The Effectiveness of Activity-Based Intervention Program on the Transition Skills of Children with Developmental Disabilities Aged Between 3 and 6 Years

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Abstract

Seven children aging between 3 and 6 years with developmental disabilities were participated in this study, which examined the effects of the Activity-Based Intervention Program (ABIP) on the transition skills. The study used time series design and the implementation process was composed of “before instruction phase”, “instruction phase” and, “after instruction phase”, each phase lasting 6 weeks “generalization phase” lasted 4 weeks. In the ABIP “following directions”, “lining up”, “working independently” and “collecting materials” skills were taught. In order to investigate the effect of ABIP, children were assessed two times before and after the instruction by using the Preschool Transition Skills Assessment Scale (PTSAS). Three time series for the four skills included in the program before and after the instruction by implementing task analytic recording and whole interval recording. A single measure was completed at the generalization phase by implementing task analytic recording. The results of the analysis show that significant differences are found at the after instruction phase comparing to the before instruction phase concerning children’s PTSAS scores and at the percentages of correct responses and interval occurrence for the four skills.

Key words

Activity-Based Intervention Program, Developmental Disabilities, Transition Skills.

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The term developmental disability refers to conditions originating during the developmental years (before the age of 18 years) that may impede an individual’s ongoing developmental progress (Peterson, 1988). In order to meet the requirements of families and children with developmental disabilities, several early intervention and childhood special education programs are designed. The effectiveness of such programs needs to regard some factors like transition (Wolery, 1989). One of the processes that doesn’t change in children’s education is that children make transition in/among programs (Rosenkoetter, Hains, & Fowler, 1994; Rous, & Hallam, 1998). The transitions are important for children with and without developmental disabilities. All children make transitions at early ages; however, children with developmental disabilities experience transitions more often in the services they receive (Hanson, 1999). The necessity of making smooth/successful transitions (Katims, & Pierce, 1995) and supporting them as a key to manage early school success for children (Meier, & Schafran, 1999) is frequently emphasized. Important transition points are determined as transitions from hospital to home and/or early intervention programs, from home and/or early intervention programs to preschool programs and from preschool programs to kindergarten or elementary schools (Fox, Dunlap, & Cushing, 2002; Shotts, Rosenkoetter, Streufert, & Rosenkoetter, 1994; Westling, & Fox, 2000).

However, it is reported that some problems on system, family, and children levels can be experienced during transition period and in order to solve these problems, factors affecting this transition must be dealt with (Wolery, 1999). The factors affecting the transition are categorized as administrative and interagency issues, staff in the sending and receiving programs, families, and children. It is pointed out that the most important factor among all is children (Bruder, & Chandler, 1993; Rous, Hemmeter, & Schuster, 1994; Wolery, 1999). Having necessary skills on the part of children in order to meet the demands of receiving program is the main factor on preschool transition (Bruder, & Chandler, 1993; Hanson, Beckman, Horn, Marquart, Sandall, Greig, & Brennan, 2000; Maxwell, & Eller, 1994; Rule, Fiechtl, & Innocenti, 1990; Wolery, 1999). As young children grow older, not only do they themselves change but so their learning environments—from home to preschool, to kindergarten, and to first
grade. Each of these environments is configured somewhat differently, carries with it different expectations, sets the occasion for somewhat different child behaviors, and reinforces behavior differentially (Carta, Atwater, Schwartz, & Miller, 1990). It is stated that to prepare children for the receiving program (improving children’s skills) and prepare the program for children (providing appropriate staff and program) in the transition are both important and necessary (Katz, 1991; Rous, & Hallam, 1998). In order to prepare children with developmental disabilities to the receiving program, transition programs are organized and applied (Fowler, 1988; Fowler, Schwartz, & Atwater, 1991; Kemp, & Carter, 2000; Rule et al., 1990).

In the recent years, developmentally appropriate practices, naturalistic instruction and activity-based intervention have been well received by both early intervention and early childhood special education community. Developmentally appropriate practices represent a significant trend that has focused attention on ensuring that programs and services provided to young children birth through age eight take into account their development status and individual needs (Sainato, & Morrison, 2001; Richey, & Wheeler, 2000). Naturalistic instruction is a generic term for such specific interventions as activity-based intervention, incidental teaching, man model procedures, milieu teaching, natural language training, and time delay prompting. These strategies differ from traditional practices in that the teacher embeds the learning opportunity in the ongoing classroom activities, builds on the child interest, and provides necessary support for child successes (Odom, 2000). For early childhood educators, it is important that services and instruction be implemented within common routines in natural environments and with an emphasis on adaptive behavior that is useful to children in their present and future environments (Brown, & Odom, 1995). An activity-based intervention which is a naturalistic approach is defined as a child-directed, transactional approach that embeds intervention on children’s individual goals and objectives in routine, planned, or child initiated activities, and uses logically occurring antecedents and consequences to develop functional and generative skills (Bricker, Pretti-Frontczak, & McComas, 1998). An activity-based intervention is one of the most comprehensive naturalistic approaches described in
the literature and includes a conceptual framework and detailed organizational structure. Data on its usefulness have been reported and address all major areas of development, as opposed to focusing on one domain (Novick, 1993). Pretti-Frontczak, Barr, Macy, and Carter (2003) recently reviewed studies investigating activity-based interventions. The outcomes of these studies suggest that activity-based intervention is effective in targeting a wide variety of skills such as social skills, language, self-help skills, group instruction and transition skills, imitation, counting, play and academic engagement and attending, listening, and behavior ratings.

During recent years in Turkey, early intervention services for children with developmental disabilities and their families are targeted to be provided systematically. However, after these programs, studies on the transition of children to nursery/kindergarten classes are not maintained; therefore, the benefits/effects of early intervention cannot be permanent. Although the Education of the Handicapped Act Amendments of 1986 required transition planning for toddlers as part of their Individualized Family Service Plans in the USA (Repetto and Correa, 1996; Rosenkoetter, Whaley, Hains, & Pierce, 2001), related laws and regulations (Regulations on Special Education Services Decree Law No. 573 on Special Education, 1997; Regulations on Special Education Services, 2006) didn’t require transition planning in Turkey. Two major studies implemented in Turkey about preschool children’s transitions. The first study investigated the information needs of parents with children in transition into public kindergarten (Kargın, Akçamete, & Baydik, 2001). The research group consisted of 94 parents with children with hearing impairment aging from 3 to 5 years old. The Scale Parental Information Needs in Transition to Kindergarten was used in the study. The results in this study showed that parents have information needs in all items of the scale. In the second study (Bakkaloğlu, 2008), a valid and reliable scale that is considered necessary for the assessment of transition skills acquired by preschool children with and without developmental disabilities was developed. At development stage of the Preschool Transition Skills Assessment Scale (PTSAS), a scale has been prepared by reviewing the related literature, interviewing with administrators and teachers of preschool programs,
analyzing studies of videotape recordings of preschool programs. Thirty-five teachers have assessed 21 children with development disabilities and 277 children without development disabilities. For the construct validity, item analysis, and criterion validity of the PTSAS were performed. For the reliability studies, internal consistency of scale, inter-observer consistency, and test–retest reliability were studied. The results in this study showed that the PTSAS is a valid and reliable instrument.

In order to increase the effectiveness of early intervention/early childhood special education programs, skills that will make the transition of children easier should be determined and taught. From this point of view in the study, the preparation of the Activity-Based Intervention Program (ABIP) and examining the effectiveness of this program in order to bring in transition skills to preschool children with developmental disabilities are aimed. The answers to the questions below are studies in the frame of this study:

1) Did the ABIP cause a meaningful difference in the scores that children obtain on the PTSAS?

2) Did the ABIP cause a meaningful difference in children’s obtaining skills of following directions, lining up, working independently and collecting materials?

**Method**

**Experimental Design**

As it was impossible to compose a control group in the study, a quasi experimental-time series model design was chosen. There is a randomly chosen group in designs, dependent variable is measured at certain intervals with the evaluation tool, after the first half of the measurement independent variable is conducted and after independent variable being applied, measurement is repeated at certain intervals. The change of the measurement after the independent variable in a different direction and level compared to that of the previous measurement is regarded as an effect of independent variable (Borg, & Gall, 1983; Karasar, 1995; Ryan, & Hess, 1991).
Participants

Seven children with developmental disabilities, who were participating in the Small Steps Early Intervention Program were chosen as the sample of the present study. Children were evaluated with the Small Steps Developmental Skills Inventory (Pieterse, Treolar, Cairns, Uther, & Brar, 1996) and their developmental ages were found to be below their chronological ages. The chronological ages of children changed between 42-65 months (\( \bar{x} = 51.5; \ SD = 8.8 \)), whereas their developmental ages changed between 30-46 months (\( \bar{x} = 36.4; \ SD = 5.6 \)). Three children in the group were girls and four were boys. Two children were diagnosed with Cerebral Palsy and five were diagnosed with Down syndrome.

Instruments

An Information Form was used to detect the characteristics of children and the PTSAS was used measure pre-and-post program transition skills (Bakkaloglu, 2008).

Procedure

The ABIP implementation process included “before instruction phase,” “instruction phase,” and “after instruction phase.” Each phase lasted for 6 weeks and “generalization phase” lasted for 4 weeks. In the ABIP, the skills of “following directions”, “lining up”, “working independently”, and “collecting materials” were taught by using the activity-based intervention.

Data Collecting and Analysis

Two types of measures were made in order to examine the effectiveness of the ABIP. First, children were evaluated twice before the instruction phase and after the instruction phase by using the PTSAS. Secondly, children were evaluated before instruction and after instruction phases for 3 times each with task analytic recording and whole interval recording and, generalization phase for 1 time with task analytic recording taking part in the program for 4 skills (Kırcaali-Iftar, & Tekin, 1997). To determine whether there were differences between the measurements made before instruction
phase and after instruction phase, Friedman two-way analysis of variance was used. To determine the direction and significance of the difference, if any, Wilcoxon signed-rank test was used. Besides, graphical presentations of the measurements were given. Related with the reliability of this study, i) inter-rater consistency, ii) inter-observer agreements, iii) treatment integrity and, validity of this study, iv) social validity (Tekin, & Kırcaali-Iftar, 2001) were taken into consideration.

Result

Statistical analyses showed that there was a significant increase on after instruction phase with the scores children obtained from the PTSAS when compared to the before instruction phase. Furthermore, for four skills, it was found that there was a meaningful increase in the percentage of correct responses and the percentage of interval occurrence during the after instruction phase and generalization phase compared to before instruction phase. Findings suggested that four skills in the ABIP were gained by children and generalized in different environments.

Discussion

In this study, findings support the results of similar works in the field (Fowler et al., 1991; Rule et al., 1990). Statistical analyses based on the group averages showed the existence of a significant increase in the percentage of correct responses and the percentage of interval occurrence during the after instruction phase and generalization phase compared to before instruction phase. However, when the individual graphs of children were investigated, it was found that some children’s percentage of correct responses and percentage of interval occurrence for working independently and collecting materials skills are partly lower compared to other children. It is thought that there are some factors affecting this finding. When the skills included in the program were investigated, it is realized that working independently and collecting materials skills are more complex and long-lasting compared to the following directions and lining up skills. It can be expected that when a skills gets more complex, thus requiring more time to complete, it get more difficult
for children to acquire it. Besides, the individual characteristics of children (i.e., attentions, interests, and learning characteristics) can also affect their skills acquisition. It is known that direct teaching is used in the previous programs that participating children with developmental disabilities joined. Therefore, it can be supposed that the activity-based intervention (children-centered, more flexible) affects acquiring skills. There are also research findings showing that direct instruction is more effective on acquiring skills whereas the activity-based intervention is more effective in the generalization of the skill acquired (Hemmeter, 2000; Losardo, & Bricker, 1994).

Consequently, the ABIP caused an increase on both scores that children with developmental disabilities obtained from the PTSAS and in the percentages of correct responses and the percentages of interval occurrence of 4 skills included in the program. In addition, in the meetings hold with their teachers in mainstreaming classes that they attended the following year, it was reported that children had no difficulty in adapting their classes and they were able to use 4 skills in their classes which were taught in the ABIP. Thus, it is assumed that teaching transition skills can be used as an effective strategy for easing the transition of children with developmental disabilities to the nursery or kindergarten classes.
References/Kaynakça


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Ekler

Ek-1: Etkinliğe Dayalı Müdahale Programı (EDMP)

Yönergelere Uyuma Becerisi

Beceri analizi: 1) Yönergeyi veren kişiye bakar. 2) Yönergeyi dinler. 3) Yönergede istenenedi yapar. 4) Uygun şekilde bekler.

Öğretim: 1) Öğretmen yapılacak etkinliği açıklar ve çocuklara yönergeyi verir. 2) Yönergeyi verdikten sonra bir süre (3-5 saniye) bekler. 3) Çocukların yönvergede istenenden şeyi yapıp yapmadıklarını gözler. 4) Gerekirse yönergeyi tekrar eder. 4) Yönergeyi yerine getiren çocuklara sosyal pekişireç (aferin, çok güzel vb.) verir. 6) Yönergeye uymayan çocuklara, yönergeyi yerine getiren çocukları model olarak gösterir ya da sözel açıklamada bulunur. 7) Yardıma gereksinimi olan çocuklara social/fiziksel yardımı bulunan beceriyi yapanır. 8) Çocukların hepsi yönergeyi yerine getirdiğinde tüm gruba sosyal pekişireç verir.

Etkinlikler: 1) Yoklama saatinde yoklama için masaya geçip oturma. 2) Hikâye saatinin başında hikâye dinlemek için minderi alıp yere oturma. 3) Müzik saatinin bitiminde ayağa kalkıp müzik aletlerini yerine koyma.

Sıra Olma Becerisi

Beceri analizi: 1) Yönergeyi veren kişiye bakar/dinler. 2) Bulunduğu yerden ayrılır. 3) Sıra olunacak yere gider. 4) Straya girer. 5) Strada bekler-kendini meşgul eder-. 6) Sırası gelince yapması istenen şeyi yapar.

Öğretim: 1) Öğretmen yapılacak etkinliği açıklar ve çocuklara yönergeyi verir. 2) Yönergeyi verdikten sonra bir süre (3-5 saniye) bekler. 3) Çocukların sıra olup olmadıklarını gözler. 4) Gerekirse yönergeyi tekrar eder. 5) Sıra olan çocuklara sosyal pekişireç (afe-rin, çok güzel vb.) verir. 6) Sıra olmayan çocuklara, sıra olan çocukları model olarak gösterir ya da sözel açıklamada bulunur. 7) Yardıma gereksinimi olan çocuklara sosyal/fiziksel yardımı bulunan sıra olmalarını sağlar. 8) Çocukların hepsi sıra olduğunda tüm gruba sosyal pekişireç verir. 9) Çocukların sırayı bozmadan yönergede istenen şeyi yapmalarını sağlar.
Etkinlikler: 1) Kahvaltı saatinden önce el yıkamak için lavaboya giderken sıra olma. 2) Kurallı oyun saatinde basketbol oynamak için sıra olma. 3) Gidişte sınıftan çıkmak için sıra olma.

Bağımsız Çalışma Becerisi

Beceri analizi: 1) Yönergeyi veren kişiye bakar/dinler. 2) Kullancı materyalleri alır. 3) Çalışmaya başlar. 4) Çalışmada istenenleri yerine getirir. 5) Çalışmayı tamamladığını haber verir/sıçramayı panoya asar.

Öğretim: 1) Öğretmen masa etkinlikleri için gereklili olan materyalleri çocukların alacağı yere koyar. 2) Yapılabilecek etkinliği açıklar ve çocuklara yönergeyi verir. 3) Yönergeyi verdikten sonra bir süre (3-5 saniye) bekler. 4) Çocukların çalışmaya başladıları ve başladılmadıkları gözler. 5) Gerekirse yönergeyi tekrar eder. 6) Çalışmaya başlayan çocuklara sosyal pekiştireç (aferin, çok güzel vb.) verir. 7) Çalışmaya başlamayan çocuklara, çalışmaya başlayan çocukları model olarak gösterir ya da sözel açıklamada bulunur. 8) Yardımcı gerekşinimi olan çocuklara sözel/fiziksel yardımda bulunarak çalışmaya yaptırır. 9) Çocukların hepsi çalışmaya başladıında tüm gruba sosyal pekiştireç verir. 10) Çocuklar çalışmaya baktırdıklarını haber verdüğünde/panoya astığında, çocuklara bireysel olarak sosyal pekiştireç verir ve çalışmaya arkadaşlarına gösterir.

Etkinlikler: 1) Masa etkinliği saatinde boyama çalışması yapma. 2) Masa etkinliği saatinde oyun hamuru çalışması yapma. 3) Masa etkinliği saatinde çizgi çalışması yapma.

Materyalleri Toplama Becerisi

Beceri analizi: 1) Yönergeyi veren kişiye bakar/dinler. 2) Materyalleri yerinden alır. 3) Materyalleri kutusuna/torbaya koyar. 4) Kutuyu/torbayı yerine kaldırır. 5) Ortada materyal kalıp kalmadığıni kontrol eder.

Öğretim: 1) Öğretmen yapılacak etkinliği açıklar ve çocuklara yönergeyi verir. 2) Yönergeyi verdikten sonra bir süre (3.5 saniye) bekler. 3) Çocukların materyalleri toplayıp toplamadıklarını gözler. 4) Gerekirse yönergeyi tekrar eder. 5) Yönergeyi yerine getiren çocuklara sosyal pekiştireç (aferin, çok güzel vb.) verir. 6) Materyalleri toplayıp yerine kaldırmayan çocuklara, materyalleri toplayıp yer-
ne kaldırıran çocukları model olarak gösterir ya da sözel açıklamada bulunur. 7) Yardıma gereksinimi olan çocuklara sözel/fiziksel yardımda bulunur. 8) Çocukların hepsi materyalleri toplayıp yerine kaldırdığında tüm gruba sosyal pekşireç verir.

Etkinlikler: 1) Birinci serbest zaman etkinliğinin sonunda materyalleri toplama. 2) İkinci serbest zaman etkinliğinin sonunda materyalleri toplama. 3) Üçüncü serbest zaman etkinliğinin sonunda materyalleri toplama.