First-Then Visual Support Technique To Increase Teacher's Knowledge In Reducing Aggressive Behavior

Yumna Stia Putri Wistiani[1*], Endang Widyorini[2]

[1,2] Faculty of Psychology, Soegijapranata Catholic University, Semarang, Indonesia
*Corresponding Author: : Yumna Stia Putri Wistiani, Email: 21e30037@student.unika.ac.id

ABSTRACT

Children with special needs sometimes express their emotions through aggressive behavior toward others. It′s a challenge for the teacher to be able to deal with aggression in special needs children.

Therefore, it′s necessary for teachers to have knowledge about techniques to deal with aggressive behavior. The study aims to assess the effectiveness of the first-then visual support technique to increase teachers′ knowledge to reduce the aggressive behavior of students with special needs. This study was conducted based on quasi-experimental research with a pretest-posttest design with a single case experiment involving 5 teachers at kindergarten X in Semarang aged 30-35 years. The questionnaire is used to measure the teacher′s knowledge about aggressive behavior and the first-then visual support technique. Data was analyzed using SPSS 22.0 with non-parametric Wilcoxon analysis. The result showed that there is a significant difference between the teacher′s knowledge before and after the session ($Z= -2.041$, $p= .041$). The posttest′s mean score ($M= 18.00$) is higher than the pretest′s mean score ($M=8.00$). This study found that the session effectively increase teachers ′ knowledge related to aggressive behavior and first-then visual support to reduce the aggressive behavior of students with special needs.
Keywords: Aggressive; First-Then Visual Support; Special Needs.

INTRODUCTION

There has been a significant increase in the number of referrals of children to mental health clinics due to aggressive behavior over the last decade, especially among children with special needs (Steiner & Karnik, 2021). Aggression is characterized by intentional actions that are intended to cause harm or distress to others, often driven by a belief that such actions will have a detrimental impact on others (Skotarczak & Lee, 2015). On the other hand, for children with special needs, aggressive behavior is a form of communication without the intention to cause harm. They use aggressive behavior to express their emotions, such as anger, frustration, particularly when confronted with confusing and stressful events. These events can include domestic violence, changes in routines, and a new environment (Brendgen et al., 2013). According to (Broidy et al., 2003), children with special needs who have cognitive and language impairments tend to struggle in regulating their emotions and attention using words rather than actions. They experience difficulties in controlling impulsive urges and understanding others' perspectives, which leads them to exhibit aggressive behavior to express their emotions.

The phenomenon of aggressive behavior has arisen in Kindergarten X in Semarang. One of the teachers has shared that currently, there are five students in their class displaying aggressive behavior. One of them has been diagnosed with Autism Spectrum Disorder, while the other four are still struggling with limited speech and a minimal vocabulary. The aggressive behaviors exhibited daily in the classroom include pinching, pushing, throwing objects, shouting, crying, hitting, and rolling on the floor. These behaviors arise when the children are asked to complete tasks or participate in activities during class, such as lining up, praying, or sitting. Additionally, their aggressive behavior emerges when the teacher does not comply with or understand the children's desires. The frequency and intensity of the displayed aggressive behavior are significant, disrupting the learning process in the classroom.

That statement aligns with the opinion of (Alremawi & Arabiyat, 2022), who states that aggressive behavior affects the educational process and social adjustment of children with special needs, consequently making them undesirable in the classroom environment. Given the complexities involved, teachers may face challenges in effectively handling these students and must adapt their approaches to develop tailored solutions that can meet their specific needs (Pears et al., 2015). However, many teachers lack sufficient knowledge about effectively addressing aggressive behavior, particularly in children with special needs. Inappropriate or misguided handling, such as giving in to a child's anger, allowing them to express their emotions without supervision, and not providing proper guidance until the child ceases their aggressive behavior, can have detrimental effects on the child. As a result, it is crucial for teachers to familiarize themselves with the concept of aggressive behavior in children and possess the necessary skills and strategies to appropriately handle and intervene in cases of aggressive behavior displayed by students in the school setting.

One common strategy that can be easily utilized to address aggressive behavior in children with special needs at school is the use of first-then visual support (Knight et al., 2015); (Spriggs et al., 2017). First-then visual support is the most basic form of a visual activity schedule. First-then visual support is a way to provide predictability throughout the child's day and allow a child to anticipate changes in the daily routine (Banda et al., 2009). In addition, first-then visual support can improve prosocial behaviors and decrease the likelihood of aggressive behavior (Zimmerman et al., 2017). Knight et al. (2015) evaluated the use of first-then visual support for students with special needs and found that first-then visual support met the current evidence-based criteria developed by (Horner et al., 2005) as an evidence-based practice for various behaviors including aggressive behavior.

In the simplest terms, first-then visual support presents what the child needs to do now (first) and what the child will do next (then). The board is typically a laminated piece of cardstock or paper labeled. Velcro is placed on the board and symbols to allow easy application and interchangeability of the symbols throughout the day. First-then visual support shows two steps of sequencing. The teacher can present neutral-neutral tasks, neutral-preferred, or non-preferred-preferred tasks. Typically, the most preferred task is listed as "Then" to build momentum and motivate the child to complete the neutral or less desired "first" task (Elliott & Swain, 2021).

Furthermore, Elliott & Swain (2021) explained the use of a visual timer can be incorporated to help children transition from the reinforcer and back to work once it is time to start over. Due to its simplicity in switching between two conditions, the first-then visual board can be integrated into various parts of the day as a means to establish clear and visual expectations for children with special needs.

First-then visual support is highly beneficial in teaching children to follow instructions and acquire new skills (Loring & Hamilton, 2011). As described earlier, frustration is one of the underlying causes of aggressive behavior in children. Therefore, by implementing first-then visual support, children can visually see the current activity they are completing and the next activity that will follow. This visual representation allows them to anticipate and understand that a preferred activity is coming next (Hume, 2007).

First-then visual support motivates them to engage in activities they may not prefer and clarifies when they can engage in activities they enjoy. By visually presenting the sequence of tasks or activities, children can better understand the expectations and the rewards they will receive. This can help minimize frustration, increase their willingness to comply with instructions, and ultimately contribute to a reduction in aggressive behaviors.

Based on the explanation above we can conclude that First-then visual support can be a useful strategy for reducing aggressive behavior in children. Teachers needed to be trained to use this kind of technique so that they can implement it in their classrooms.

METHOD

Research Design

The current quasi-experimental study includes a pre-test-posttest design with one-group experimental. According to the expert, Isnawan (2020) quasi-experimental designs are studies in which participants are selected for different conditions from pre-existing groups. a quasi-experimental research design is the use of methods and procedures to make observations in a study that is structured similarly to an experiment, but the conditions and experiences of participants lack some control because the study lacks random assignment, includes a preexisting factor (i.e., a variable that is not manipulated), or does not include a comparison/ control group.

This research was conducted at Kindergarten X in Semarang, before starting the experiment the researcher give the participants a pre-test to collect initial data. The researcher gives five sessions of first-then visual support training. The post-test is given at the end of the training session.

Participants

Research subjects were selected by non-probability sampling method, the sampling technique used is purposive sampling. Sugiyono (2019) argued that the purposive sampling technique determines the sample with certain considerations.

The subject of this research are five teachers Kindergarten group who handled children with special needs with aggressive behavior at Kindergarten X in Semarang with an age range from 30-35 years.

Instrument

Data collection in this study was carried out by giving a questionnaire containing 20 questions regarding teachers' knowledge regarding aggressive behavior in children with special needs and first-then visual support. Questionnaires were given to see the teachers' knowledge before and after the training.

Research procedure

Based on research conducted by Parung and Pandjaitan (2022), the total training took place in five meetings with details of the material presented in two meetings with a duration of 90 minutes each meeting, as well as three meetings to practice using first-then visual support. Following are the details of the activity procedures:

1. Pre-test session

    The pre-test last for one session with a duration of 30 minutes. The researchers give a pre-test sheet to the teacher to measure the teacher's knowledge related to aggressive behavior in children with special needs and first-then visual support before training is carried out.

2. Material presentation session

This session consists of two meetings, each meeting lasting 90 minutes. The researchers present material about aggressive behavior in children with special needs and first-then visual support.

3. Post-test session

The post-test lasts for one session with a duration of 30 minutes. The researchers give a post-test sheet to measure the teacher's knowledge regarding aggressive behavior in children with special needs and first-then visual support after the training.

4. Implementation of first-then visual support.

The researchers assign the teachers to practice the first-then visual support technique directly to the students. This session was held for three meetings with a duration of 60 minutes each meeting. The purpose of this session is to help teachers to better understand the technique of using first-then visual support. The researchers accompany the teachers during practice sessions.

Data Analysis Techniques

The questionnaire was used as a pre-test and post-test to measure the teacher's knowledge about aggressive behavior and first-then visual support technique. Data collected were analyzed using SPSS 22.0 with non-parametric Wilcoxon analysis.

RESULT

In this research, 5 teachers were selected as participants. All of the participants are female. This research characteristic participants are teachers who handled children with special needs with aggressive behavior in Kindergarten groups.

The results of the pre-test and post-test data analysis in the implementation of training can be seen in the following table:

Table 1. Wilcoxon Test Result

	Post - Pre
Z	-2.041[b]
Asymp. Sig. (2-tailed)	.041

Wilcoxon pre-test and post-test results obtained Z score: -2.041 with p = 0.041 (p <0.05). there is a significant difference in teachers' knowledge between before and after training, this indicates that the first-then visual support training is effective.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Pre	5	6	11	40	8.00	1.871
Post	5	15	20	90	18.00	2.121
Valid N (listwise)	5					

The table above shows an increase in post-test scores, where the post-test score is higher than the pre-test scores. The mean score of respondents during the pre-test was 8.00 and the post-test was

18.00. This shows that there is an increase in the teachers' knowledge of aggressive behavior in children with special needs and first-then visual support before and after training.

DISCUSSION

The primary hypothesis of this study, that first-then visual support technique would increase teachers' knowledge in reducing aggressive behavior, was supported. During the training, the teachers paid attention to every material presented by the researchers, allowing them to implement the first-then visual support to students quite effectively during the pre-training session, despite encountering some challenges in certain aspects.

Several studies have indicated that teachers can implement first-then visual support as an ongoing treatment and it can be an effective intervention (Sam et al., 2020). When teachers are involved in the intervention, they can continue to teach students with special needs and assist them in developing academic, behavioral, and adaptive skills (Browder et al., 2014).

Based on the research results, the teachers fully engaged themselves during the training sessions. The training provided to the teachers utilized psychoeducation techniques. According to Srivastava dan Panday (2016), psychoeducation is a therapeutic systemic psychotherapy intervention used to inform patients or their relatives about disorders and treatments to facilitate understanding and personal responsibility for the disorder and to support individuals in coping with the disorder. Meanwhile, Baum et al. (in Singh et al., 2011)define psychoeducation as systematic and structured information about the disorder and its treatment, including integrating emotional aspects to enable patients and family members to cope with the experienced disorder.

The training provided to teachers as an intervention to effectively address aggressive behavior in students with special needs is indeed a part of psychoeducation. Research conducted by Purna et al. (2023) states that psychoeducation for teachers about students with special needs improves their knowledge, enabling them to teach and provide optimal efforts to their students based on existing experience or utilizing knowledge from good experiences. This statement is supported by Damastuti (2020), who suggests that increasing teacher involvement in interventions for children with special needs can be one way to improve their quality of life. Psychoeducation can be applied to teachers to address various different disorders in students with special needs. One well-researched disorder is communication or speech disorders. A study conducted by Broun (2004) suggests intervention strategies for children with communication or speech disorders involving the use of visual support systems. The use of visual support systems for students with special needs is an effective way to support vocabulary and literacy skills.

The psychoeducation provided to teachers consists of two main sessions. The first session involves the presentation of materials on aggressive behavior in students with special needs and the use of first-then visual support, delivered by the researchers. This is followed by a role-play session where teachers directly practice the techniques of first-then visual support with students. The role-play session is important as it aims to help teachers better understand the use of first-then visual support and analyze any remaining challenges. This aligns with the theory of reciprocal determinism developed by Bandura (1977), which explains that humans process information and develop a set of symbolic representations of behavior through trial and error learning, which is then adjusted by individuals. Salkind (2006) explains that learning essentially occurs through the process of imitation or modeling. Individuals' imitation or modeling is understood as an active role in determining which behaviors they want to

imitate, as well as the frequency and intensity of the imitation they want to carry out. Imitation and modeling occur with indirect reinforcement, which is equally effective in facilitating and producing imitation as direct reinforcement. Individuals involved in indirect reinforcement need to contribute certain cognitive components, such as memory and repetition, during the imitation process.

Another benefit of the role-play session is that teachers indirectly train students with special needs who exhibit aggressive behavior to become familiar with first-then visual support. This can make it easier for teachers to apply the technique of first-then visual support because students are already familiar with the tool. This aligns with the statement by Vaughn et al. (2005) that before starting an intervention, teachers should ensure that students recognize and understand the materials or tools they will use. This will have a positive impact on the development of adaptive behavior in students with special needs. In line with the statement by Zimmerman et al. (2017), first-then visual support can improve prosocial behaviors and decrease the likelihood of aggressive behavior. Another study conducted by Knight et al. (2015) has shown that visual support, including the first-then visual support strategy, has been widely recognized as an effective intervention for individuals with special needs, including those with behavioral challenges such as aggressive behavior. First-then visual support can enhance communication, reduce anxiety, promote understanding, and help individuals follow routines or instructions.

ACKNOWLEDGE, FUNDING & ETHICS POLICIES

REFERENCE

Alremawi, S., & Arabiyat, A. A. (2022). The Effectiveness of a Behavioral Program in Reducing the Aggressive Behavior of Children with Mild Mental Disabilities at the Mu'tah Center for Special Education. *Health Psychology Research*, *10*(1). https://doi.org/10.52965/001c.32317

Banda, D. R., Grimmett, E., & Hart, S. L. (2009). Helping Students with Autism Spectrum Disorders in General Education Classrooms Manage Transition Issues. *Middletown Center of Autism*, *41*, 16–21.

Bandura, A. (1977). *Social Learning Theory*. Prentice Hall.

Brendgen, M., Vitaro, F., Barker, E. D., Girard, A., Dionne, G., Tremblay, R. E., & Boivin, M. (2013). Do Other People's, Plights Matter? A Genetically Informed Twin Study of the Role of Social Context in the Link Between Peer Victimization and Children's Aggression and Depression Symptoms. *Developmental Psychology*, *49*(2), 327–340. https://doi.org/10.1037/a0025665

Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., Dodge, K. A., Fergusson, D., Horwood, J. L., Loeber, R., Laird, R., Lynam, D. R., Moffitt, T. E., Pettit, G. S., & Vitaro, F. (2003). Developmental Trajectories of Childhood Disruptive Behaviors and Adolescent Delinquency: A Six-Site, Cross-National Study. *Developmental Psychology*, *39*(2), 222–245. https://doi.org/10.1037/0012-1649.39.2.222

Broun, L. T. (2004). *Teaching Students With Autistic Spectrum Disorders to Read: A Visual Approach*.

Browder, D. M., Wood, L., Thompson, J., & Ribuffo, C. (2014). *Innovation Configuration Evidence-Based Practices for Students With Severe Disabilities*. http://ceedar.education.ufl.edu/tools/innovation-configurations/

Damastuti, E. (2020). *Intervensi Dini Anak Berkebutuhan Khusus* (C. I. Gunawan, Ed.; 1st ed.). CV.IRDH.

Elliott, M., & Swain, R. (2021). A Special Educator's How-To Guide to Visual Activity Schedules. *Kentucky Teacher Education Journal: The Journal of the Teacher Education Division of the Kentucky Council for Exceptional Children*, *8*(2). https://digitalcommons.murraystate.edu/ktejAvailableat:https://digitalcommons.murraystate.edu/ktej/vol8/iss2/2

Horner, R. H., Carr, E. G., Halle, J., Mcgee, G., Odom, S., & Wolery, M. (2005). The Use of Single-Subject Research to Identify Evidence-Based Practice in Special Education. *Council for Exceptional Children*, *71*(2), 165–179.

Isnawan, M. G. (2020). *KUASI-EKSPERIMEN* (Sudirman, Ed.; 1st ed., Vol. 1). Nashir Al-Kutub Indonesia .

Knight, V., Sartini, E., & Spriggs, A. D. (2015). Evaluating Visual Activity Schedules as Evidence-Based Practice for Individuals with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, *45*(1), 157–178. https://doi.org/10.1007/s10803-014-2201-z

Loring, W., & Hamilton, M. (2011). *Visual Supports and Autism Visual Supports and Autism Spectrum Disorders*. www.autismsocietymidsouth.org

Parung, C. A. L., & Pandjaitan, lena N. (2022). *Integrasi Psikoedukasi dan Flashcards untuk Melatih Komunikasi Pada Anak Autism Spectrum Disorder*. *11*(3), 382–392. https://doi.org/10.30872/psikostudia.v11i3

Pears, K. C., Kim, H. K., Healey, C. V., Yoerger, K., & Fisher, P. A. (2015). Improving Child Self-Regulation and Parenting in Families of Pre-kindergarten Children with Developmental Disabilities and Behavioral Difficulties. *Prevention Science*, *16*(2), 222–232. https://doi.org/10.1007/s11121-014-0482-2

Purna, R. S. P., Silawati, Y., & Angraini, F. (2023). Psikoedukasi Bagi Guru Pembimbing Khusus (GPK) dalam Pengelolaan Emosi dan Keyakinan Diri Mendampingi Anak Berkebutuhan Khusus di Sekolah Inklusi. *Warta Pengabdian Andalas*, *30*(1), 100–109. https://doi.org/10.25077/jwa.30.1.100-109.2023

Salkind, N. J. (2006). *Encyclopedia of Human Development* (J. B. Thompson, Ed.; 5th ed.). Sage Publication.

Sam, A. M., Cox, A. W., Savage, M. N., Waters, V., & Odom, S. L. (2020). Disseminating Information on Evidence-Based Practices for Children and Youth with Autism Spectrum Disorder: AFIRM. *Journal of Autism and Developmental Disorders*, *50*(6), 1931–1940. https://doi.org/10.1007/s10803-019-03945-x

Singh, N. K., Kumar, P., & Munda, S. K. (2011). Psychoeducation: A Measure to Strengthen Psychiatric Treatment. In *Article in Industrial Psychiatry Journal*. https://www.researchgate.net/publication/256090741

Skotarczak, L., & Lee, G. K. (2015). Effects of parent management training programs on disruptive behavior for children with a developmental disability: A meta-analysis. *Research in Developmental Disabilities*, *38*, 272–287. https://doi.org/10.1016/j.ridd.2014.12.004

Spriggs, A. D., Mims, P. J., van Dijk, W., & Knight, V. F. (2017). Examination of the Evidence Base for Using Visual Activity Schedules with Students with Intellectual Disability. *Journal of Special Education*, *51*(1), 14–26. https://doi.org/10.1177/0022466916658483

Srivastava, P., & Panday, R. (2016). *Psychoeducation an Effective Tool as Treatment Modality in Mental Health*. *4*(1), 123–130. http://www.ijip.in|

Steiner, H., & Karnik, N. S. (2021). Aggression and Antisocial Behavior in Children and Adolescents: Research and Treatment. *Psychiatric Services*, *54*(1), 119–119. https://doi.org/10.1176/appi.ps.54.1.119

Vaughn, B., Fox, L., & Lentini, R. (2005). *Teaching Tools for Young Children with Challenging Behavior*.

Zimmerman, K. N., Ledford, J. R., & Barton, E. E. (2017). Using Visual Activity Schedules for Young Children With Challenging Behavior. *Journal of Early Intervention*, *39*(4), 339–358. https://doi.org/10.1177/1053815117725693