

## Efficacy of Teaching with Simultaneous Prompting in Teaching the Environmental Sounds to A Child with Multiple Disabilities

### Çok Özürlü Bir Çocuğa Çevre Seslerinin Öğretiminde Eşzamanlı İpucuyla Öğretimin Etkililiği

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**ABSTRACT:** It is quite important for visually handicapped children to recognize the environmental sounds. This study was conducted to teach the sources of the environmental sounds to a visually handicapped and mentally retarded child. The purpose of the study was to teach visually handicapped student the names of the animals the sounds of which he/she hears in the near surrounding using the simultaneous prompting method. Three sets of animals which the child encounters in his/her near surrounding, but the names of which he/she doesn't know, were formed in order for the child to recognize them from their sounds. A multiple probe design across behaviors was used in the study. The subject included in the study was a 9 year-old visually and mentally handicapped girl. The names of animals were taught to the subject by holding sessions at the Unit for the Children with Developmental Disabilities in Anatolia University. At the end of the study, simultaneous prompting method was found to be effective in teaching the names of the animals based on the sounds.

**Keywords:** Training of people with multiple disabilities, functional skills teaching, teaching environmental sounds, simultaneous teaching

**ÖZET:** Görme özürlü çocukların çevrelerindeki sesleri anlamlandırması çok önemlidir. Bu çalışma görme özürlünün yanı sıra zihin geriliğine sahip bir öğrenciye çevresindeki seslerin neye ait olduğunu öğretmek için yapılmıştır. Bu araştırmanın amacı, görme özürlü öğrenciye yakın çevresinde sesini duyduğu hayvanların adlarının eşzamanlı öğretim yöntemiyle öğretmektir. Çocuğun hayvanları sesinden tanıması için yakın çevresinde karşılaştığı fakat isimlerini bilmediği hayvanlardan üç set oluşturulmuştur. Araştırmada davranışlararası yoklama evreli çoklu yoklama modeli kullanılmıştır. Araştırmaya alınan denek 9 yaşında görme ve zihin özürlü bir kız çocuğudur. Deneğe hayvan isimleri Anadolu Üniversitesi Gelişimsel Yetersizliği Olan Çocuklar Biriminde bireysel öğretim oturumları düzenlenerek öğretilmiştir. Çalışma sonunda yanlışsız öğretim yöntemlerinden eşzamanlı öğretim yönteminin sesleri dinleyerek hayvan isimlerinin öğretilmesinde etkili olduğu belirlenmiştir.

**Anahtar sözcükler:** Çok özürlülerin eğitimi, işlevsel beceri eğitimi, çevre seslerinin öğretimi, eşzamanlı öğretim

## 1. INTRODUCTION

In the studies conducted on people with mental retardation, it was found that these persons often had visual handicap in addition to mental handicap. In the studies conducted on the visually handicapped, similarly, the incidence of mental handicap was high (Broke, Janssen, Ramshorst & Deen,2006; Evenhuis, Theunissen, Denkers, Verschuure, & Keme,2001; Glazman & Ducret, 2003; McCall ve McLinden,2001; Warburg,2001). This can be explained by associating several genetic anomalies (Down syndrome, Engelman syndrome, Fragile X syndrome, Prader-Willi syndrome, etc.) with the fact that they also lead to occurrence of visual impairments (Broke, et all 2006). Presence of genetic background means that the visual and mental handicap has begun to affect the life of the individuals at a very early period. It is a reality that learning is mostly induced by motor and sensory stimuli at the infancy period. The lack of visual stimulus which one of the fundamental stimuli at that period is too hard to be restored with other sensory stimuli (De Jong,1986; Vlaskamp,2003). Hence, it is a predictable result that the lack of visual stimulus at the infancy period negatively affects development. The literature includes resources suggesting that merely 2% of the visually handicapped may be mentally handicapped, that the developmental disability and different behaviors occurring due to lack of stimuli in children with visual

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impairments lead to the fact that they are considered as mentally retarded (Broek, Janssen, Ramshorst, & Deen,2006).

Another reason of high incidence of visual impairment in individuals with mental retardation is explained as failure in diagnosing and treating the preventable visual impairments in the individuals mental retardation in the early period. Considering several behavior patterns developing in the children with mental retardation in association with the visual impairment as the behaviors conducted by them because of mental handicap lead to delay in early treatment of preventable conditions (Broke, Janssen, Ramshorst, & Deen,2006; De Jong, 1986; Vlaskamp, 2003).

Individuals with multiple disabilities are those who show retardation in one or more developmental areas. Presence of severe mental retardation is considered when the multiple disability is the case. Hence, the life qualities of individuals with multiple disabilities are assumed to be rather lower compared to their normal peers since they need extreme support in sharing all their life activities and social environments (Lancioni, G.E., O'Reilly, M.F., Singh, N.N., Sigafoos, J., Didden, R., Oliva, D. ve Severini, L. 2006). Whereas, in the study, it was found that individuals with multiple disabilities may have too different characteristics (Downing, 2002). Therefore, it would be more accurate to define individuals with multiple disabilities as such individuals who need interdisciplinary educational planning (Glazman & Ducret,2003; Orelove & Sobsey,1996).

The individuals with developmental disabilities regardless of whatever reason need many systematic learning life in order to live independently and learn the skills they need (Broek, Janssen, Ramshorst, & Deen,2006; Glanzman & Ducret,2003; McCall & McLinden,2001). Developmental disability may arise either by the insufficiency of the sensory stimuli or from the fact that the stimuli cannot be evaluated by the individual in a functional manner (Broke, Janssen, Ramshorst, & Deen,2006; De Jong, 1986; Vlaskamp,2003).

The individuals with mental retardation perform distinctive learning through observing the visual models (Lovaas,2003). Presence of visual handicap in addition to mental retardation makes it difficult to learn the information and skills to be generated by associating different sensory inputs and visual stimuli with each other (Glazman & Ducret,2003). It is observed that the individuals with multiple disabilities with visual handicap and mental retardation have severe developmental disabilities in the skills of standing up, walking, space using, adaptation to the environment as well as in communication skills (Glazman & Ducret,2003; Layton & Lock, 2001; Trief,2007).

Communication can be performed in written, verbal and nonverbal form (with gestures, mimics and symbols). Communication is the way for the individuals to express their needs and wills to others and to share information. The verbal communication to be developed by children with multiple disabilities with visual handicap and mental retardation for sharing common information is vitally critical for them. The limitedness of children with multiple disabilities with visual handicap and mental retardation in communication skills limit their expressing themselves, consequently, their social recognition. Although the children with multiple disabilities with visual handicap and mental retardation experience limitedness in all forms of communication, they can use the verbal communication form supported by other sensory stimuli instead of visual stimuli in order to perform efficient sharing (Durando,2008; Trief,2007; Lancioni, O'Reilly, Sing, Pidala, Piazzolla, Oliva & Groeneweg,2006).

Capability of the children with multiple disabilities with visual handicap and mental retardation to perform learning in order to develop themselves is closely associated with their verbal communication levels. Hence, it is a priority to teach the basic communication skills which enable verbal communication. Verbal communication is to generate sound output by taking turn

concerning the visual stimulus at which common interest is provided. The children with multiple disabilities with visual handicap and mental retardation cannot develop common interest sharing on the basis of the visual stimulus. Systematic arrangements must be made in order to enable the learning which will be provided by the visual stimuli which are known to be lacking (Layton and Lock,2001). Therefore, they must be oriented so as to communicate on the basis of oral and tactual stimulants. Capabilities to orient at audio stimuli excellently and to evaluate the oral inputs meaningfully are the skills required by the individual to give responses fitting to the situation and to control his/her environment. Hence, a great number of skills that are planned to be addressed in the education programs for visually handicapped and mentally retarded children include skills based on oral stimulus such as listening, understanding.

The performance level of children with visual handicap and mental retardation in their communication skills is directly proportional with the learning level (Layton and Lock,2001). Learning is use of information generated as a result of the stimuli obtained by many senses in a functional manner. Children with visual handicap and mental retardation suffer inadequacy in learning based on visual stimuli which materially affects learning. Therefore, they develop a learning life through supporting the tactual stimuli with oral stimuli. However, processing these two sensory stimuli fully and convert into information requires a mental performance. The limitedness of children with visual handicap and mental retardation in mental performance affects their acquisitions. Such limitedness can be eliminated only by systematic multiple repetitions of the information to be taught (Perfect,2000).

One of the most fundamental behaviors of communication skills is listening to the sound. The infants start sound imitations after listening to the sound. They continue their language development which they start by imitating the sounds they listen to in the beginning through taking turn and giving meaning to the approvals of their oral outputs. Visually handicapped or poor-sighted children need to communicate in order to listen to and give meaning to the sounds. Visual stimulus has a very important role in giving meaning to the sound (Perfect,2000, p. 353). The information as to what the heard sound belongs to must be matched and saved. Children with visual handicap and mental retardation's recognizing and giving meaning to the sounds is critical for them (Lancioni, et al.,2006). For instance, the child must have generated an information as to that a sound which is close to him/her and emerges suddenly may be a sound which must be avoided.

In order for children with visual handicap and mental retardation to learn life information on the basis of the sounds, they must be interested in the environmental sounds, and learn what they belong to, in the first place (Lancioni, et al.,2006; Perfect,2000). This is also a skill which has a character of a precedent to develop their communication skills such as imitation, sharing common information, initiating communication and continuing communication by taking turn. Hence, naming to a visually and mentally handicapped child based on listening to the sounds was studied in this study.

One of the most effective methods in education of children mental retardation is the simultaneous prompting method, which is one of the errorless teaching methods. In the literature, there are many studies showing the efficacy of the simultaneous prompting method. Some of these are associated with teaching single-step skills. One of these is the study of Tekin-İftar, Kurt & Acar (2008) where two students diagnosed as mentally retarded were taught the tool names and their functions with additional information presentation. Another study is the study of Akmanoglu and Batu where (2005) two autistic children were taught to recognize their relatives and in another one, Akmanoglu-Uludag and Batu (2004) taught two autistic students to show the figures of the sounded numeral. Another study is the study of Birkan (2005) where three children exhibiting developmental disabilities were taught to read three different skills (reading figures, saying object names and telling the time).

There are studies also in other countries where simultaneous prompting method is used in teaching single-step skills. In one of these, Singleton, Schuster and Ault (1995) taught to two students with moderately mental retardation to read signboard writing. In the study conducted by Wolery, Holcombe, Werts and Cipolloni (1993), the authors studied the skill of three children exhibiting mental retardation to show the sounded symbol. In the study conducted by MacFarland-Smith, Schuster and Stevens (1993), they taught to three subjects showing developmental retardation in the preschool period to name the foodstuff verbally. Gibson and Schuster (1992) studied on teaching the skill of finding words to the children at the preschool level. In the reviewed studies, it is obviously seen that the subjects have learnt the targeted skills, accordingly, the simultaneous prompting method is efficient in teaching single-step skills. Therefore, simultaneous prompting method was preferred in this study. The purpose of the study was to examine the efficacy of simultaneous prompting in teaching recognizing and naming the sounds to a child with visual impairment and mental retardation.

## **2. METHOD**

### **2.1. Subject**

A nine year-old girl with visual impairment and mental retardation was participated in the study. During the study, the student was attending to the special classroom of a public school at the centrum of Eskişehir to which students with mild mental retardation attended.

Before the study, the subject was taught moving independently within the house by touching, and if guided, moving and using space outside home. The student's having light perception increased her independently moving initiatives. It was found that she did not watch out the oral stimuli in her environment at all during independently moving initiatives. In consequence of the interview with her family and the observations of the researcher, it was taught that the possibility of student to encounter hazardous situations increased because she did not listen the environmental sounds. Conducting a study of recognizing and naming the sounds was decided to be appropriate as the first step of the study of listening and giving meaning to the sounds.

### **2.2. Researcher**

The study was conducted by a researcher with doctoral degree in special education field. The researcher, in addition to having a background in the field of education of the mentally handicapped, has received in-service training on education of children with multiple disabilities, and has been giving individual education to the children with multiple disabilities and their families for eight years.

### **2.3. Environment**

The study was conducted in one of the individual study rooms of Anadolu University Research Institute for the Handicapped Disability Implementation Unit. The room is in the dimensions of 3.5 X 4.5, and contains a table and chairs where the subject and researcher can sit against each other. The researcher performed education practices in individual desk study format. The data of the study were recoded with a video camera.

### **2.4. Equipment**

In the study, a keyboard (organ) which generated animal sounds when the keys were pressed was used in each education session of the study. A daily probe session was held in the beginning of each education session except the first session. The same keyboards were used in the probe sessions.

## 2.5. Study Design

In the study, the multiple baseline design across behaviors, which is one of the single-subject study methods, was used in the study in order to examine the efficacy of simultaneous prompting in teaching the skills of saying the names of the animals when she hears their sounds in her near surroundings. Multiple baseline design across behaviors is a design where the efficacy of a method applied to the subject is studied on more than one targeted behaviors (Alberto & Troutman,1995; Kırcaali-İftar & Tekin,1997; Tawney & Gast,1984).

In the multiple baseline design across behaviors, two or three target behaviors which are independent of each other in functional terms, and are thought to be likely to change with the same application are selected by the researchers. The multiple baseline design across behaviors, like with other multiple baseline designs, consists of two phases, the baseline stage (A) and application stage (B). At the baseline stage, all target behaviors are measured in the same environment simultaneously, and until stability in the data is obtained. After stability is obtained in all baseline stages, application is started in the first target behavior. In the meantime, baseline data are continued to be collected for the other two target behaviors. Once the criterion in the first target behavior is met in the application stage, the application stage in the second target behavior is started. These procedures are continued until the application process is completed for all target behaviors (Alberto & Troutman,1995, p.169; Kırcaali-İftar & Tekin,1997, p.86; Tawney & Gast, 1984, p.231; Tekin-İftar & Kırcaali-İftar,2004, p.113).

The trial control in the studies of multiple baseline across behaviors is established through the facts that change occurs only at the level of data in the behavior to which the independent variable is applied, that no change occurs at the levels of data in the behaviors for which the application has not been started yet; however, that similar changes occur successively at the levels of data in other behaviors as the application is performed (Tekin-İftar and Kırcaali-İftar,2004, s.113).

## 2.6. Dependent Variable

The behavior targeted to be taught within the study is saying the name of the animal the sound of which is listened to. The researcher, before starting the study, determined which animals were present in the near surroundings of the child, but which she could not name when she heard their sounds. The child was made listen to the sounds of the animals present in her surroundings and asked: "What this sound belongs to, what made sound now?". It was determined that the student did not know the names of any sources of the environmental sounds. But six voices which could be simulated using keyboard were addressed in the study. Two keyboards that could generate the sounds of the determined animals were provided. Then the names of the animals which the subject didn't know were written, lots were drawn, and three sets consisting of two animals were prepared. The sound sets taught to the subject and the animal names addressed are shown in Table 1.

**Table 1. Names of Animals included in the Sound Sets**

Set I	Set II	Set III
Bird	Dog	Cow
Sheep	Duck	Cock

## 2.7. Independent Variable

The variable of this study is the simultaneous prompting method.

## 2.8. Trial Process

The trial process consists of baseline data collection, teaching and daily probe sessions. Below are the information as to how these sessions are held.

The baseline data of the study were collected in order to determine the subject's performance concerning targeted skills before starting teaching. The daily probe session data of the study were collected in the beginning of each teaching session.

For collection of the data, the researcher put the keyboards which generated animal sounds when their keys are pressed on in front of the student. The researcher was asked to say which animal the sound she heard belonged to. In order to draw the attention of the student, the researcher said: "Today, we will try to say the name of the animal which the sounds we will hear today belong to. But I wonder whether you recognize these sounds. Now, I will make you listen to a sound. I want you to listen well, and say me which animal it belongs to. "Are you ready now?". The researcher instructed: "Say which animal the sound you listened belongs to", and made the student listen to the sound by pressing the keyboard. The researcher gave a model and verbal prompter as a controlling prompter, said: "say which animal calls baaa baaa", and waited for 4 seconds for the student to respond. Each sound was made listened to three times, and 18 trials were performed. Afterwards, the researcher determined the correctness percentage of what the student said. If the student has not responded within 4 seconds, the researcher considered this as "no response". The correct responses of the student were verbally confirmed, but the wrong responses were disregarded (Tekin-İftar & Kırcaali-İftar, 2004, p.145; Wolery, Ault & Doyle, 1992, p.48).

Daily probes were conducted in a similar way, and six trials performed with three trials for each of two animal sounds being taught.

Teaching sessions were performed individually on two days of the week, and completion of five trials for each of two sounds was regarded to be essential in each teaching session. In the teaching sessions, like with baseline and probe sessions, the subject was ensured to focus her attention on the study saying her: "Today, we will try to say the name of the animal which the sounds we will hear belongs to, are you ready now?". Each trial of the teaching session was performed with 0 seconds waiting time as per the simultaneous teaching method. During teaching, the researcher gave the controlling prompter after making the listened from the keyboard saying "the lamb calling baaa baaa", and gave the skill instruction ("Now you say which animal the sound you listened belongs to"). In the trials with zero second waiting time, the researcher, soon after giving the controlling prompter, gave again the skill instruction to the student, and confirmed the correct response of the student. Teaching was continued until the student named the sounds of two the two animals in the first set 100% correctly on three successive days. Afterwards, teaching of the sounds in the second set was initiated. All sessions were performed in one-to-one teaching session format.

## 2.9. Data Analysis

In the research, the video shootings of all the data were taken in order for inter-observer reliability and application reliability analyses to be made. Inter-observer reliability and application reliability data were collected in 20% of all sessions. Both the inter-observer reliability and application reliability were found to be 100%.

## 3. FINDINGS

At the end of the study, it was determined that the visually and mentally handicapped subject acquired and maintained the skills of recognizing and naming the sounds, which is taught to her by simultaneous prompting (See Figure 1).

The subject; having learnt the names of the animals in the first sound group in eight sessions, the names of the animals in the second sound group in 13 sessions, and the names of the animals in the third sound group in 10 sessions; learnt naming once she hears the sounds of the six animals determined in a total of 31 sessions.

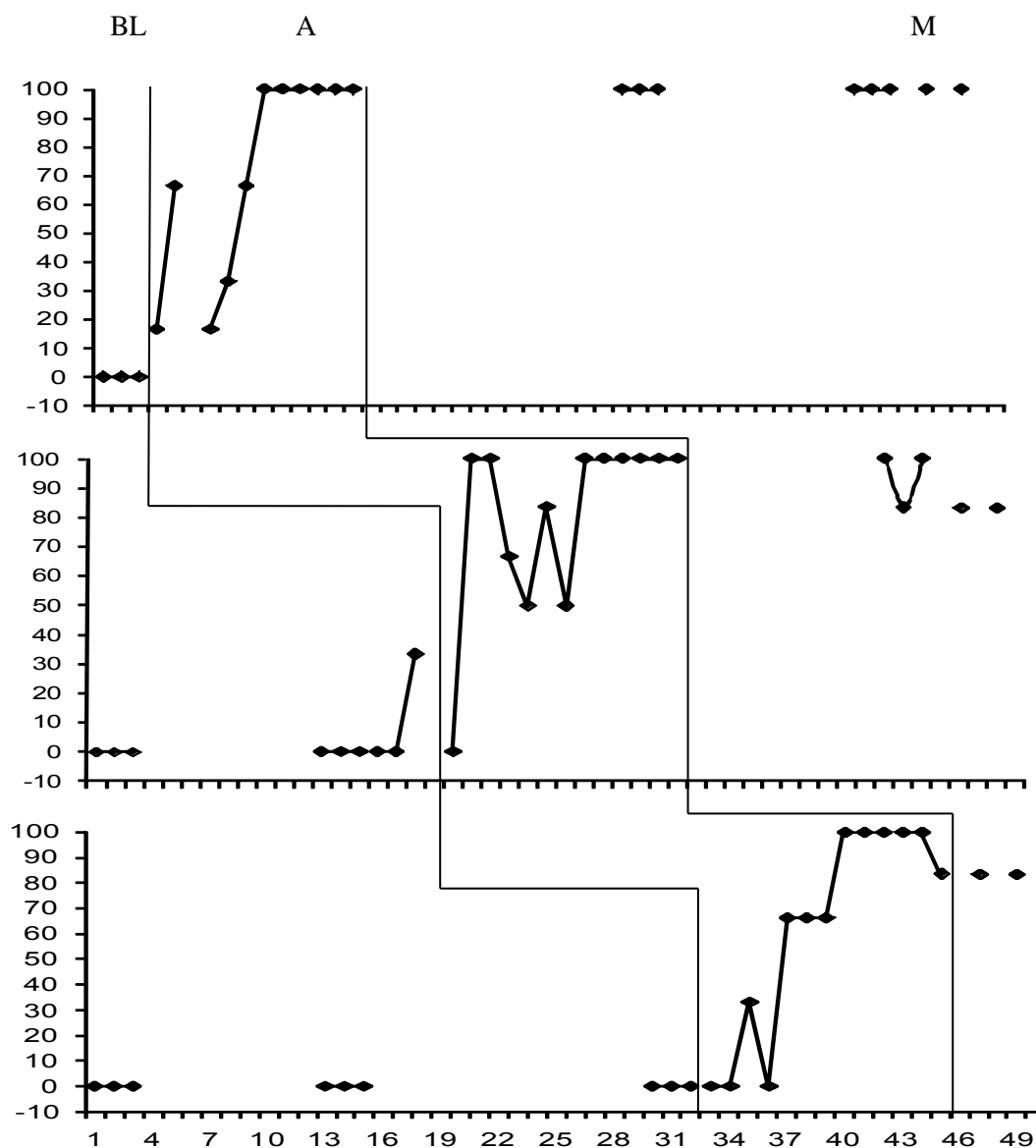


Figure 1. Baseline (BL), Application (A) and Monitoring (M) data regarding the correctness percentage in the subject's recognizing and naming the sounds

The student could not attend in the studies for one week after the second session for the first sound group, and after the third session for the second sound group. Following these compulsory breaks, declines were seen in the performance of the student. The fluctuations in the second sound group aroused out of the fact that the student confused the names of the animals which she was ought to say after listening the sounds. Observing a more stable curve in the third sound group is the indication of development of the students in recognizing during listening as well as in naming the oral input.

#### 4. DISCUSSION AND RESULT

Briefly, it is seen that simultaneous prompting method is efficient in teaching naming to a mentally and visually handicapped student through listening the environmental sounds. This result which was obtained in the study is in concordance with the results of the studies in the literature (Akmanoğlu & Batu, 2005; Akmanoğlu & Batu, 2004; Birkan, 2005; Doğan & Tekin-İftar, 2003; Fetko et. al., 1999; Gürsel, Tekin-İftar & Bozkurt, 2006; Kurt & Tekin-İftar, 2008; Parrot et. al, 2000; Schuster & Griffen, 1993; Sewell et. al., 1998; Tekin-İftar, 2008; Tekin-İftar, 2003; Tekin-İftar & Kurt, 2008; Tekin-İftar, Kurt, & Acar, 2006; Tekin-İftar, Acar & Kurt, 2003; Tekin-İftar & Kıcaali-İftar, 2002). Additionally, the student's family expressed that the student was naming the sounds by listening following teaching. Accordingly, the researcher suggested including teaching other environmental sounds in the Individualized Education Plan.

No study conducted with error-free teaching methods concerning listening to sounds and naming was found in the literature. However, Lancioni, et al. (2006) have taught to recognize the environmental stimuli to two visually handicapped students in a study conducted with inter-subject multi-probe method. It was reported that both subjects have acquired the targeted skills. This result shows similarity with the results of this study. But when considered the average number of the teaching sessions, it is observed that teaching with simultaneous teaching takes less time.

In further studies, the researchers may examine the efficacy of the simultaneous prompting method in teaching recognizing and giving meaning to the environmental sounds. Moreover, the efficacy and efficiency of teaching with fixed waiting time in teaching the skills of recognizing and giving meaning to the environmental sounds may be evaluated.

The teachers may use the simulations primetime method in teaching recognizing and giving meaning to the environmental sounds. They may also teach the environmental sounds which must to avoided with a method similar to that in this study.



## REFERENCES

- Akmanoğlu, N., Batu, S. (2004). Teaching pointing to numerals to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities*. 39 (4), 326- 336.
- Akmanoğlu, N., Batu, S. (2005). Teaching naming relatives to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities*. 40 (4), 401- 410.
- Alberto, A. A. & Troutman, A. C. (1995). *Applied behavior analysis for teachers* (4. baskı). New Jersey: Prentice Hall.
- Birkan, B. (2005). Using simultaneous prompting for teaching various discrete tasks to students with mental retardation. *Education and Training in Developmental Disabilities*. 40 (1), 68- 79.
- Broek, E. G. C., Janssen, C. G. C., Ramshorst T., & Deen, L. (2006). Visual impairments in people with severe and profound multiple disabilities: An inventory of visual functioning. *Journal of Intellectual Disability Research*, 50(6), 470-475.
- Downing, J. E.( 2002). Including students with severe disabilities in typical classrooms: Practical strategies for teachers (second ed.). Baltimore, MD: Paul H. Brookes.
- Durando, J. ( 2008) A survey on literacy instruction for students with multiple disabilities. *Journal of Visual Impairment & Blindness*. January 2008, 40-45.
- Evenhuis, H. M., Theunissen, M., Denkers, I., Verschuure, H. & Kemme, H. (2001). Prevalence of visual and hearing impairment in a Dutch institutionalised population with intellectual disability. *Journal of Intellectual Disability Research* 45, 457-464.
- Eyidoğan, F. “Zihin özürlü öğrencilere silikleştirilen resimli fiş cümleleriyle okuma- yazma öğretiminde hata düzeltilmeli eşzamanlı ipucuyla öğretimin etkililiği”. Yüksek Lisans Tezi. Eskişehir: Anadolu Üniversitesi, Eğitim Bilimleri Enstitüsü, 2005
- Fetko, K. S., Schuster, D. A., Harley, D. A., & Collins, B. C. (1999). Using simultaneous, prompting to teach a chained vocational task to young adults with severe intellectual disabilities. *Education and Training in Mental Retardation and Development Disabilities*. 34 (3), 318- 339. (akt. Doğan, O. S., 2001.)
- Glazman, A. & Ducret, W (2003), Interdisciplinary collaboration in the choice of an adapted mobility device for a child with cerebral palsy and visual impairment. *Journal of Visual Impairment & Blindness*, January, 2003.38-41
- Gürsel, O., Tekin- İftar, E., & Bozkurt, F. (2006). Effectiveness prompting in small group: the opportunity of acquiring non-target skills through observational learning and instructive feedback. *Education and Training in Developmental Disabilities*. 41 (3), 225- 243.
- Kırcaali-İftar, G. & Tekin, E. (1997). *Tek denekli araştırma yöntemleri*. Ankara: Türk Psikologlar Derneği Yayınları.
- Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Sigafoos, J., Didden, R., Oliva, D. & Severini, L. (2006). A microswitch-based program to enable students with multiple disabilities to choose among environmental stimuli. *Journal of Visual Impairment & Blindness*, August, 2006.488-493.
- Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Sigafoos, J., Didden, R., Oliva, D. & Severini, L. 2006. A Microswitch-based program to enable Students with Multiple Disabilities to Choose Among Environmental Stimuli. *Journal of Visual Impairment & Blindness*, August, 2006.
- Layton, C. A. & Lock, R. H. (2001). Determining learning disabilities in student with low vision. *Journal of Visual Impairment & Blindness*, May 2001.
- McCall, S. & McLinden, M. (2001). Literacy and children who are blind and who have additional disabilities-the challenges for teachers and researchers. *International Journal of Disability, Development and Education*, Vol 48,4.
- Odluyurt, S. (2008). *Okul öncesi dönemde gelişimsel yetersizlik gösteren çocuklar için gerekli kaynaştırmaya hazırlık becerilerinin ve bu becerilerden bazılarının etkinlikler içinde gömülen eşzamanlı ipucuyla öğretiminin etkilerinin belirlenmesi*. Eskişehir: Anadolu Üniversitesi.
- Orelve, F., Sobsey, D. (1996). *Educating children with multiple disabilities: A transdisciplinary approach* (3 rd ed.). Baltimore, MD: Paul H. Brookes.
- Parrott, A. K., Schuster, W. J., Collins, C. B., Gassavay, J. L. (2000). “Simultaneous prompting and instructive feedback when teaching chained tasks”, *Journal of Behavioral Education*. 10,1; 3-19.
- Perfect, M. M. (2000). Examining communicative behaviors in a 3-year-old boy who is blind. *Journal of Visual Impairment & Blindness*, June 2001.

- Schuster, J. W., Griffen, K. A., (1993) Teaching a chained task with a simultaneous prompting procedure, *Journal of Behavioral Education*. 3(3); 299-315.
- Tawney, W. J. & Gast, D. L. (1984). *Single subject research in special education*. colombus: Merrill Publishing Company.
- Tekin- İftar, E. (2003). Effectiveness of peer delivered simultaneous prompting on teaching community signs to students with developmental disabilities. *Education and Training in Developmental Disabilities*. 38 (1), 77- 94.
- Tekin- İftar, E. (2008). Parent- delivered community- based instruction with simultaneous prompting for teaching community skills to children with developmental disabilities. *Education and Training in Developmental Disabilities*. 43 (2), 249- 265.
- Tekin- İftar, E., Kurt, O., & Acar, G. (2008). Enhancing instructional efficiency through generalization and instructive feedback: a single- subject study with children with mental reterdation. *International Journal of Special Education*. 23 (1), 147- 158.
- Tekin, E. (2000). *Zihin özürlü çocuklara kardeşleri aracılığıyla sunulan dört saniye sabit bekleme süreli öğretimin ve eşzamanlı ipucuyla öğretimin etkililiklerinin ve verimliliklerinin karşılaştırılması*. Yayınlanmamış Doktora Tezi. Eskişehir: Anadolu Üniversitesi Yayınları.
- Tekin, E., Kırcaali- İftar, G. (2002). Comparison of the effectiveness of two response prompting procedures delivered by sibling tutors. *Education and Training in Mental Reterdation and Developmental Disabilities*. 37 (3), 283- 299.
- Topsakal, M. (2004). *“Zihin özürlü çocuklara oto yıkama becerisi öğretiminde hata düzeltmesi yapılarak gerçekleştirilen eşzamanlı ipucuyla öğretimin etkililiği”*. Yüksek Lisans Tezi. Eskişehir: Anadolu Üniversitesi, Eğitim Bilimleri Enstitüsü.
- Trief, E. (2007). The use of tangible cuesfor children with multiple disabilities and visual impairment. *Journal of Visual Impairment & Blindness*, October 2007613-619
- Warburg, M. (2001). Visual impairment in adult people with intellectual disability: Literature review. *Journal of Intellectual Disabilty Research* 45, 424-438.
- Wolery, M., Ault, M. J. & Doyle, P. M. (1992). *Teaching students with moderate to severe disabilities: use of response prompting strategies*. New York: Longman.

## Uzun Özet

Zihin özürlü bireyler üzerinde yapılan çalışmalarda, bu bireylerde zihin özüne ek olarak görme özüne de sıklıkla rastlandığı belirlenmiştir. Görme özürllüer üzerinde yapılan çalışmalarda da benzer şekilde zihin özüünün görülme sıklığı yüksektir (Broke, Janssen, Ramshorst ve Deen, 2006; Evenhuis, Theunissen, Denkers, Verschuure ve Keme, 2001; Glazman ve Ducret, 2003; McCall ve McLinden, 2001; Warburg, 2001). Bu durum zihin özüüne neden olan (Down sendromu, Angelman sendromu, Fragile X sendromu, Prader-Willi sendromu, vb.) bazı genetik anomalilerin aynı zamanda görme kusurlarının da oluşmasına neden olmasıyla ilişkilendirilerek açıklanabilir. (Broke, Janssen, Ramshorst ve Deen, 2006). Zihin özürlü bireylerde görme özüünün sık görülmesinin bir başka nedeni ise önlenebilir görme kusurlarının zihin özürlü bireylerde erken dönemde tanılanarak tedavi edilmemesi olarak açıklanmaktadır. (Broke, Janssen, Ramshorst ve Deen, 2006).

Çoklu engele sahip bireyler, bir ya da daha fazla gelişimsel alanda gerilik gösteren bireylerdir. Bu nedenle de çoklu engele sahip bireylerin tüm yaşamsal etkinlikleri ve sosyal ortamları paylaşmada yüksek oranda desteğe gereksinim duyabilmektedirler(Lancioni, G.E., O'Reilly, M.F., Singh, N.N., Sigafos, J., Didden, R., Oliva, D. ve Severini, L. 2006). Çoklu engele sahip bireylerin, disiplinlerarası eğitsel planlamaya gereksinim duyan bireyler olarak tanımlamak daha doğru olacaktır (Glazman ve Ducret, 2003; Orelove ve Sobsey, 1996).

Hangi nedenle olursa olsun gelişimsel geriliği olan bireyler bağımsız yaşayabilmek ve gereksinim duyduğu becerileri öğrenebilmek için pek çok sistematik öğrenme yaşantısına gereksinim duymaktadırlar (Broek, Janssen, Ramshorst ve Deen, 2006; Glanzman ve Ducret, 2003; McCall ve McLinden, 2001). Eksikliği bilinen görsel uyaranlarla sağlanacak öğrenmelerin, diğer duyuusal uyaranlarla sağlanmasına yönelik sistematik düzenlemeler yapılması gerekir (Layton ve Lock, 2001).

İşitsel uyarılara çok iyi yönelebilmek ve işitsel girdileri anlamlı olarak değerlendirebilmek, duruma uygun tepkiler verebilmek ve bireyin çevresini kontrol edebilmesi için gereken temel becerilerdir. Görme ve zihin özürlü çocuklar için sesleri tanıma ve anlamlandırma hayati öneme sahiptir (Lancioni, O'Reilly, Singh, Sigafos, Didden, Oliva ve Severini, 2006). Kalıcı öğrenmeler başlatabilmesi ve iletişim becerilerini öğrenebilmesi amacıyla bu çalışmada görme ve zihin özürlü bir çocuğa sesleri dinlemeye dayalı olarak isimlendirme çalışılmıştır. Bu çalışmanın yapılmasının diğer bir amacı da diğer ülkelerde olduğu gibi ülkemizde de çoklu engele sahip bireylerin sistematik eğitim planlaması ve yürütülmesine ilişkin bir örnek oluşturmaktır.

Araştırma, dokuz yaşında, özel sınıfta eğitim verilmeye çalışılan bir görme ve zihin özürlü kız öğrenci ile yapılmıştır. Uygulama bireysel çalışma formatında öğretim uygulamaları şeklinde yürütülmüştür. Araştırma uygulamasının tamamı, bir video kamera aracılığıyla kaydedilmiştir. Yapılan kayıtlar içinden seçilen % 20'lik bölümünden gözlemciler arası ve uygulama güvenilirliği verileri toplanmıştır. Gözlemciler arası güvenilirlik % 100 uygulama güvenilirliği de % 100 olarak bulunmuştur.

Araştırmada, tek denekli araştırma yöntemlerinden davranışlar arası çoklu başlama modeli kullanılmıştır. Davranışlar arası çoklu başlama modeli, deneğe uygulanan bir yöntemin etkililiğinin birden fazla hedef davranış üzerinde araştırıldığı bir modeldir (Alberto ve Troutman, 1995, s.167; Kırcaali-İftar ve Tekin, 1997, s.82; Tawney ve Gast, 1984, s.227). Uygulama evresinde birinci hedef davranışta ölçüt karşılanınca, ikinci hedef davranışta uygulama evresi başlatılır. Bu işlemler, tüm hedef davranışlar için uygulama süreci tamamlanıncaya kadar sürdürülür (Alberto ve Troutman, 1995, s.169; Kırcaali-İftar ve Tekin, 1997, s.86; Tawney ve Gast, 1984, s.231; Tekin-İftar ve Kırcaali-İftar, 2004, s.113).

Davranışlar arası çoklu başlama araştırmalarında deneysel kontrol, yalnızca bağımsız değişkenin uygulanmaya başlandığı davranışta veri düzeyinde değişiklik olması; henüz uygulamanın başlatılmamış olduğu davranışların veri düzeylerinde değişiklik olmaması; ancak, diğer davranışlarda da uygulama gerçekleştirildikçe verilerin düzeyinde benzer değişikliklerin ard-zamanlı olarak gerçekleşmesi ile kurulmuştur (Tekin-İftar ve Kırcaali-İftar, 2004, s.113).

Denek için sesleri dinlemek diğer hayati öneme sahip kalıcı öğrenmelerin önkoşulu niteliğini taşıdığından, bu araştırma kapsamında öğretilmesi hedeflenen davranış, sesini dinlediği hayvanın ismini söylemedir. Bu araştırmanın bağımsız değişkeni eşzamanlı ipucuyla öğretim yöntemidir. Bağımsız değişken bireysel çalışma formatında uygulanmış, uygulanma sırasında uygulama güvenilirliğini etkileyecek herhangi bir uyarlamaya yer verilmemiş ancak çocukla oyun oynama havası yaratılmış öğrencinin eğlenerek öğrenmesi sağlanmaya çalışılmış ve uygulama sırasında etik kurallara uyulmuştur.

Deney süreci; başlama düzeyi verisi toplama, öğretim ve günlük yoklama oturumlarından oluşmuştur. Verilerin toplanabilmesi için uygulamacı, üzerine basıldığında hayvan seslerini çıkaran klavyeleri kullanmıştır. Araştırmacı, öğrenciden duyduğu sesin hangi hayvana ait olduğunu söylemesini istemiştir. Daha sonra araştırmacı öğrencinin söylediklerinin doğruluk yüzdesini belirlemiştir. Öğrenci 4sn saniye içerisinde tepki vermemişse, araştırmacı 'tepki yok' olarak değerlendirmiştir. Öğrencinin doğru tepkileri sözel olarak pekiştirmiş yanlış tepkileri ise görmezden gelmiştir (Tekin-İftar ve Kırcaali-İftar, 2004, s.145; Wolery, Ault ve Doyle, 1992, s.48). Günlük yoklamalar da benzer şekilde yapılmıştır.

Araştırma sonunda özetle, eşzamanlı ipucuyla öğretim yönteminin, zihin ve görme özürlü çoklu engele sahip bir öğrenciye çevresindeki sesleri dinleyerek isimlendirmeyi öğretmede etkili olduğu görülmektedir. Araştırmada elde edilen bu sonuç, alanyazında yer alan çalışmaların sonuçlarıyla da örtüşmektedir (Akmanoğlu & Batu, 2005; Akmanoğlu & Batu, 2004; Birkan, 2005; Doğan & Tekin-İftar, 2003; Fetko ve diğ., 1999; Gürsel, Tekin-İftar & Bozkurt, 2006; Kurt & Tekin-İftar, 2008; Parrot ve diğ., 2000; Schuster & Griffen, 1993; Sewell ve diğ., 1998; Tekin-İftar, 2008; Tekin-İftar, 2003; Tekin-İftar ve Kurt, 2008; Tekin-İftar, Kurt ve Acar, 2006; Tekin-İftar, Acar & Kurt, 2003; Tekin-İftar ve Kırcaali-İftar, 2002).

Araştırma çoklu engele sahip çocukların eğitiminde eş zamanlı öğretimin etkili ve kullanılabilir olduğunu göstermiştir. Ek olarak, öğrencinin ailesi, öğrencinin öğretimden sonra sesleri dinleyerek isimlendirdiğini ifade etmiştir. Dolayısıyla, uygulamacı diğer çevre seslerinin öğretimini de öğrencinin Bireyselleştirilmiş Eğitim Planı kapsamına alınmasını ve yanlışsız öğretim yöntemiyle öğretebileceğini eğitim kurumuna bildirmiştir.

Alanyazında sesleri dinleme ve isimlendirmeye ilişkin yanlışsız öğretim yöntemleriyle yapılmış bir çalışmaya rastlanmamıştır. Ancak, Lancioni, O'Reilly, Singh, Sigafos, Didden, Oliva ve Severini (2006) iki görme özürlü öğrenciye deneklerarası çoklu yoklama yöntemiyle yaptıkları çalışmada çevresel uyaranları ayırt etmeyi öğretmişlerdir. Her iki deneğin hedeflenen becerileri kazandığı belirtilmiştir. Ancak, öğretim oturumlarının ortalama sayısı göz önüne alındığında eşzamanlı ipucuyla öğretimin daha kısa sürdüğü gözlenmektedir. Bu sonuç, bu çalışmanın sonuçları ile benzerlik göstermektedir. Ülkemizde çoklu engele sahip bireylere yönelik çalışmalarda eşzamanlı öğretim yönteminin kullanıldığı bir çalışmaya rastlanmadığından araştırmanın sonuçlarına ilişkin ilişkilendirmeler ileri araştırmalara bırakılmıştır.

İleri araştırmalarda uygulamacılar çoklu engele sahip bireylere farklı çevre seslerini ayırt etme ve anlamlandırma öğretirken eşzamanlı öğretimin etkililiğini sınavabilirler. Ayrıca, çevre seslerini ayırt etme ve anlamlandırma becerilerinin öğretiminde sabit bekleme süreli öğretimin etkililiği ve verimliliğini de değerlendirebilirler.

Çok engelli çocuklarla çalışan öğretmenler, çevre seslerini ayırt etme ve anlamlandırma öğretiminde eşzamanlı ipucuyla öğretim yöntemini kullanabilirler. Ayrıca, kaçınılması gereken çevre seslerini de bu çalışmadakine benzer şekilde öğretebilirler. Çalışma zihin ve görme özürlüne sahip tek bir denekle sınırlı olsa da, çoklu engeli olan bireylerin eğitimlerinde duyulan yöntem tereddütünü azaltacağı umulmaktadır.

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