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Educational support in mainstreaming practices project: Evaluation of the effectiveness of paraprofessional education

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Abstract

Inclusive education is important for children with special needs to get equal opportunities and have education with their peers. In order to apply inclusive education effectively, it is essential to provide suitable educational support. However, considering the conditions in Turkey, it can be stated that educational support services cannot be provided sufficiently since there are not enough special education teachers in the field. Therefore, it is suggested that other sources/personnel are needed in order to give support to students with special needs, to their families, and teachers. Focusing on these needs, this study aims to evaluate the effectiveness of a paraprofessional educator training program. Multiple probe design with probe conditions across subjects was used in the study. Findings and limitations of the study are discussed in line with the literature.

Keywords: Mainstreaming, inclusion, special education support services, paraprofessional educator.

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1. Introduction

By means of mainstreaming, students with special needs have education in the same environment with their peers thanks to the support of individualized programs and support services. Recently, it has been observed that the term "inclusion" is used more frequently than the term "mainstreaming". This change is not a simple change in a particular term, but it is a precursor of a new philosophy. Inclusion is generally defined as the process of bringing children with and without special needs together, while offering them equal opportunities to support all the developmental areas (Hulgin & Drake, 2011; Lakkala, Uusiautti & Maatta, 2014) by combining appropriate training programs and regulations (Hocutt, 1996; Metin, 2011). According to this definition, inclusion represents an approach that goes far beyond mainstreaming or integration practices, and embodies schools to have regulations in order to respond the needs of all children. Many benefits of inclusion and mainstreaming practices are mentioned in the relevant literature. In various research studies, inclusion and mainstreaming practices were investigated in terms of academic and social development of children with special needs (Sale & Carey, 1995; Batu, Kırcaali-Iftar & Uzuner, 2004; Wang, 2009; Kurth & Mastergeorge, 2010; Sadioglu, Batu & Bilgin, 2012), and the children with normal development (Alper & Ryndak, 1992; Bennett, Deluca & Bruns, 1997; Diamond, 2001; Ceylan & Aral, 2005; Cankaya & Korkmaz, 2012). In Turkey, inclusion and mainstreaming practices have become more widespread in recent years. According to the 2014-2015 statistics of the Ministry of National Education (MONE), there are 183.2151 mainstreaming students in Turkey (MEB, 2016). However, this increase also brings with it some considerations in practice. Especially, classroom teachers have difficulties in inclusion and mainstreaming practices. The main problems encountered by classroom teachers are as follows: crowded classes, inadequate equipment, the presence of more than one mainstreamed student in class, and behavioral problems of these students (Cankaya & Korkmaz, 2012).

There are several factors affecting the quality of inclusion practices. One of these factors is the quality in the special education support services. Special education support services are the services provided to students with special needs and their teachers in an inclusion or mainstreaming environment (Kırcaali-Iftar & Uysal, 1999; Sucuoglu, 2009; Batu, 2002; Batu, 2010). These services include "resource room", "special education counseling" and "in-class assistance". Determining which of these services will be conducted should depend on the needs of the student and the teacher, as well as the general structure of the class and the school. Especially in the schools with crowded classrooms, in-class assistance comes into prominence. In this practice, two teachers in the class carry out teaching activities by sharing their duties (Batu & Kırcaali-Iftar, 2005). Different forms of in-class assistance are available. If there is a student who suffers severely from his/her disability, one of the teachers may be more focused in this particular student. These teachers working especially with students with special needs are often called paraprofessional educators. Paraprofessional educators arrange these students' learning environments and support them to learn. By doing so, classroom teachers can use teaching time more effectively with the rest of the class (Giangreco, 2003; Stockall, 2014). Findings in the field suggest that paraprofessional educator support has positive effects on students with special needs. Contributing to the development of these students (Woolfson & Truswell, 2005), their practices can also be effective in acquiring social skills and reducing behavioral problems (Robertson, Chamberlian & Kasari, 2003; Mazurik-Charles & Stefanou, 2010; Koegel, Kim & Koegel, 2014). In spite of these benefits mentioned in the literature, various research studies revealed some of the professional limitations of paraprofessional educators. For instance, it is suggested that they do not have sufficient knowledge and experience related to special education (Giangreco, Broer & Edelman, 2002; Carter, O'Rourke, Sisco, Pelsue, 2008; Breton, 2010), and they are not very competent in coping with behavioral problems in class and in maintaining their students' academic and social development (Giangreco, Edelman, Broer & Doyle, 2001). From these findings, it is realized that

paraprofessional educators should have the necessary education to deal with children with special needs. The training programs provided to assistant teachers were found to give positive results, and in various studies, it was concluded that the development of paraprofessional educator programs would be beneficial (Moran & Abbott, 2002; McVittie, 2005; Rubie-Davis, Blatchford, Webster, Koutsoubou & Bassett, 2010; Butt & Lowe, 2012; Webster, Blatchford, Bassett, Brown, Martin & Russel 2010; 2011).

Supervision is considered to be one of the educational approaches to be used with assistant teachers. Supervision means that the untrained educators improve themselves by applying the knowledge and professional experience of another educator (Hobson, Ashby, Malderez, & Tomlinson, 2009; Carroll, 2010; Alila, Maatta, Uusiautti, 2016). In this approach, paraprofessional educators can receive feedback on their practices in the classroom that is observed by a special education specialist. By means of this feedback, it is possible to decrease the incomplete and erroneous practices of paraprofessional educators and increase their correct practices. However, there have been only a few studies (e.g., Erbas & Yucesoy, 2002; Vuran & Gul, 2012; Akalin, 2012; Kaymak, 2013; Gezer, 2014) dealing with teacher-educator training in the field of special education in Turkey. The unsettled nature of the theoretical studies can also be observed in the practice. It is argued that the special education support for classroom teachers in Turkey seems to be inadequate (Kargin, 2010). For this reason, classroom teachers have difficulty in implementing teaching activities on their own. This situation causes the classroom teachers to have negative attitudes towards inclusion and mainstreaming practices. Therefore, the aim of the current study is to develop and evaluate the effectiveness of a paraprofessional educator training program. Within the scope of the study, a curriculum based on onthe-job seminars and delayed feedback was developed for paraprofessional educators and the effect of this program on their professional performance was evaluated.

2. Method

2.1. Research model

In this study, multiple probe design with probe conditions across subjects was used. The independent variable of the study is the training program in which paraprofessional educators are taught the skills they need to use while working together with the special needs student. The dependent variable is the percentage of correct responses the paraprofessional educators performed in the skill checklists.

2.2. Collection of data

In this study, efficiency and reliability data were collected. A data collection form was developed to collect data on participants' performance. The data collection form includes (a) preparation for instruction, instruction, assessment and data collection, behavior management, professional teacher behaviors, (b) the definition of each statement in 'a' in an observable and measurable manner (c) the checklist part to mark how participants apply the statements in 'a' (d) the part for the observer's comments (Erbas, 2008). The efficacy data were collected in three different phases for the dependent variable (i.e., the correct response percentages that the assistant teachers marked in the skill checklists). These phases are probe sessions, intervention and follow-up. The correct responses that the paraprofessional educators performed on the skill checklists were obtained by monitoring the camera recordings taken during the course. Three types of responses were expected from the paraprofessional educators. These responses were as follows: 'applied as written', 'not implemented as written' and 'not observed' (Erbas, 2008). By monitoring the records, one of these three cases was marked on the data record form. The number of items ticked in the 'applied as written' section refers to the number of correct responses. Then, correct response percentage is determined by dividing the number of correct responses to the total number of responses. A probe session was held after each of

the three instruction sessions. At the end of these sessions, the paraprofessional educators were not given any feedback. In the study, inter observer reliability and treatment integrity data were also collected. The inter observer reliability data were obtained by an observer working as a research assistant in the special education department of a university. Inter-observer reliability data were collected from 30% of all feedback sessions. Treatment integrity data were collected by two research assistants in the same department. Treatment integrity data were obtained from 30% of all feedback sessions. One of the observers who obtained the inter observer and treatment integrity data was the same person.

2.3. Environment and participants

This research study was carried out in a private school affiliated to the Ministry of National Education (MONE). Before the study a meeting held with the classroom teachers of the students, in which they were informed about the research project. Other students in the classrooms were also informed before the studies, and a maximum effort was made to keep the instruction sessions as natural as possible.

There are three participant groups in the research: Paraprofessional educators, their students with special needs, and supervisor who will give on-the-job training to paraprofessional educators. Ayse, who is one of paraprofessional educators, is working with Ali. She has a B.S. degree in history instruction. She worked as a classroom teacher in a private school for a year. Her current job is her first work experience in the field of special education. The second participant, Fatma, is Can's assistant teacher. Fatma, who holds a B.S. degree in finance, has no prior experience in education. The last participant, Canan, is Onur's assistant teacher. Canan graduated with a degree in theology and has been teaching students with special needs for three years. At the beginning of the semester, all of the paraprofessional educators attended the seminars about students with special needs organized by the guidance service of the school.

Ali is one of the students participating in this study. He is a seven-year-old first-grade student diagnosed with autism. He has the skills to match and distinguish objects and imitate others. However, it is difficult for him to understand the multi-step directions. Furthermore, he has motor stereotypes and show problem behaviors, such as screaming and crying as well as tapping the teacher. The second student, Can, is an 11-year-old fifth grade student who has intermediate-level mental disability. Can can distinguish and group objects, follow directions, but he has difficulty in reading and writing as well as doing simple additions. When the teacher expects him to participate more actively during the course of a lesson, he exhibits behaviors, such as dozing and unwillingness to study. The third participant, Onur, is a 12-year-old sixth grade student with attention deficit and hyperactivity disorder. He occasionally shows behaviors, such as biting the teacher during the lesson or refusing to study. The last participant in the survey is the supervisor who is one of the researchers in the project team. The supervisor who carried out the implementation of the study has a bachelor's and master's degree in special education. The supervisor also has three years of on-the-job training and experience working with students having special needs.

2.4. Experiment

The experimental process in this study is as follows: a) multi probe phase, b) the intervention phase of the training program and c) the follow-up phase. These phases are explained in detail below:

a) Multi probe phases: In order to assess participants' current instruction skill levels, probe sessions were organized before they attended the "Training Program for Special Education Paraprofessional Educators". These sessions were held with all the participants simultaneously a) to collect baseline data before the training, and b) at the end of the training when 100% of the criteria were met. Data

forms used in these sessions were completed after watching the video recordings. During the paraprofessional educators class hour, their correct and incorrect behaviors according to their individualized education plan and behavioral plan were marked with the "+" sign for correct responses and with the "-" sign for incorrect responses.

b) Training: The training program consists of two stages. The first stage includes group training. At this stage, training materials about the courses were distributed. After participants worked on these materials for three days, group training sessions were initiated. In these sessions participants attended the training program which includes courses about topics such as "the characteristics of children with special needs, applied behavior analysis, individualized education programs, individualized instruction programs (IIP), behavioral change in the classroom and the adaptation of the instruction". Following these sessions, participants were presented video records which show correct educator behaviors on those topics. In the first video session, the videos were presented without any pause. However, in the second video session, the videos were paused at necessary times in order to discuss the correct educator behaviors with the participants. At the end of all these sessions, a knowledge test was given to the participants. Two participants who scored 75/100 or more points in the exam were considered to be successful and completed the training. With a participant who got less than 75 points, test items were reviewed and another test was administered to her. Since she got above 75 points in the second test, she also considered proficient and move to the next stage of the training program.

In the second stage of the training program, participants developed IIPs and behavioral change plans for the students in the classroom they were responsible for. There were two phases for this stage. In the first phase, at least three consultation meetings were held with participants individually for 15 to 30 minutes. In the first meeting, necessary explanations were made and background information was given, and the participants were asked to develop an IIP and a behavioral change plan to increase or decrease a specific behavior. In the second and third meetings, participants' questions regarding the development of IIP and behavioral change plan were answered, and the prepared plans were reviewed together. The opinions of classroom teachers were also collected during these meetings. The IIPs and behavioral change plans developed by the participants were finalized in accordance with the suggestions of the researchers. The behavioral goals identified for the students were selected among the problem behaviors of the students which are mentioned in the participants section. Educational goals for Ali were as follows: number recognition, letter recognition, number writing, letter writing and word matching. For Can, the topics were as follows: forming words from syllables, doing additions, pronouncing English words, and for Onur, the topics in the classroom curriculum were selected.

The second phase of the second stage of the training program was carried out in the classroom in which participant educators worked with the student. In these sessions, video recordings were taken while the participant was dealing with the student throughout the lesson. Immediately after the lessons, video recordings were displayed in the teachers' room to the participant educators, and feedback was provided. At times when participants made mistakes in applying their plans in their instructions, the supervisor paused the video and asked the participant how to correct the error (e.g., "What should you have done right after the student's correct response?"). After a correct explanation was made by the participants about the appropriate educator behavior, the supervisor confirmed it and they continued to watch the video recording. When the participant made a mistake or could not explain the appropriate behavior, the researcher said what appropriate behavior was (e.g., "We will not forget to reinforce the student by saying 'well done' or 'you are great' when he/she gives a correct response"). At the end of each session, the supervisor informed the participant educator about her performance and thanked for the participation. These training sessions continued until the participant educators implemented the prepared programs without making any mistakes. A one-day probe

session was held after each of the three intervention sessions to assess the level of IIP behavioral change plan implementation. The data obtained in this phase constituted the intervention data of the research.

C) Follow-up phase: The last phase, follow-up sessions, were held on the second, sixth and eighth weeks after the last training session. The practices of participant educators in the classroom were recorded during one lesson and the correct implementation percentages of the participants were calculated.

3. Findings

3.1. Reliability data

The inter-observer reliability data collected during the practices of the three participant educators are given in Table 1. The values in Table 1 indicate a high level of inter observer reliability at a range of 92% -100%. The Treatment integrity data illustrating the correct application of the on-the-job training program plan by the supervisor are as follows: for Ayse, 91%; for Fatma, 100%; and for Canan 88%.

Table 1. Inter-observer Reliability Findings about the Percent of Correct Responses Performed on the Skill Control List in the Probe Sessions, Intervention and Follow-up Sessions

Sessions	Ayse	Fatma	Canan
Probe Sessions	%100	%96	%92
Intervention Sessions	%92	%98	%96
Follow-up Sessions	%95	%97	%100

3.2. Efficiency data

Findings regarding the level of program implementation by the participant educators are given in Figure 1. As can be seen in the first graph at the top, Ayse implemented the programs t 9%, 11% and 11% levels respectively (mean: 10%) in the baseline phase. In the intervention phase, the correct response percentages were in the range of 50% and 100% (mean: 86%) throughout the six sessions. As Ayse met the criterion (100%) in the last three sessions, the intervention was finalized in the sixth session. The participant educator also performed three consecutive 100% performances in the following second, third and fourth probe sessions. After the training program, in the first follow-up session (the second week) 100% correct implementations were made, in the second session (fourth week) 96% and also a 96% in the third session (sixth week) were obtained.

In the middle part of Figure 1, the data about Fatma's level of implementing the programs are presented. As can be seen in the graph, Fatma performed 23%, 26% and 26% (mean: 24%) of the programs respectively in the initial phase. In the second probe sessions, her performance is 23%, 26% and 23% respectively (mean: 24%). The correct percentage of responses in Fatma's intervention phase was between 61% and 100% (mean: 86%). Since Fatma also performed 100% over the last three probe sessions, the intervention was stopped by the sixth session. When Fatma's follow-up sessions are evaluated, it can be seen that she performed 100% in the first (second week), second (fourth week) and third (sixth week) follow-up sessions.

Canan's attainment of the training program is presented in the lower part of Figure 1. According to the data, Canan performed 20% in three probe sessions at the baseline phase. Her performance of the second probe sessions was 26% in three sessions. Canan's performance in the third probe session is

26%, 29% and 23% respectively. Fatma's percentage of correct responses in the intervention phase was 54% and 100% (mean: 88%) throughout seven sessions. The intervention was discontinued by the end of the seventh session because Canan performed 100% and met the criterion. Canan had 100% performance in three follow-up sessions similar to Fatma.

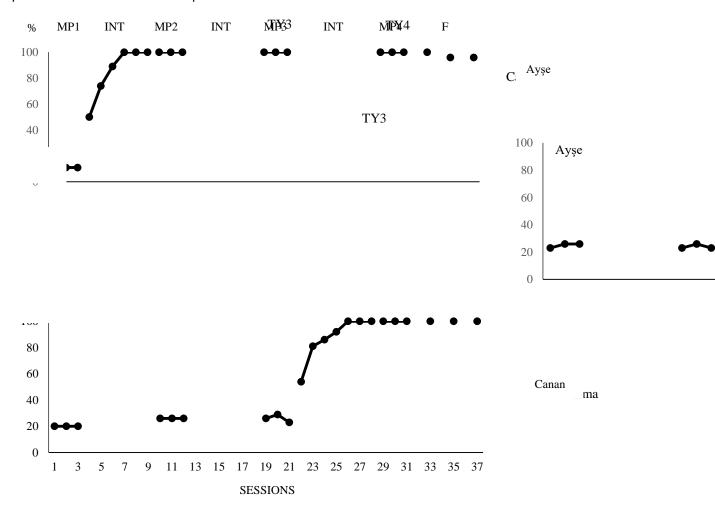


Figure 1. Participant educators level of implementation during multiple probes (MP), intervention (INT) and follow up (F) phases.

4. Discussion and Limitations

This study aimed to develop and evaluate the effectiveness of paraprofessional educator training program. According to the research results, it was found that paraprofessional educators acquire the skills required to work with special need students. In other words, it was revealed that the training program for paraprofessional educators was effective, and the performance of the paraprofessional educators improved as a result of the training. This result is in line with many other studies in the field (Robertson, Chamberlian & Kasari, 2003; Woolfson & Truswell, 2005; Hall, Dib & Sturmey, 2007;

Grundon, Pope & Romero, 2010; Mazurik-Charles & Stefanou, 2010; Rispoli, Neely, Lang & Ganz, 2011; Koegel, Kim & Koegel, 2014).

During the intervention stages, the paraprofessional educators were given feedback for the implementation of the plans they prepared in the classroom. In many research studies, new knowledge and skills as well as behavioral strategies were found to develop as a result of the feedback from the supervisor (Giangreco, Backus, CichoskiKelly, Sherman & Mavropoulos, 2003; Sanetti, Luiselli & Handler, 2007; Hall, Grundon, Pope & Romero, 2010). In addition to these findings, it was also uncovered that maintaining supervisor support in the form of short-term counseling throughout the school year could be more effective on the performance of paraprofessional educators (Brock and Carter, 2013). Considering these results, it can be stated that supervisor support is an important contribution to paraprofessional educators' training.

In interviews at the end of the study, the paraprofessional educators indicated that they were satisfied with the activities in the program (e.g., seminars, written materials, video presentations and feedback). Educators did not point out that they particularly enjoyed one activity; instead, all stages of the training program were found to be beneficial. Pertaining to the stages in general, they used positive expressions, such as 'productive, compatible with the aim, embodies appropriate techniques, enables students to be independent-productive individual'. Educators also made positive comments regarding the contributions of the programs to their students ("Yes, there has been progress in my student's performance; the use of cues and physical aids and retraining him after a certain period of time as well as the use of reinforcement helped reduce the problem behaviors of my student; he can now write faster, and he improved a lot in reading"). As for the topics that can be added to the training program, the educators indicated that a program designed in cooperation with the students' families would be more effective.

Another point to be mentioned in the program is about feedback sessions. No time limit was determined for feedback sessions throughout the study. The supervisor planned the feedback session times by taking into account the needs of the participant in that particular session. As the study progressed, the duration of feedback sessions gradually reduced. This situation was parallel to the development of assistant teachers. During the sessions, the supervisor watched the implementation videos of the educators and asked them how to correct the error made. In initial feedback sessions, educators usually gave answers, such as 'I do not know, I cannot say anything about it'. On the other hand, they realized their mistakes quickly in further feedback sessions and told what to do. As a result, the supervisor's corrective feedback decreased while the positive feedback increased.

There were also some limitations of the study to be mentioned. During the study, the supervisor recorded video in class during the probe sessions. He changed the camera angle and the distance to the shooting point instantaneously in order to focus on participant educator's behaviors (i.e., 'providing the student with the appropriate clue to make positive behavior' and 'gradual withdrawal of the clue'). For this reason, the supervisor was present in the classroom during the sessions. This may have caused unnatural classroom teachers' behaviors and student reactions.

In the school where the study was carried out, unless there is a compulsory situation, the paraprofessional educators and students work together for the whole academic year. Because of this system at the school, no generalization data between students were collected. Similarly, no social validity data were received from school administrators, classroom teachers and students' parents in the study. Therefore, the opinions of these stakeholders about the training program were not obtained. Also, the development of students on academic and behavioral skills was not recorded. Therefore, there is no evidence about the extent to how students' behavioral problems and academic achievements changed due to educator practices. However, according to the video recordings and

teacher anecdotes it is understood that students acquire meaningful gains in behavioral and academic performance. In conclusion, it would be fair to point out that the educator achievements positively affected the educational and behavioral performances of the students.

In further studies, the social validity data can be obtained from parents and teachers in order to eliminate the limitations of the current study. The performances of the students can also be assessed through an experimental research design. In addition, the curriculum can be designed to cover the needs of the classroom teacher, assistant teacher and the family of the student, and the effectiveness of this curriculum can be investigated. Finally, carrying out research studies related to the effects of the teaching sessions in which the supervisor provides immediate feedback instead of delayed feedback is likely to contribute to paraprofessional educators training.

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