior, and the learning environment. It is believed that despite all the considerable efforts made by the teachers, parents, and even the policy makers to increase the quality of mainstreaming implementation, it might not be realistic to consider creating an effective learning environment in which all students can learn according to their level of development without investigating the classroom environment and the factors affecting the behavior of the students both with and without disabilities in these inclusive classrooms. In existing literature, data have been collected and highlighted related to classroom characteristics, including the behavior of teachers and the environmental variables which guide professionals and researchers in making necessary changes and modifications in instruction. This is done so that all students can achieve as much as possible in general education classrooms (Kounin, 1970; Brophy, 1985; Greenwood, Carta, 1987; McDonnell, Thorson, McQuivey, 1998; Pretti-Frontczak, McGough, Vilardo ve Tankersley 2006). In other words, when instructional variables in the inclusive classrooms are examined, the behavior of the teacher and the environmental characteristics of the classrooms that affect the behavior and achievement of the students might be determined. Thus, it would be possible to take preventive measures in order to teach all students effectively in the general education classrooms.
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- The eco-behavioral assessment (EBA) is a commonly suggested method used to evaluate the instructional characteristics of classrooms at different levels. It is described as being an alternative assessment system designed to define, evaluate, and compare the relationships between the behavior of both students and teachers as well as environmental variables (Greenwood, Carta, Kamps, Terry & Delquardi, 1994; Pretti-Frontczak, McGough, Vilardo ve Tankersley 2006). According to the eco-behavioral approach, teaching is an intersection point for all activities, stimuli, student reactions, class structure, and learning materials (Cooper, Speece, 1990). By using the EBA, it is possible to evaluate environmental and instructional variables which evoke or accelerate student behaviors. With reference to the research, the information about the necessary changes related to the learning environment or the instruction to be done in teaching can be obtained by using the EBA (Greenwood, Carta, Kamps, Terry, Delquadri, 1994). In addition, the EBA provides valuable information to the teachers for understanding the relationships between student behavior and ecological variables so that they can improve their instruction by changing their teaching methods or learning environment. In several studies, the EBA was used to investigate school effectiveness (Kamps, Leonard, Dugan, Boland& Greenwood (1991); Logan, Bakeman, & Keefe, 1997; Logan & Keefe, 1997) and student behavior in different instructional settings (Duvall, Delquadri &Ward, 2004; Woolsey, Harrison, &Gardner, 2004). Moreover, the researchers evaluated teacher behavior and performance by the usage of EBA tools (Robenson, Woolesey, Seabrooks & Williams, 2004; Ross, Singer-Dudek, Greer, 2005). Lastly, the behavior of students with and without disabilities in inclusive classrooms was compared by using the EBA (Brown, Odom, Shouming, 1999; McDonnell, Thorson & McQuivey, 2000; Wallace, Anderson, Bartholomay& Hupp, 2002).
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- Research focusing on the instructional variables of the inclusive classrooms conducted to determine whether there were differences in the behavior of students with and without disabilities. It also examined whether the behavior of the two groups of students changed according to the behavior of the teacher and ecological variables in general education classrooms. For example, in one of the early studies focusing on the instructional characteristics of inclusive classrooms, researchers (Thurlow, Ysseldyke, Graden & Algozzine, 1984) compared the ecological variables of full-time regular classrooms and full-time special education classrooms. They stated that there were minimal ecological differences at these two service levels. In another study, the amount of time allocated to instruction in subjects for students with and without disabilities in elementary classrooms was compared, and it was found that there was no difference between the amount of instruction time allocated in special education and regular education classes. In addition, the researchers determined that a greater proportion of time was allocated to academic activities in special education classes than in regular classes (Ysseldyke, Thurlow, Christenson & Weiss, 1987).

In their study concerning inclusive elementary classrooms, McDonnell and his colleagues (1998) explored all the instructional variables of these classrooms comparing the behavior of students with the behavior of teachers along with ecological variables, such as *grouping structures* and *source of instruction*. Six students with disabilities and their classes were observed individually for a minimum of 20 minutes using the Code for Instructional Structure and Student Academic Response-Mainstream Version (MS-CISSAR: Carta, Greenwood, Schulte, Arreaga-Mayer &Terry, 1988). The findings of their study showed that although support personnel such as special education teachers and paraprofessionals were available in the learning environment, the general classroom teachers were the primary source of instruction for all students in inclusive classrooms. *Whole group instruction* was mostly used during instructional grouping, and all the students were provided *one-to-one instruction* according to their academic and behavioral needs. Moreover, general education teachers spent an average of one third of the observation time with academic interaction. When they were the focus of the teaching, students with disabilities were engaged in academic tasks in approximately 30% of the observation intervals. The researchers stated that their findings could guide the teachers to design their instruction so as to increase student/teacher interaction. In addition, they emphasized that the success of inclusive education should be examined to determine the effects of the instruction used in inclusive classes on the behavior and achievement of the students with disabilities.

The instructional context of students in inclusive classrooms has been the focus of several studies in which the authors wanted to determine what level of individual instruction was provided for students with disabilities and whether the instructional contexts changed for students both with and without disabilities in preschool, elementary classrooms, special education classes, and resource rooms. EBA was used to evaluate the instructional contexts of the inclusive classrooms, and the results revealed that student behavior, activities, location for instruction, and instructional group arrangement were different in inclusive preschool classes compared with regular kindergarten classes (Carta, Atwater, Schwartz, & Miller, 1990). Also, there were a few differences between these two educational environments in terms of instructional contexts (Greenwood, 1991; Bulgren & Carta, 1993). On the other hand, different instructional contexts were found to exist for students with severe disabilities when compared with those without disabilities in elementary classrooms (Logan& Malone, 1998). In one study, the amount of time allocated for instruction in classrooms which had students with severe disabilities was compared with those that did not (Hollowood, Salisbury, Rainforth & Palomboro, 1995). It was found that the allocated times for instruction were similar between the two types of classrooms. In this research, it was emphasized that the students with severe disabilities did not detract from the allocated time in inclusive classrooms.

One study which took place in four high school classrooms compared the behavior of students with severe disabilities with the behavior of those without disabilities (Wallace, Anderson, Bartholomay & Hupe, 2002), and the researchers found that there were no significant differences in the behaviors displayed between the two groups of students in general education classrooms. In addition, the students with severe disabilities were more often the focus of the teachers' attention, and there were very few instances when the teachers showed approval or disapproval toward the students with severe disabilities during instructional time. The authors suggested that for students with disabilities to be successfully included in high school classrooms, it is important that they be actively engaged, spend little time exhibiting competing responses, and be the focus of attention. Moreover, they emphasized when the students are actively engaged in academic learning, they achieve better. Furthermore, having support

personnel in regular classrooms solves the problems related to meeting the needs of the students with disabilities.

Recently, a group of researchers investigated the variables that predict access to the curriculum in general education classrooms for students with disabilities. To collect data, Access CISSAR, an expanded version of the MS-CISSAR, was used as an eco-behavioral observation tool. The results of the studies indicated that the presence of curricular modifications was a strong predictor for determining the academic responses of the students (Lee, Wehmeyer, Soukup, Palmer, 2010). Also, the teacher's instructional behaviors and focus, the students' academic responses and competing behavior, and the classroom management styles of the teachers significantly predicted the degree of access to the general education curriculum. Moreover, it was determined that there was a negative correlation between the teacher's behavior management in the classroom and student academic responses. There was also a negative correlation between the teacher instructional behavior and the competing behavior of the students (Lee, Soukup, Little, Wehmeyer, 2008). In addition, when students with disabilities were provided with instruction in self-directed learning, they achieved goals linked to the general education curriculum at rates higher than expected (Lee, Wehmeyer, Palmer, Soukup & Little, 2008). The researchers discussed their findings mainly in terms of whether the modifications were provided in inclusive classrooms so that students with disabilities could have access to regular classroom curriculums, and they strongly emphasized that access to the curriculum for the students with disabilities was affected by instructional decisions and the actions of the teachers who are primarily responsible for academic instruction.

Considering all the information given above, it is clear that the information related to instructional variables in the general classrooms reveals a strong relationship between the behavior of the student and the behavior of the teacher along with the environmental variables. In addition, it is accepted that this information may lead the teachers, researchers, and even the policy makers to be aware of these relationships which could lead to necessary changes in instructional methods and teacher behavior as well as classroom settings so as to implement successful mainstreaming. Therefore, the current study, part of a two-year project focusing on the classroom management of inclusive classrooms, attempts to determine the instructional variables of general classrooms in which students with disabilities are placed in Turkey. Therefore, the purpose of this study is twofold: to determine the instructional variables of the inclusive classrooms in Turkey and to investigate to what extent the students' behaviors change according to the eco-behavioral characteristics of elementary classrooms.

Method

Study Participants and Settings

The data in this study were collected from 44 inclusive classrooms in 23 elementary schools established in a newly developed area in Ankara where mostly low income families live. The students were in classes ranging from grade one to grade five. All of the schools had similar characteristics in terms of resources, number of students, and socioeconomic level of their students due to being located in one of the poor districts in Ankara. According to the regulations of the Ministry of Education, all schools were mandated to accept students with disabilities who were referred by the Guidance and Counseling Centers regardless of the characteristics of the students and the level of readiness of the schools in terms of infrastructural characteristics, including teacher training, materials, physical conditions of the classrooms, etc.

The students who were placed in general classrooms were diagnosed as having mild mental retardation, learning disabilities, and emotional and behavioral disorders. Because of the fact that some of the classrooms had more than one student with disabilities (SWD), only one SWD was randomly chosen as the target child of the study from each classroom. All students with disabilities were full-time students in the general classrooms in which the number of students was between 25 to 45. The age ranges of the SWD were between six and 12, and the majority of the SWD were boys (62.8%). The SWD was placed in the regular classes based on the decision of the Guiding and Counseling Centers of the Ministry of Education. Students with severe disabilities were excluded from the study since most of them have not been accepted into the general education system in Turkey.

In this study, the participating teachers in the elementary classrooms had different educational backgrounds. Approximately half of them (59.1%) graduated from the Faculties of Education of various universities, and the remaining teachers graduated from other faculties, such as Science or Economics. However, they had the right to teach in elementary schools because they had received teacher certificates

given by the Ministry of Education after the completion of several courses. Most of the teachers (61.4%) had no training related to mainstreaming or students with special needs. However, 22.7% of the teachers had participated in two-week courses provided by the Ministry of Education, or they had one introductory course pertaining to special education during their pre-service training. In Turkey, although general classroom teachers have limited knowledge and experience related to mainstreaming and are not provided with sufficient support so that they can teach students with disabilities, they have been given the responsibility of teaching all the students in their classrooms including those with disabilities.

Observational Data System

The data of this study were gathered by means of the Demographic Information Form and the Code For Instructional Structure And Student Academic Response-Mainstreaming Version (MS-CISSAR). All information related to the characteristics of students and teachers, including the number of students in each classroom, the number of classrooms in which the students with disabilities were placed in each school, the number of students without disabilities in each classroom, and the students' diagnosis as well as the teachers' years of experience, their age, gender, and experiences with the students with special needs, was collected by using the Demographic Information Form.

Table 1. The Characteristics of the Study Groups

Variable	N	%
The students with special needs		
Age		
6	1	2.3
7	6	13.6
8	9	20.5
9	10	22.7
10	9	20.5
11	6	13.6
12	3	6.8
Gender		
Girls	14	31.8
Boys	30	68.2
Type of disability		
Speech and language disorders	7	15.9
Mild mental retardation	14	31.8
Learning disability	19	43.2
Emotional and behavioral disorders	1	2.3
Other	3	6.8
General education teachers		
Age		
Less than 25	2	4.4
26-35	10	22.7
36-45	17	38.6
More than 46	15	34.1
Education		
Faculty of Education	26	59.1
Others	18	40.9
Experience with inclusion		
Less than 10 years	22	50
More than 10 years	22	50
Education related special education		
University courses	6	13.7
In-services training	10	22.7
University + in-service training	1	2.3
No information	27	61.4

MS-CISSAR, one of the computerized observation tools included by the Eco-Behavioral Software System which assesses the environment and behavior within the same observational taxonomies, was developed in order to evaluate the instructional characteristics of inclusive classrooms (Carta, Greenwood, Schulte, Arreaga-Mayer, Terry, 1988; Carta, Greenwood, Schwartz, &Miller, 1990). The goal of the EBA is to display the interaction between the behavior of students, the behavior of teachers,

and ecological factors. The MS-CISSAR is composed of three groups of instructional variables; teacher behaviors, student behaviors, and ecological variables. The 21 student responses included in the student variables were divided into three categories: academic responses, task management responses, and competing responses. The task management responses category contains seven student behaviors that facilitate involvement with academic tasks. In addition, the competing responses category consists of eight inappropriate behaviors which can be displayed during the classroom activities.

Teacher variables included in the MS-CISSAR are used to provide information about the teacher or other people who are responsible for teaching in regular education classrooms. Five types of information related to teachers (teacher definition, teacher behavior, teacher approval, teacher focus, and teacher position during instruction) can be gathered by using the teacher codes of the instrument. All five categories are scored for the same person who is providing the cues for the target student to respond. The last variable group of the MS-CISSAR is ecological events. Five groups of ecological variables can be assessed by means of this observation tool and researchers collect data related to educational settings, activity, physical arrangement, instructional grouping, and tasks.

More than one classroom variable can be observed at the same time by using the MS-CISSAR, and information pertinent to the percentage of the variables can be obtained by recording all teacher, student, and ecological variables. In addition, it can provide information about the relationship between conditional factors and student behaviors to be observed during instruction. All data were gathered by using a 20 second momentary time-sampling recording technique. Four different types of analysis as well as the graphics of the results are provided by the software (Carta, Greenwood, Schulte, Arreaga-Mayer, Terry, 1988). By using MS-CISSAR, the researchers are able to determine the percentages of all student and teacher behaviors in the subcategories and to compare student and teacher behaviors along with classroom settings on all variables. They can determine the changes in the percentages of each variable over the time or observation occasions (Molar analysis). The ecological analysis, also known as the conditional probability analysis, is used to establish the classroom conditions in which the student behaviors are displayed. Through ecological analysis, it can be determined which ecological variables can cause the changes in student behaviors (Greenwood, Carta, Kamps, Delquadri, 1997). The third analysis is the profile analysis**,** which gives the information about the differences between the behaviors of two students in the same observation period, and the involvement analysis**,** which calculates the percentage of the academic involvement of the target student versus the other students on a minute by minute basis. In this study, only the molar analysis and ecological analysis were carried out so as to determine instructional variables in the Turkish mainstream classrooms.

Procedure

MS-CISSAR was ordered from the Juniper Garden Project, University of Kansas, and all the materials including technical and practitioner manuals and tutorial videocassettes as well as the sample classroom videos were studied to understand the ecobehavioral assessment system which was used. After that, all written materials were photocopied, and the tutorial and sample classroom videocassettes (verbal and visual definitions of the instructional variables) were copied onto compact discs. Some of the technical problems were solved through discussion with the developers of the programs and the computer technicians of the Faculty of Education.

To collect data, the elementary classrooms in which the students with disabilities were placed were determined by communicating with the school districts. Then, 51 classrooms were established from one school district (23 schools) situated in one of the lower socioeconomic areas in the city of Ankara. Having obtained permission from the Ministry of Education, the researchers visited the elementary schools, explained the purpose of the study to the principals, and made appointments with the teachers who would have the SWD in their classrooms so that a video recording could be made during one of the content-area classes. Because MS-CISSAR software would be used to collect observational data which would be collected and recorded at the same time, it was suggested that data should be gathered without video recording in order to be more accurate. However, in this study, instruction sessions were videotaped by two undergraduate students due to several characteristics of the classrooms, including the number of the students and physical arrangements.

Before video recording, all the teachers were asked to teach the subject of the day as they usually do. Because the purpose of the study was to assess the behavior of the students, the behavior of the teachers, and the ecological variables during the instruction period, all recordings were carried out in one of the content-area classes such as Turkish, math, life science, or social science in each general education

classroom. Although it was recommended that the observation periods should be long enough to observe all the variables (Dawson, 2007), in this study, because the principals would not let the observers in the classrooms for more than one teaching session and because some of the teachers did not want to be observed and recorded during instruction, the classroom observations were carried out for only 40 minutes in each classroom. The physical arrangements of the classrooms were not suitable for video recording by only one camera, so two cameras were used with one focusing on the teacher and one on the target student. This would prove to be ideal since it reduced the limitations of the video evidence (Haefner Berg & Smith, 1996; Shepherd & Hannafin, 2008). The two undergraduate students had to position themselves in different parts of each classroom, and one student recorded teacher behavior while the other recorded the student behavior in a synchronized manner. Then all the videos were transferred to compact discs, and three CD sets which included the 49 classroom videos were arranged for observers as well as for the first researcher.

While the videos were being processed, the researcher and the observers completed calibration studies of the instrument and assessed the sample classroom videos based on the standards of the MS-CISSAR. Then to collect data related to the three groups of variables, inter-observer reliability studies were done by the observers and the researchers.

The last steps of the research were monitoring all 51 classroom videos and coding all the variables to be observed. The data in the study was collected by using the MS-CISSAR on a laptop computer in three areas based on the momentary time-sampling. All variables were recorded in each 20-second interval, and at the end of each 20 seconds, the observers looked at the variables to be observed and recorded the information while they were watching the classroom videos. All data were investigated individually by the researchers. Although all effort was made to prevent missing data, it was recognized that the video tapes of two classrooms had errors, so the observers were not able to see some of the variables. Therefore, these tapes were excluded from the study which resulted in a study group consisting of 49 students with disabilities and 44 general education teachers.

Reliability Studies

Validation studies of the MS-CISSAR were conducted by several researchers (Kamps, Leonard & Greenwood, 1991; Rotholz, Kamps & Greenwood, 1989), and it was proved that the instrument was valid for collecting data related to student behaviors and ecological characteristics of inclusive classrooms. In this study, because the researchers had sufficient English, all the reliability and validity studies were carried out using the English version of the software, and translation into Turkish was performed after completion of the research.

Before the study, the three researchers learned how to use the MS-CISSAR through the verbal (practitioner manual) and visual (video-cassettes) definitions of the instructional variables included with the MS-CISSAR. Each variable of the instrument was studied separately by the researchers, and it was decided that the second and third researcher would be the independent observers in the study. Then the observers reviewed all definitions with the first researcher and discussed the definitions of the variables on which they did not agree. They continued until agreements on all definitions were established. In the next step of the study, the observers responded to the Three Step Test included on the tutorial cassette which assesses teacher behaviors, student behaviors, and ecological variables. They studied examples and events presented by the test until the criteria established by Greenwood and his colleagues (90% accuracy) was met. Then the observers assessed the instructional variables of the sample classroom provided on the tutorial cassettes and they continued to study how to code the instructional variables by using time-sampling until the standards of the software were met.

Having completed the calibration studies, the researchers planned to conduct observations and record the variables of the Turkish elementary classrooms during the teacher instruction period in one academic content-area class so that they could compare the instructional variables of the sample class with the Turkish classrooms. During the observations, the researchers recognized that some of the definitions of the instructional variables differed in Turkish classrooms from the original classroom on the tutorial cassette, and, after having discussions with the developers of the software (personal communication), it was decided that additions be made to some variables. However, none of the names of the variables were changed. For example, if the target student “looks at” and “attends” to the teacher who is verbalizing, this was coded as “listen to the teacher lecture”. In our classrooms, it was frequently observed that the target students looked at and attended to one of the students who was verbalizing (reading aloud or talking about subject). However, there was no behavioral code for this student behavior in the MS-

CISSAR. With reference to this, "looks at and attends to the student verbalizing" was added to "listen to the teacher lecture" code. The other changes made in the definitions are shown in table 2.

The four Turkish classroom video tapes that were not included in the study group were separately assessed, and data were independently recorded by each observer. Then the observers compared their results with each other and studied the classroom videos until the percentage of agreement for the three groups of variables was more than 85%. This was calculated by taking the number of agreements by interval, dividing it by the number of agreements plus disagreements, and multiplying the result by 100. The reliability of the two observers was found to be in the range of 77%-90% for student behaviors, 75%-100% for teacher behaviors, and 70%-100% for ecological variables. Having completed all calibrations and reliability studies supervised by the first author, the instructional variables of the 44 classrooms were assessed by the two observers using MS-CISSAR software.

Table 2. The Changes of Variable of the Turkish Form of the MS-CISSAR.

Changed variables		**Original EBASS items**	**Turkish Form**
Student Category	**Task participation**	Task participation is recorded when the student manipulates elements of an academic task individually or shared with peers.	Task participation is recorded when the student manipulates elements of an academic task individually or shared with peers. *Using dictionary and any kind of material according to teachers' directions is also recorded.*
	Silent Reading	Read silent is recorded when the students is observed looking at reading materials including books, workbooks, worksheet, computers or blackboard at 2 seconds and has eye movement indicating scanning words numbers and letters.	Silent Reading is recorded when the student is observed looking at reading materials including books, workbooks, worksheet, computers or blackboard at 2 seconds and has eye movement indicating scanning words numbers and letters. *Reading the words found from the dictionary is also recorded.*
	Moves	Move is recorded when the student is observed walking or running to a new area in the classroom. It mostly occurs during activity transition, seeking help or seeking material.	Move is recorded when the student is observed walking or running to a new area in the classroom. It mostly occurs during activity transition, seeking help or seeking material. *Moving to the trash basket for sharpening the pencil is also recorded.*
	Self stimulation	When the target student produces active and repetitive sensory-motor behaviors, self stimulation is recorded.	When the target student produces active and repetitive sensory-motor behaviors, self stimulation is recorded. *When the student both looks around and stimulates himself/herself at the same time, it is recorded as self stimulation.*
Teacher Category	**Related services**	The person who provides support services to the classroom such as a speech therapist, P:E. therapist, and the other related personnel	The person who provides support services to the classroom such as a speech therapist, P.E. therapist, and the other related personnel. *When the principal enters to classroom and gives support to the teacher, this is also recoded.*

	Read aloud	The instances where the teacher is reading aloud to or in concert with one or more students.	The instances where the teacher is reading aloud to or in concert with one or more students. *The instances where the teacher reads aloud the words / sentences while writing on the blackboard is also recorded.*
Ecological Category	**Listen to teacher's lecture**	This variable is coded when the target student looks at and attends to the teacher who is verbalizing.	This variable is coded when the target student looks at and attends to the teacher who is verbalizing. *When the target student looks at and attends to the one of the students who is verbalizing related to the subject is also recorded.*

Note: The sentences written in italics were added to the original definitions of the variables

Results

The results of this study were organized into two sections. In the first section, the researchers presented the percentages of the three groups of instructional variables in the inclusive classrooms in detail. In the second section, the results of the eco-behavioral analysis (conditional probability analysis) were presented, and the extent to which the behaviors of the students with disabilities changed across conditions which occurred during instruction were explained.

The instructional variables of the inclusive classroom

The data gathered from 44 elementary classrooms in which the SWD was placed were analyzed by using the molar analysis provided by the MS-CISSAR. Accordingly, the behaviors of the students, the behaviors of the teachers, and the ecological variables of the classrooms were determined.

The molar analysis provided the percentages of the three groups of variables in all intervals of the observation period. It allowed the researcher to assess the instructional characteristics of one classroom and also calculate the mean percentage of the variables for a group of classrooms. The instructional characteristics of the 44 classrooms were assessed by using the molar analysis and the mean percentages of each instructional variable for the study group provided by the MS-CISSAR software are presented in table 3.

As seen in table 3, with respect to the behaviors of the SWD, it was found that the behaviors displayed the most in inclusive classrooms were *no academic response* (70.1%), *no task behaviors* (50.88%), and *no competing behaviors* (62.45%). *Writing*, one of the academic behaviors, was observed in 11.18% of the observation intervals while *using material* and *attention* behaviors were observed in 10.49% and 30.29% of the intervals, respectively. The most frequently displayed competing behavior of the SWD was *no competing behaviors*, and it was observed in 62.45% of the intervals of the observation time. In addition, the two competing behaviors exhibited the most according to the results of the molar analysis were *looking around* which was coded in 20.10% of the intervals and *self stimulation* which was observed in 10.49 % of the observation time.

With respect to teacher behaviors, *attention* and *academic talk* were found to be the most frequently exhibited. *Attention* was determined to be displayed an average of 39.71 % of the time while *academic talk* was observed in an average of 25.59% of the observation intervals. *Attention* was coded when the teachers looked at the SWD or displayed any behaviors indicating that he/she paid attention to the student. *Academic talk* was coded when the teacher talked or discussed the subject or materials to be used during instruction.

In the MS-CISSAR, teacher focus is one of the teacher variables, and it indicates which student receives the teacher's focus during instruction. The four characteristics for this variable are target student, other students, target and the other students, and nobody. In this study, teachers were observed to be focused predominantly on *other students* in an average of 60.59% of the observation intervals, and *target children and others* were the focus in an average of 26.47% of the intervals during instruction. The mean percentage of the time teachers focused on *target student* (the SWD) was only an average of 5% of all intervals while the teachers were instructing.

An important variable related to the teachers assessed by the MS-CISSAR indicates whether the teachers *approve* the appropriate behaviors or *disapprove* the competing behaviors during instruction. According to the software manual, the teacher behaviors can be coded as *approval*, *disapproval*, or *neither*. The results revealed that the mean of the percentage of the *approval behaviors* and *disapproval behaviors* were 3.9% and 3.8%, respectively, and in 92.19% of the observation intervals, no approval or disapproval behaviors were coded.

Table 3: The Result of the Molar Analysis Provided by MS-CISSAR of the 44 Mainstreamed Classrooms

Variable	%	Variable	%	Variable	%
Ecologic variables					
Setting		**Activity**		**Task**	
Regularclassroom	**99.41**	Reading	**53.43**	Readers	7.35
Special ed.		Math	20.98	Workbooks	6.08
Resource room		Spelling	0.10	Worksheet	1.27
Chapt1lab		Handwriting		Paper&pen	**13.24**
Library		Language		Listen lecture	8.53
Music room		Science		Other media	6.96
Art room		Social studies		Discussion	**27.35**
Therapy room		Prevocational		Fetch-put	2.16
Hall		Gross motor		No task	**26.08**
Auditorium		Daily living			
Other		Self care			
		Arts-crafts			
Physical arrangement		Free time			
Entiregroup	**99.02**	Bus management			
Divide group		Transitions	1.96		
Individual		Music			
		Time out			
Instructional grouping		Noactivity	**18.33**		
Whole class	**71.08**	Can't tell	0.49		
Small group	0.10	Other	0.39		
One on one	0.39				
Independent	1.57				
No instruction	25.78				
Teachers' variables					
Teacher definition		**Teacher behavior**		**Teacher position**	
Regular	**99.71**	Question academic	8.82	In front	**33.04**
Special education		Question management	0.39	At desk	18.33
Aide/paraprofessionals		Question discipline	0.20	Out of room	
Student teacher		Command academic	5.29	Side	**33.14**
Volunteer		Command management	1.08	Back	15.29
Related services		Command discipline	1.08	Teacher approval	**%**
Substitute teacher		Talk academic	**25.59**	Approval	3.92
Peer tutor		Talk management	0.88	Disapproval	3.82
No staff		Talk discipline	0.69	Neither	**92.16**
Teacher focus		Nonverbal prompt			
Target	5.49	Attention	**39.71**		
Target+others	26.47	Read aloud	1.67		
Other	**60.59**	Sing			
No one	7.35	No response	6.67		
Students' variables					
Academic responding		**Task management**		**Competing response**	
Writing	**11.18**	Raise hand	2.16	Aggression	
Task participation	1.18	Play appropriately		Disruption	0.10
Read aloud	1.86	Manipulating materials	**10.49**	Talk inappropriately	0.78
Silent Reading	8.82	Move	0.49	Look around	**20.10**
Talk academic	1.67	Task management	0.20	Non compliance	0.39
No academic response	**70.10**	Attention	**30.29**	Self-stimulation	**10.49**
		No management	**50.88**	Self abuse	
				Noinappropriatebehavior	**62.45**

Note. The variables observed in more than 10% of the observation intervals are written bold.

The five groups of the ecological variables in the MS-CISSAR are settings, instructional grouping, physical arrangement, task, and activities. As can be seen in figure 3, *regular classroom* was coded an average of 99.41% of the intervals. This finding showed that all instruction was carried out in general education classrooms. In addition, *whole group instruction* was carried out an average of 99.2% of the instruction time, and the observers coded *no instruction* for approximately one fourth (25.78%) of the allocated time for teaching. As for the activities variable, the most frequently carried out activities were determined to be *reading* (53.43%), *math* (20.98%), and *no activities* (18.33%). Figure 3 illustrates the ecological variables observed in more than 10% of observation time. According to this finding, in regular classrooms, individual and small group arrangements were not preferred by the teachers who have the SWD in their classrooms.

Student Behaviors Related to Ecological Variables and Teacher Behaviors

To reach the second goal of the research, an eco-behavioral analysis was carried out for the variables observed in more than 10% of intervals by the observers. In the Ecobehavioral Assessment Software Systems (EBASS) manual, Greenwood and his colleagues explained that EBASS provides two types of information for the researchers: the unconditional probability of student behaviors shows the probability of responses as a percentage of the overall behaviors and the conditional probability of student behaviors which shows the probability of response given some ecological conditions (Greenwood, Carta, Kamps & Delquadri, 1997). The eco-behavioral analysis provides information regarding the environmental explanation of the student behaviors, and it helps to determine the ecological and teacher variables that might affect the student behaviors. It also provides a statistical evaluation of the conditional probability in terms of z score and its significance. The statistical significance indicates the magnitude of the difference between the conditional probability of a tested behavior in given conditions. Thus, a researcher obtains valuable information which provides the probability of the occurrence of each behavior given specific concurrent ecological events about each student behavior. In table 4, the student behaviors and ecological factors included in the conditional probability analysis are presented. Moreover, z values for unconditional and conditional probabilities for all ecological variables are shown in the same table.

In the current study, because only *instructional grouping, task, activities, teacher behaviors* and *teacher focus* were observed in more than 10% of observation intervals, they were selected as ecological variables that might evoke or accelerate the student behaviors for the conditional probability analysis. The results of the analysis revealed that the conditional probabilities of the four student behaviors (*no academic response, no management, writing* and *self-stimulation*) were not affected by *instructional grouping*. That is, unconditional (percentage of the behaviors regardless of ecological variables) and conditional (percentage of the behaviors in given conditions) probability values of these behaviors were not significant in given conditions. As for the *teacher behaviors* and *teacher focus*, similar findings can be seen in table 4. Accordingly, the percentages of eight of the student behaviors included in the conditional probability analysis did not change while *teacher behaviors* and *teacher focus* changed during instruction. For example, the probability of the occurrence of *attention* behavior in the students was observed in 30% of the intervals regardless of the ecological variables (unconditional probability), and it was observed in 34% of the *academic talk* of the teacher and 27% of the teacher *attention* condition (conditional probability). Similarly, *manipulating materials* was observed in 10.49% of the observational intervals and was not affected by any of the ecological conditions included in the eco-behavioral analysis.

Attention, one of the important student behaviors included in task management, was found to be affected by the ecological variables, and it increased during the math condition. However, *attention* decreased in conditions such as *no instruction, no task, no activity*, and *paper-pen activities*. As might be predicted, the students displayed less *attention* during these conditions whereas more *attention* occurred while *discussion* was being held. In addition, the percentages of the w*riting* behaviors of the students were changed according to the ecological variables. It was observed in 11.18% of the observational intervals regardless of ecological conditions (unconditional probability) while it was determined to have increased in math (17% of intervals) and in paper-pen (33% of intervals). However, it significantly decreased in the *discussion* condition (0.4% of intervals).

The eco-behavioral analysis was performed for the three competing behaviors of the students: *no competing behavior, looking around* and *self-stimulation*. The results indicated that *no inappropriate behavior* decreased in *no instruction, no activity*, and *no task management.* In addition, *looking around* was found to be affected by the conditional events, and it increased in *no instruction* (30% of intervals),

no activity (32% of intervals) and *no task* conditions (31% of intervals) while it decreased in *discussion* (14% of intervals). Finally, the probability of *self- stimulation*, the other competing behavior which occurred during instruction, was determined not to be affected by the *instructional group* and *task management*; however, it decreased during *math*.

Table 4. The Results of the Conditional Probability Analysis

Student behaviors		**Teacher Behavior Conditional probabilities**				
		TalkAca,	Z score	**Attention**	Z score	P
Academic responding	No ac. Res	0.73	0.801	0.65	-0.622	
	Writing	0.13	0.708	0.10	-0.550	
Task management	Attention	0.34	1.049	0.27	- 0.814	
	Manipulation materials	0.09	-0.530	0.11	0.411	
	No management	0.50	-0.180	0.52	0.140	
Competing behaviors	Look around	0.19	0.499	0.17	-0.387	
	Self stimulation	0.11	0.479	0.09	-0.371	
	No inappropriate behaviors	0.65	-0.101	0.66	0.079	
Student behaviors		**Teacher Focus Conditional probabilities**				
		Targt+Oth	Z score	**Other**	Z score	P
Academic responding	No ac. Res	0.68	-0.344	0.71	0.202	
	Writing	0.11	-0.005	0.11	0.003	
Task management	Attention	0.35	1.027	0.30	-0.605	
	Manipulation materials	0.09	-0.565	0.10	0.333	
	No management	0.48	-0.463	0.51	0.273	
Competing behaviors	Look around	0.17	-0.866	0.20	0.510	
	Self stimulation	0.14	1.007	0.10	-0.593	
	No inappropriate behaviors	0.63	0.140	0.62	-0.083	
Student behaviors		**Instructional Grouping Conditional probabilities**				
		Whole class	Z score	**No inst.**	Z score	P
Academic responses	No ac. Res	0.68	-0.432	0.75	0.862	
	Writing	0.12	0.036	0.11	-0.072	
Task management	Attention	0.34	1.271	**0.21**	**-2.53**	.05
	Manipulation materials	0.10	-0.238	0.11	0.473	
	No management	0.48	-0.882	0.60	1.757	
Competing behaviors	Look around	0.16	-1.694	**0.30**	**3.375**	.001
	Self stimulation	0.10	-0.254	0.12	0.506	
	No inappropriate behaviors	0.69	1.336	**0.49**	**-2.663**	.01

Student behaviors		**Activity Conditional probabilities**						
		Math	Z score	**Reading**	Z score	**No Task**	Z Score	P
Academic responses	No ac. Res	0.58	-1.896	.73	0.621	0.76	0.868	
	Writing	**0.17**	**2.37**	0.09	-1.354	0.11	0.017	.05
Task management	Attention	0.28	-0.804	0.37	1.854	**0.19**	**-2.686**	.01
	Manipulation materials	0.10	-0.010	0.10	-0.183	0.11	0.363	
	No management	0.50	0.017	0.46	-1.104	**0.62**	**2.102**	.05
Competing behaviors	Look around	0.15	-1.207	0.17	-1.119	**0.32**	**3.459**	.001
	Self stimulation	**0.05**	**-2.176**	0.13	1.173	0.11	0.102	.05
	No inappropriate behaviors	0.68	0.789	0.67	0.868	**0.47**	**-2.522**	.05

Student behaviors		**Task Conditional probabilities**						
		Discn	Z score	**Paper-pen**	Z score	**No Task**	Z score	P
Academic responding	No ac. Res	0.81	1.361	**0.49**	**-.2.945**	0.76	0.584	.01
	Writing	**0.04**	**-3.258**	**0.33**	**6.081**	0.11	-0.730	.001 /.001
Task management	Attention	**0.49**	**4.206**	**0.18**	**-2.655**	**0.21**	**-2.633**	.001/ .01/ .01
	Manipulation materials	0.07	-1.015	0.11	0.520	0.11	0.719	
	No management	**0.33**	**-3.283**	**0.64**	**2.227**	0.60	1.950	.001/ .05
Competing behaviors	Look around	**0.14**	**-2.031**	0.16	-1.165	**0.31**	**2.957**	.05/ .01
	Self stimulation	0.13	0.796	0.07	-1.449	0.12	0.153	
	No inappropriate behaviors	0.67	1.058	0.72	1.510	**0.48**	**-2.162**	.05

Discussion

In this study, the Turkish version of the MS-CISSAR was introduced as an instrument used for data collection. Next, the instructional variables of the elementary classrooms in which the students with disabilities were placed were explored. The researchers studied the MS-CISSAR by using the technical and practitioner's manuals as well as the tutorial cassettes and sample videos. The first researcher visited Juniper Garden Project, Kansas University, and discussed the difficulties encountered while using this tool for assessing the Turkish classrooms with the developers of the program. After making minor changes to the definitions of the seven variables and establishing interobserver reliabilities, the software and practitioner's manual were translated into Turkish and copied for the three researchers.

Because this software was developed based on the idea that instruction is a confluence of the activity, task, structure, and teacher behaviors, it is used for assessing the instructional variables of the inclusive classrooms and it provides detailed information about student behaviors and teacher behaviors that were displayed during instruction as well as the ecological characteristics of the learning environment. Therefore, the researchers believed that it would be an important tool for the Turkish researchers to use in order to determine the effects of the ecological events and teacher behaviors on student behaviors. In addition, the researchers might develop training programs based on the information gathered by the MS-CISSAR for the pre-service and in-service teachers and make them aware of the relationship between student behaviors and instructional characteristics of the classrooms so that they can make changes in their instruction. Moreover, the effects of the teacher training programs on instructional variables or proactive classroom management can be determined by using the Turkish MS-CISSAR. Lastly, the data to be collected by the MS-CISSAR can guide the educators so as to establish effective learning settings for students with and without disabilities in general education classrooms.

The main findings of the study are related to the behaviors of the SWD and instructional variables of the mainstream elementary classrooms. The researchers found interesting results regarding the instructional variables of the mainstream classrooms in Turkey by carrying out the molar analysis provided by the MS-CISSAR software. According to the results, all instruction sessions were held in *regular classrooms* and the *whole class* was the main instructional grouping. *No instruction* was coded by the observers in approximately one fourth of the observation intervals. The teachers preferred mostly *paper-pen* or *discussion* tasks during instruction, and there was *no management* in almost one fourth of the instructional sessions. *Reading and math* were the only activities carried out in the classrooms, and almost one fifth of the instructional time passed without *any activities* for the students with disabilities. These findings should be interpreted by taking the difficulties and problems of the mainstreaming system in Turkey into account.

It is very well known that some requirements must be fulfilled for the purpose of effective mainstreaming implementation. Having support personnel such as a teacher's assistant and paraprofessional or special education teacher in the classroom, teaching in small groups, and providing individual learning opportunities to the students both with and without disabilities are very important in order to have all students benefit from the mainstreaming (McDonnell, Thorson & McQuivey, 1998; Marzano & Marzano, 2003; Soodak & Mc Charty, 2006). Moreover, whole class arrangement is consistently associated with the lowest level of academic behavior compared to one-to-one and small group instruction (Greenwood, Carta, Kamps & Arreaga-Mayer, 1990; Kamps, Leonard, Dugan, Boland, & Greenwood, 1991). However, in Turkey, because there have been a limited number of support personnel for the teachers and the SWD and because most of the teachers are not supported by special education teachers during instruction, the teachers mainly prefer *whole group* instruction regardless of the ability levels of the students. In addition, it is believed that because there are no assistant teachers or paraprofessionals in most of the mainstream classrooms and because the teachers want to provide a more controlled learning environment for all students, *paper-pen activities* and *discussion* in which the students are supposed to sit in their desks are the activities used most by the teachers.

In previous studies investigating the instructional characteristics of inclusive classrooms (Logan & Malone, 1998; McDonnell, Thorson, McQuivey, 1998; Wallace, Anderson, Bartholomay, & Hupp, 2002; Lee, 2010), it was clearly seen that although the general education teachers were the primary source of the inclusive instruction, special education teachers and paraprofessionals shared the responsibility of teaching in general education classrooms. In other words, the teachers were supported by the special education teachers and paraprofessionals during instruction so as to meet the needs of all students effectively. In addition, student peers without disabilities were a source of instruction for the SWD as well. Consequently, the students with disabilities had a substantial amount of individual attention from

all adults and some of their peers who were instructing them (Logan, Bakeman & Keefe, 1997; Logan & Malone, 1998; McDonnell, Thorson, McQuivey, 1998; Wallace, Anderson, Bartholomay & Hupp, 2002). In Lee's study investigating the impact of curriculum modifications on access to general education curriculum for the SWD (2010), it was found that the curriculum modifications were provided by the special educators in inclusive high school classrooms. The researcher strongly emphasized that for the SWD to succeed in general classrooms, it would be necessary to accept the disconnection of the presence of special educators and the provision of curriculum modifications. Therefore, according to Lee, general education teachers should be trained on how to modify the curriculum based on the needs of the SWD regardless of the presence or absence of a special educator in the classroom. This is invaluable information for the Turkish mainstreaming system in which special educators cannot be provided for each general education classroom due to the fact that the number of special education teachers is still insufficient for the whole system. Moreover, teachers who have students with disabilities in their classrooms mostly believe that if they are to be accepted in general classrooms, there should be special educators who are able to share the teaching responsibilities. They also state that the individual education plan (IEP) and curriculum modifications should be provided by the special educators (Uysal, 1995; Kargın, Acarlar, & Sucuoğlu, 2005). Based on Lee's discussion, it can be said that some of the tasks, such as modifying the curriculum and writing the IEP, can be carried out by the general education teachers if they receive training on how to perform these tasks. Thus, it seems that it would be possible for general education teachers to modify the curriculum and adapt it according to the needs of students with disabilities so that they might have the expected benefits from mainstreaming.

In the elementary classrooms in which the current study was conducted, *reading* was found to be the main activity observed during instruction regardless of the academic-content area The researchers determined that the teachers used only r*eading* and *math* activities which were observed in 53.43 % and 20.99 % of the observation intervals during instruction, respectively. In addition, it was found that *no activity* was coded in approximately 20% of the observational intervals. Therefore, in almost one fifth of the instructional time, the students were not provided with any instructional activities. In a previous study, it was found that the instructional task observed the most was *listening to the teacher lecture* (23.2% of observations) whereas *discussion and other media* were coded for 19.54% and 17.15% of the observation intervals respectively in inclusive high school classrooms (Wallace, Anderson, Bartholomay & Hupp, 2002). Moreover, Logan and Malone (1998) classified the activities carried out in classrooms as academic, nonacademic, functional skills, and transition. They determined that academic activities (reading, spelling and handwriting) were coded a significantly higher percentage of intervals (64% of observations). Furthermore, the results of Lee's study (2010) indicated that instructional activities were remarkably different in the classes in which curriculum modifications were provided versus when they were not provided. The findings of these studies reflect that both instructional tasks and instructional activities were more varied compared to the Turkish mainstream classrooms. They indicated that if the curriculum was modified based on the needs of the students, the behaviors of the students with disabilities would change, and the number of the instructional activities and instructional tasks observed in inclusive classrooms would increase. Finally, Gettinger and Kohler (2006) suggested that the quality and type of instructional activities were effective variables when applied to the academic engagement and problem behaviors of the students. Therefore, the researchers thought that these findings should be considered not only regarding the mainstreaming system in Turkey, but also the instruction in general education classrooms. Teachers should be encouraged to use various instructional activities and instructional tasks to create an effective learning environment for all students in their classrooms.

The results of the current study revealed valuable information in terms of the behavior of general education teachers. For example, the regular classroom teachers who were responsible for teaching *focused* specifically on the students with disabilities in only 5% of the observation intervals but they focused on other students, including the SWD, in 26% of the observation intervals. In addition, they focused on *no one* in 60% of the time during instruction. However, in related literature, it has been suggested that focusing on students while teaching is one of the critical variables that might affect both academic engagement and student behavior (Logan, Bakeman & Keefe, 1997; McDonnell, Thorson & McQuivey, 1998; Gettinger & Kohler, 2006) as well as the classroom management of the teachers (Kounin, 1977). Therefore, teachers should focus on all students, including students with disabilities, during instruction (McDonnell, Thorson & McQuivey, 1998; Logan & Bakeman, Keefe, 1997; Logan & Malone, 1998). Moreover, the results of the previous studies indicated that the percentage of teacher focus changed according to the source of instruction in inclusive classrooms (McDonnell, 1998; Logan & Malone, 1998), and there was a relationship between the teacher focus and the instructional groupings (Logan, Bakeman & Keefe, 1997; McDonnell, 1998; Logan, Bakeman & Keefe, 1997). For example,

when a *general education teacher* was providing the instruction, students with disabilities were the focus of the teacher an average of 29.4% of the time. Conversely, if instruction was provided by special education teachers, they focused on the student with disabilities an average of 49.2 % of all observation intervals (McDonnell, 1998). Considering all these findings related to the effects of the teachers' focus on student behavior, it would seem to be very important to find a way to increase their focus on the target student so that the students might be more engaged in inclusive classrooms.

The molar analysis indicated that a very small number of *approval* and *disapproval* responses were used by the teachers during observations. Both *approval* behaviors, such as "saying good and very good, touching, and smiling at the student", and *disapproval* behaviors, such as saying "don't or that is not right", were displayed in only 4% of the observation intervals. This finding seems to be consistent with the other studies in which *approval* and *disapproval* behaviors of the teachers were rarely observed (Wallace, Anderson, Bartholomay & Hupp, 2002; Lee, 2010). However, in classroom management literature, it has been frequently highlighted that recognizing and praising appropriate behavior and reacting effectively to competing behavior are effective ways to improve positive behavior and to prevent negative behavior displayed during instruction (Kounin, 1977; Marzano ve Marzano, 2003; Simeonsen, Fairbanks, Briesch, Myers &Sugai, 2008; Oliver & Reschly, 2010). Praising students' positive behavior is especially accepted as an important component of preventive classroom management (Murdick, ve Petch-Hogan, 1996; Marzano ve Marzano, 2003; Soodak, McCharty 2006). Therefore, the researchers think that training programs for in-service and pre-service teachers should draw attention to the importance of praising positive behavior and focus on the relationship between teacher praise and the behavior of the student. In this way, proactive discipline might be encouraged instead of reactive disciplinary methods which have generally been accepted by the Turkish teachers in elementary classrooms (Başar, 2001; Yüksel, 2005; Girmen, Anılan, Şentürk & Öztürk, 2006).

Wallace et al. (2002) grouped academic talk, academic comment and academic question variables and named them academic behaviors. They also reported that the teachers displayed academic behaviors in 40% of the observation intervals. In addition, they stated that attention was observed in 17% of the instructional time and task management behaviors, defined as prompting students to get materials ready and handing out worksheets, were coded for 20% of the instructional time. Similarly, Lee (2010) had found that *academic talk* was the teacher behavior observed the most followed by attention, academic questioning, and reading aloud. Moreover, she reported that the *task management* variable occurred two times more often in classrooms in which curriculum modifications were not provided than in classrooms in which curriculum modifications had taken place. Conversely, in the current study, *academic talk* and *attention* were the main teacher behaviors which the observers coded the most. It is believed that these findings showed that the teachers in our general classrooms exhibited very few behaviors while they were teaching, and other teacher behaviors, such as *academic questioning* and *disciplinary questioning*, rarely occurred during instruction.

With respect to the behaviors of the SWD, it was observed that *attention and writing* were coded the most by the observers during teacher lecture, and these students spend almost one fourth of the instruction time by *doing nothing*. *No task behaviors* and *no academic behaviors* were the other student behaviors observed the most. It was very interesting that even though no data was collected for the behaviors of the students without disabilities, the researchers recognized that both the SWD and the students without disabilities displayed very few academic behaviors such as *silent reading* and *academic talking* in conjunction with *task management* behaviors, such as *raising their hand* and *task participation*. Interestingly, although the elementary classroom teachers complained mostly about the problem behaviors of the students with disabilities in general education classrooms (Uysal, 1995; Kargın, Acarlar, Sucuoğlu, 2005), *no competing* behaviors were the most common competing behaviors in our classrooms. In addition, *looking around* (20.10% of observation intervals) and *self-stimulating* (10.49% of observation intervals) were found to be the main competing behaviors by the observers, which is similar to the findings in the study by Wallace et al (2002). In existing literature, it is frequently underscored that general education teachers state that they do not prefer having students with disabilities in their classrooms due to their problem behaviors displayed during instruction, and they do not know effective ways to manage these behaviors (Blanton, Blanton, & Cross, 1993; Hanrahan, Goodman & Rapagna, 1990; Marzano ve Marzano, 2003). However, the findings of the current study revealed that the competing behaviors of the study group were not as intensive as the teachers had expected. Moreover, the behaviors about which the teachers complained most, such as disruptive behaviors (Uysal, 1995; Kargın, Acarlar, & Sucuoğlu, 2005) were not observed during the data collection period. On the other hand, if we consider the percentages of the academic and task management behaviors of the SWD, it

might be reasonable to think that the occurrence of *looking around* and *self-stimulation* behaviors was unavoidable. In previous literature, Munk and Repp (1994) stated that behavior problems are related to the quality of instruction. Similarly, several researchers emphasized that active engagement toward the instruction might prevent inappropriate behavior in the classroom (Kounin, 1977; Brophy & Good, 1986; Jones & Jones, 2001; Marzano, Gaddy, Foseid, Foseid, & Marzano, 2005; Simeonsen, Fairbanks, Briesch, Myers & Sugai, 2008). In addition, a strong relationship between academic behaviors, task management behaviors, and competing behaviors of the students has been frequently reported in classroom management literature (Brophy & Good, 1986; Jones & Jones 2000; Kounin, 1970). In reference to these studies, it appears that the SWD might have displayed inappropriate behaviors due to the lack of academic and task behaviors that were observed in a limited amount in this study.

Greenwood and his colleagues underlined that the conditional probability analysis identifies materials or teacher behaviors which promote specific student behaviors during instruction, and it provides information regarding the types of teacher behaviors that might trigger inappropriate student behaviors (Greenwood, Carta, Kamps, Terry, & Delquadri, 1994). Therefore, the researchers aimed to investigate the conditioned probability of the behaviors of the students with disabilities, and they carried out ecobehavioral (conditional probability) analysis for the variables that were observed in more than 10% of the observation intervals. The results of this analysis indicated that some of the student behaviors differed relative to the changes of the instructional variables while some of them were not affected by the ecological variables. For example, *looking around* which was the most observed competing behavior of the students, increased during *no instruction* and *no activity* conditions and decreased in *discussion* condition in which the teacher and students talked about the subject matter. In contrast, *self-stimulation* was observed in 10% of the observational intervals independent from the ecological variables, and the probability of the occurrence of this behavior was found in 11% of the *academic talk* conditions of the teachers. However, it was observed in 11% of the intervals during teacher *attention*. As might be predicted, the students displayed less *attention* under the task management behaviors during the conditions of *no instruction, no activity, paper-pencil, and no task management***.** However, more *attention* occurred while the *discussion* was being held.

These findings indicated that the student behaviors did not change according to teacher variables; in other words, *teacher attention* and teacher *academic talk* were not effective variables on the behaviors of the SWD. On the other hand, *teacher focus* was accepted as one of the important teacher behaviors in improving academic behaviors and the engagement of the students both with and without disabilities (Logan, Bakeman & Keefe, 1997; McDonnell, Thorson & McQuivey, 1998). In this study, it was found that the student behaviors did not change according to teacher focus. However, in the literature focusing on proactive classroom management, it was frequently stated that there was a strong relationship between teacher behaviors and student behaviors, and the student behaviors differentiated parallel to the changes of the teacher behaviors (Kounin, 1977; Goldstein, 1995; Marzano, Gaddy, Foseid, Foseid & Marzano, 2005).

Two limitations of this study should be taken into account. First, in the study conducted by Greenwood and his colleagues (1994), it was explained that the amount of data collected might be an important factor affecting the results of the conditional probability analysis; therefore, they suggested that researchers should collect data over longer periods and over multiple observations so as to improve the sensitivity and reliability of their findings. However, the data of the current study was gathered in one 40-minute academic class due to the problems with observations during the instruction time in each classroom. This was contrary to other research which included a longer period of observation for each student with disabilities (Carter, Sisco, Brown, Brickham & Al-Khabbaz, 2008; Hollowood, Salisbury, Rainforth, & Palombaro, 1994; McDonnell, Thorson & McQuivey, 1998).

In addition to the limited amount of data, another important point should be noted as the second constraint of the study. In previous research, it was clearly seen that comparing the behaviors of the student both with and without disabilities revealed similarities and dissimilarities between a student with disabilities compared to an average student's behavior under comparable conditions (Greenwood, Carta, Kamps & Delquadri, 1997). However, in this study, the behaviors of the students with disabilities were not compared with the behaviors of students without disabilities. All the data were analyzed based solely on the behaviors of the SWD due to the difficulties of recording the behaviors of the two student groups in a synchronized manner. Therefore, in future research, if the behaviors of the students both with and without disabilities are compared, it should be possible to determine whether the ecological variables for these two groups are similar in general education classrooms. Ecological similarity is an important

parameter for planning the observations for both groups of students. It shows not only the similarities and dissimilarities of the behaviors of the students, but the learning conditions of the two student groups as well (Greenwood, Carta, Kamps, Terry, & Delquadri, 1994). Because of this, the data showing ecological similarities might be very helpful for researchers who are striving to find effective solutions in order to create an effective learning environment in general education classrooms for all students, including those with disabilities.

In Turkey, although there have been many studies investigating the mainstreaming system, this study is the first one to focus on the inside of the classrooms and to explore the instructional characteristics of mainstream classrooms. It aimed to present the current conditions of mainstreaming in elementary classrooms in terms of teacher behaviors and ecological variables. It also aimed to call the attention of educators and policy makers to the fact that we have to focus on the classrooms instead of what teachers, principals, and parents say about the skill limitations of students with disabilities in general classrooms, that is, if we want to improve mainstreaming implementation. In addition, researchers are certain that improving the teacher behaviors and ecological conditions of the classrooms will have positive effects on the academic, task, and competing behaviors of students with disabilities, even though mainstreaming problems are mostly related to the educational system, not to the teachers or learning environments.

Implications for Practices

Although the current study has some limitations, the researchers believe that the findings have the following implications for practices. Since the general classroom teachers, who were the participants of this study, displayed a limited range of behaviors and used very few activities while teaching, our results might guide the teachers to vary their teaching behaviors by outwardly approving positive behaviors, focusing on the SWD during instruction, and making instructional adjustments in the learning environment so that all students can participate in learning actively. However, the researchers believe that if the teachers are not provided with enough support from the principals, school counselors, or special education teachers, it will not be realistic to expect that the teachers can improve their behavior. On the other hand, if we can provide support personnel who share the teaching responsibilities for each teacher who have a SWD in their classrooms, both the number of teaching behaviors and instructional activities will be varied. Having a teaching team which includes special education and general education teachers along with volunteers or paraprofessionals will not only increase the teaching activities in classrooms and improve teacher behavior during instruction, but it will also facilitate ways to meet the needs of the students with disabilities. Moreover, the teachers will be able to make changes in the curriculum according to the needs of the students with disabilities and arrange activities based on the needs of all of their students. Furthermore, meeting those needs by using different instructional methods and instructional groupings will increase the number of the behaviors of the SWD and, at the same time, prevent or eliminate competing behaviors that were observed during instruction. Consequently, the quality of mainstreaming implementation in elementary school classrooms might be improved even though there are problems and difficulties being encountered in the mainstreaming system. However, it is important to state that the researchers are very aware of the fact that providing support personnel will not be enough to increase the quality of the mainstreaming and they strongly emphasize that the teachers who will have a SWD in their classes should be extensively trained regarding the needs of the students, adaptations and modifications of the curriculum, and various instructional methods.

Implications for Research

The results of this study revealed that the Turkish version of the MS-CISSAR is a powerful instrument used to evaluate the instructional characteristics of elementary classrooms, including the SWD. Therefore, in future research, the instructional variables of mainstream junior high and high school classrooms should be investigated so as to improve the learning environment. Moreover, the effects of the training programs developed for the teachers who teach in heterogeneous classrooms could be assessed in terms of the student and teacher behaviors by using the MS-CISSAR as well. Furthermore, the behaviors of the students both with and without disabilities can be compared, and the similarities and dissimilarities between the behaviors of the two groups of students can be determined in order to make arrangements in classrooms for all the students. It is believed that the data collected by using the MS-CISSAR will shed light on this important topic and encourage further research in the field of mainstreaming and inclusion.

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