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The Effectiveness of Shaping Techniques in Improving Independence in Genital Hygiene Among Students with Moderate Intellectual Disabilities

Galih Gustiana Wijaya*, Budi Susetyo, Iding Tarsidi
Universitas Pendidikan Indonesia, Indonesia
Email: galihgustiana@upi.edu*

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ABSTRACT
Health in the reproductive organs is important for adolescents, including children with disabilities. Although disabled children have shortcomings and limitations in terms of their intellect, they require independence in taking care of personal needs, especially in terms of maintaining the cleanliness of the reproductive organs. Interventions are needed that can encourage the independence of personal hygiene skills of genitalia of children with disabilities. One of the alternative behavior modifications that can be applied to increase the independence of children with disabilities is shaping. This study aims to increase the independence of personal hygiene genitalia of students with moderate disabilities at SLB Satria Galdin. The method used was Single Subject Research with an A-B-A design. Data is collected through performance tests using test instruments. The data obtained was analyzed using descriptive statistical analysis and displayed in simple line graphs. The results of this study showed an increase in independence in students in genitalia personal hygiene skills, evidenced by an increase in the mean level in conditions at baseline 1 (A-1) by 54.10%, intervention (B) by 62.70% and baseline 2 (A-2) by 78.70%. Based on these results, it can be concluded that the shaping technique is effective in increasing the independence of genitalia personal hygiene in students with moderate intellectual disabilities, as demonstrated by the progressive improvement across all phases with zero percentage overlap between baseline and intervention phases, indicating that the intervention had a positive and meaningful impact on the target behavior.

INTRODUCTION

Health in the reproductive organs is important for adolescents, including children with disabilities. The increase in age and biological development in children with disabilities will definitely require care and hygiene from an early age, therefore it is necessary to have personal genitalia hygiene in adjusting the age and needs of children with disabilities in cleaning the reproductive organs in order to maintain individual hygiene and health carried out in daily life so as to avoid disturbances of the reproductive organs and obtain physical and psychological well-being and improve the degree of health. Health is a very important thing in daily life; by maintaining cleanliness, humans can avoid various kinds of harmful diseases such as indigestion, cancer, and other diseases. Thus, health is a very important thing in determining the quality of human life (Babuji et al., 2023; Rock et al., 2024; Ryan et al., 2022).

Health in the reproductive organs is important for adolescents, including children with disabilities (Appel & Rothman, 2025; Carmine & Fisher, 2022; Houtrow et al., 2021; Quint, 2016). Disabled adolescents need knowledge about reproductive health just as much as normal

adolescents. Thus, personal genitalia hygiene is an important thing to be applied to disabled adolescents so that they have healthy reproductive organs and avoid various diseases (Elfiyani et al., 2024; Enoch et al., 2020; Ganie & Handa, 2025; Wilbur et al., 2021). According to Kusuma (2021) Personal hygiene behavior is an understanding, attitude, and practice carried out by a person towards improving the degree of health, maintaining personal hygiene, increasing self-confidence, creating beauty, and preventing the occurrence of disease. The result of the lack of understanding of personal hygiene of genitalia is the occurrence of reproductive health disorders such as vaginal discharge, urinary tract infections (UTIs), pelvic inflammatory disease (PRP) and the possibility of cervical cancer and many other potential diseases if the reproductive organs are not properly and correctly cared for.

Health in the reproductive organs is important for adolescents, including children with disabilities. Although children with disabilities have shortcomings and limitations in terms of their intellect so that they seem to need help in everything in daily life, they also need independence in taking care of personal needs, especially in terms of maintaining the cleanliness of the reproductive organs. According to Sari (2020), there is a bad stigma from the community environment by considering that children with disabilities cannot take care of themselves, they assume that the work done by children in taking care of themselves has not given good and correct results, so that children with disabilities cannot develop and have not been able to achieve optimal independence.

Thus, interventions are needed that can encourage the independence of the personal hygiene ability of genitalia of children with disabilities. Disabled children who do not receive continuous intervention from the environment have an impact on the slow pace of children to become independent; to make children able to become independent, an intervention is needed to develop the independence of children with disabilities. The intervention carried out is using a behavior modification approach. There are many behavioral modifications that can be used to increase the independence of children with disabilities. However, these behavior modifications have their own advantages and disadvantages. One of the alternative behavior modifications that can be applied to increase the independence of children with disabilities is shaping.

Shaping is a technique used to develop new behaviors by reinforcing behaviors that are approaching the target gradually. One of the behavioral dimensions that can be improved with the shaping technique is the duration, which is the time used during the behavior. The shaping technique is used to form children's independence because shaping is the formation of new behaviors or behaviors that the individual has never done before and may give rise to new behaviors that are desired by giving reinforcement or reinforcement if behaviors have emerged that are close to the desired behavior, so that in the end it gives rise to what may be desired.

Based on the observations that have been made, the researcher found problems in students at SLB Satria Galdin, namely moderately disabled students who have entered adolescence and are still very limited in terms of personal hygiene, especially in terms of personal genital hygiene. He still really needs help from others in cleaning his reproductive organs, for example after defecating he is still not able to clean the penis independently. Children are not able to wash the penis, scrotum and groin area independently after urinating to prevent itching due to skin irritation. The child is not able to clean the penis by pulling the foreskin upwards then cleans the head of the penis after that pulls back the foreskin and does

not force to clean the inner foreskin because it can cause infection. After cleaning the genitals, the child should wash his hands with soap. In addition, it is difficult for students to do daily needs independently such as urinating, defecating, cleaning reproductive organs when bathing, and so on. This is also an obstacle for children in the learning process because sometimes children want to defecate during teaching and learning activities and children need the help of parents or teachers to go to the bathroom. Indirectly, children can disturb other students during the implementation of teaching and learning.

Some of the results of previous research that are relevant are: research conducted by Wahyunigtyas (2020) entitled "Overview of Personal Genitalia Hygiene Practices in School-Age Boys at MI Husnul Khatimah Rowosari Semarang" the research is based on low knowledge about the practice of personal genitalia hygiene in boys so it requires an overview of it. A study conducted by Sari et al. (2020) entitled Factors Affecting Parenting Style in Personal Hygiene Independence in Preschool Children at Pelangi Children's Islamic Kindergarten Pandeyan Umbulharjo Yogyakarta which contained the results that there was a relationship between parental involvement, parental stress, experience, parental roles and parenting types with personal hygiene independence.

Meanwhile, based on research conducted by Khotimah et al. (2022) entitled "Efforts to Increase Student Learning Independence Assisted by Shaping Techniques" which contains the results that before being given an intervention with the shaking technique, the level of student independence was very low in the intervention phase or treatment showed a stable increase and after receiving treatment with the shaping technique to increase student learning independence increased stably. According to the results of research conducted by Eril Budiawan (2021) entitled "The Application of Shaping Techniques to Reduce Students' Academic Procrastination Behavior at SMP Negeri 2 Bantaeng" Thesis of the Department of Educational Psychology and Guidance, Faculty of Education, State University of Makassar. This study shows that shaping techniques are very effective at shaping new behaviors that have never been done before.

Based on previous research studies, there are several research gaps that are the novelty of this research. First, research on the application of shaping techniques to improve personal genitalia hygiene independence in students with moderate disabilities is still very limited, considering that most previous studies have focused more on learning independence or learning discipline. Second, there has been no study that specifically uses the Single Subject Research (SSR) design with an A-B-A pattern to measure the effectiveness of shaping techniques on the genitalia personal hygiene behavior of moderately disabled children. Third, this study integrates task analysis into shaping procedures that are tailored to the characteristics and intellectual barriers of moderately disabled students, thereby making a methodological contribution to behavior modification in special education environments. Thus, the novelty of this research lies in the development of structured and detailed shaping procedures through task analysis to form genitalia personal hygiene independence in moderate disabled populations that have not been studied much before.

Based on the background and research gaps that have been identified, this study aims to increase the independence of personal genitalia hygiene in students with moderate disabilities at SLB Satria Galdin through the application of seating techniques. This research is expected to provide benefits both theoretically and practically. Theoretically, this research enriches the

scientific treasures in the field of educational psychology and behavior modification, especially regarding the application of shaping techniques to form personal genitalia hygiene independence in children with intellectual barriers. This research also contributes to the development of Skinner's operant conditioning theory in the context of special education in Indonesia. Practically, the results of this study can be a guide for teachers and parents of students with disabilities in applying shaping techniques to increase personal genitalia hygiene independence. For schools, this research provides an alternative intervention that is structured and easy to apply in daily learning activities. For future researchers, this research can be a reference to develop further research on behavior modification in other aspects of independence in children with special needs.

METHOD

This study used an experimental research method. With the design of the single subject research experiment, which focuses individual data as a research sample and measures the extent of the influence of a treatment on the behavior of the target that is carried out repeatedly and for a certain period of time. According to Sunanto, et al (2006, p. 59) Single Subject Research (SSR) research is subject research with a research procedure that uses experimental design to see the influence of the intervention given on behavior change. The SSR research method is research that modifies human behavior by providing certain stimuli. The behavior that will be raised in behavior modification is called target behavior. The objectives of single subject research (SSR) are: l) looking for answers to a problem, 2) looking at the results of the analysis of subjects who were treated (treatment) and target behavior that were measured repeatedly for a certain period, 3) looking at the results of the behavior analysis of subjects who were given treatment (treatment).

RESULT AND DISCUSSION

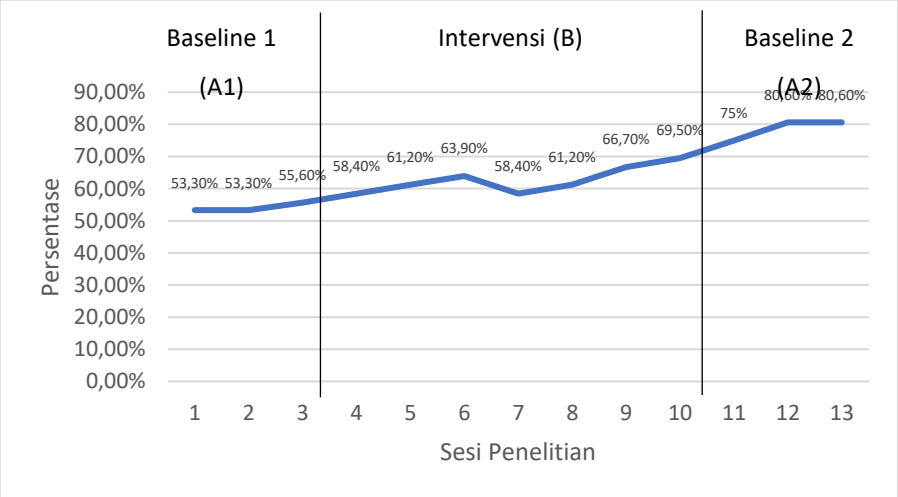

Figure 1. Graph of Baseline 1 (A1), Intervention (B), and Baseline 2 (A2) Comparison

Note: The graph shows the comparison between Baseline 1 (A1), Intervention (B), and Baseline 2 (A2) phases

Source: Author's calculation based on Single Subject Research (SSR) data collected at SLB Satria Galdin, 2025

This research was conducted 13 times with the research design A-B-A. at baseline A1 before being given an intervention was carried out 3 times, then in condition B, namely the provision of intervention was carried out 7 times and A2 was the baseline condition after no longer being given 3 meetings. The comparison between Baseline 1 (A1), Intervention (B), and Baseline 2 (A2) is as follows:

Based on the graph above, data was obtained in the first session the subjects obtained a score of 19 with a percentage of 52.3%, in the second session the subjects obtained a percentage of 52.3%, and in the third session the subjects obtained a percentage of 55.6% in the third session the subjects had an increase from the session. Independence of genitalia personal hygiene in the baseline phase 1 (A-1), from the first session to the third session, the score was relatively stable. In the intervention phase (B), it can be seen that the subject's ability decreases and increases.

In the first session, the subjects obtained a percentage of 58.40%, then the subjects increased in the second session by obtaining a percentage of 61.20%. In the third session, the subjects experienced an increase by obtaining a score of 23 with a percentage of 63.90%. Furthermore, there was a decrease in the fourth session, the subjects obtained a percentage of 58.40%, this is because at the time of the implementation of the intervention, the subject's body condition was not feeling well and affected the subject's mood to be not good, so that the implementation of the intervention was not conducive so that it affected the subject's score obtained. There was another increase in the next session, namely the fifth session students got a percentage of 61.20, in the meeting of session six subjects got a percentage of 66.7%, and in the seventh session the subjects got a percentage of 69.5%. Gradually and steadily the subject gets an improvement.

In the Baseline 2 (A2) phase, data was obtained in the first session the subjects obtained a percentage of 75%, in the second session students obtained a percentage of 80.6% and in the third session the subjects obtained the same score as the second session, which was with a percentage of 80.6%. It can be seen that the highest percentage is 80.6% with a score of 29 and the lowest percentage is 75% with a score of 27. In this condition, as a whole, students are able to carry out the practice of personal genitalia hygiene.

Based on these results, further analysis was carried out through the results of analysis in conditions and between conditions which included: condition length, estimated directional tendency, stability tendency, data trace, stability level, and range and level change.

The results of the analysis in phases can be described in the following table:

Table 1 Results of Analysis in Conditions

Conditions	Baseline 1 (A-1)	Intervention (B)	Baseline 2 (A-2)
Condition Length	3	7	3
Estimation of Directional Inclination	(+)	(+)	(+)
Stability Tendencies	Stable (100%)	Stable (85%)	Stable (100%)
Data Footprint	(+) Stable	(+) Stable	(+) Stable

Stability Level and Range	58,2% - 49,9%	67,9% - 57,5%	87,7% - 72,6%
Level Change	52,3% - 55,6%	58,4% - 69,5%	75% - 80,6%
	(+3,3%) Ascending	(+11,1%) Ascending	(+5,6%) Ascending

Source: Author's calculation based on Single Subject Research (SSR) data analysis, 2025

Based on table 1, the results of visual analysis of each phase in the subjects are the length of the phase carried out in the baseline phase 1 (A-1) for three sessions, the intervention phase (B) for seven sessions, and the baseline phase 2 (A-2) for three sessions. The directional trend line was known in the baseline phase 1 (A-1), Intervention (B), and baseline 2 (A-2) the directional trend increased. Stability tendencies are known to be baseline 1 (A-1), Intervention (B), and baseline 2 (A-2) indicating a stability tendency, which is stable. Data traces in the baseline 1 (A-1), Intervention (B), and baseline 2 (A-2) phases showed an increase in the independence of genitalia personal hygiene. stability level and range, in baseline phase 1 (A-1) the stability level in the range (58.2% - 49.9%), in the intervention phase (B) the stability level in the range (67.9% - 57.5%), and in the baseline phase 2 (A-2) the stability level in the range (87.7% - 72.6%). Data on stability levels and ranges show that stability levels in each phase are stable. The level of change, in the baseline phase 1 (A-1) the data change increased by 3.3%, in the intervention phase (B) the data change increased by 11.1%, and in the baseline phase 2 (A-2) the data change increased by 5.6%.

The results of the inter-phase analysis can be described in the following table:

Table 2 Results of Inter-Condition Analysis

Condition Comparison	**(A-1) – (B)**	**(B) – (A-2)**
Number of Variables changed	1	1
Changes in tendencies and their effects	(+) (+)	(+) (+)
Change in stability tendencies	Stable to stable	Stable to Stable
Level Change	55,6% - 58,4% (+2,8)	69,5% - 75% (+5,5%)
Percentage overlap	0%	0%

Source: Author's calculation based on Single Subject Research (SSR) inter-condition analysis, 2025

Based on table 2, the results of visual analysis of each phase in the subject, namely the number of variables changed from one phase to the baseline phase 1 (A-1) to the intervention phase (B) is 1. The change in direction between baseline phase 1 (A-1) and intervention phase (B) increased direction, this proves that the independence of personal genitalia hygiene increased after being given intervention. The change in direction between the intervention phase (B) to the baseline phase 2 (A-2) increased and this proves that the independence of personal genitalia hygiene increases. The change in stability tendency between the intervention phase (B) and the Baseline 1 phase (A-1) and the change in the stability tendency between baseline phase 2 (A-2) and the intervention phase (B) showed a movement from the stable to the stable direction. Thus, the change in the stability tendency of the resulting data has stable

stability. Independence of genitalia personal hygiene in the baseline phase 1 (A-1) and in the Intervention phase (B) to the baseline phase 2 (A-2) has increased. The overlapping data in the baseline phase 1 (A-1) to intervention (B) was 0% and the overlapping data in the intervention phase (B) to baseline 2 (A-2) was 0%. This shows that the intervention has a good influence on the independence of personal genitalia hygiene in children with moderate disabilities.

Data collection of baseline condition 1 (A-1) was carried out until the data was stable. In the first and second sessions, the new student was able to declare and feel that he or she wanted to urinate, open the toilet door, unbutton his pants and zipper, remove urine, make sure all the urine had come out completely by massaging the shaft of the penis to clean the remaining urine, and putting on and closing the zipper after urinating. Students urinate by standing up so there are many. In fact, according to Astuti (2022), the position of urinating by squatting is more recommended from a medical perspective because the maximum rate of urine flow when urinating by squatting is increased compared to standing, in addition, by defecating by squatting makes urine splashes more maintained and will not hit clothes so that clothes and the whole body are clean and not exposed to dirt from urine. At baseline 1 (A-1) students are not able to close and lock the toilet because students are used to open toilets. Students are also not able to urinate in a squatting position. In addition, students have not been able to clean their genitals in a squatting position and have not used soap to clean the genital organs. In the aspect of washing hands after cleaning the genitals, students are able to wet all hands with clean running water, students are also able to rinse their hands with hand water, as well as drying their hands with towels or tissues on the washcloth where they wash their hands. However, children are not able to use soap when washing their hands, students are used to washing their hands only using water without using soap. On the aspect of changing underwear. Students are able to take their underwear in the place where the underwear is stored, students are also able to put their feet in the underwear hole, in addition, students can also pull their underwear up to the waist and position the penis comfortably in the underwear. However, students have not been able to confirm whether the underwear is facing forward or not. Thus, students often wear underwear in an upside-down state.

Intervention condition (B) is the condition for the treatment to be given, namely by using the seating technique. Data collection in intervention conditions (B) is also carried out until the data is stable. Seven sessions were carried out using task analysis techniques. In the activity of cleaning the genitalia after urination, the learning begins with a direct explanation in the toilet and provides examples of how to urinate and clean the genital organs after urinating with steps in each activity of cleaning the genitalia after urinating in detail using the analysis of the tasks that have been made. In learning the activity of washing hands after cleaning the genitals was carried out with direct practice in the sink and the researcher provided examples of hand washing activities properly and correctly and in detail using the analysis of the tasks that had been made. Likewise with the practice of changing underwear, students are given examples with steps in each practice activity of changing underwear in detail using the analysis of the tasks that have been made. Students observe the explanation from the researcher and answer the questions posed by the researcher to evaluate the extent of the student's understanding after being given explanations and examples from the researcher. After the intervention was carried out, then the students' ability in personal genitalia hygiene was measured again using the personal hygiene genitalia performance test instrument. Any student reaction to the personal

hygiene ability of the genitalia will be given reinforcement. If students practice according to the analysis of the assignments that have been prepared, students will receive praise and prizes, and if students practice inappropriately, they will be given additional tasks in the form of math problems that must be done.

In this intervention condition, students were seen to have improved from the previous condition or baseline 1 (A-1), the results were seen that in the practice of cleaning the genitalia after urinating, students were able to clean their genitalia by using soap and rinsing the penis that had been given soap until completely clean, wiping the penis with a towel or tissue even though the student still needed help and needed stimulus to do so. Children are independent in using their own underwear and pants after urinating. As for washing hands, students can be said to be able to wash their hands properly and correctly, starting from wetting their hands, pouring soap on their hands, rubbing their hands, rinsing their hands, and drying their hands. In addition, students have also been able to change their underwear properly and correctly and independently. Students are able to take the underwear in the panties storage, can make sure the panties are forward, put the foot into the leg hole in the panties, to pull the panties above the waist and make sure the position of the penis is comfortable.

In baseline condition 2 (A-2) as a whole, students are able to carry out genitalia personal hygiene practices, especially in the practice of washing hands after urinating and the practice of changing underwear. Meanwhile, in the practice of cleaning the genital organs after urinating, students still need help, such as in cleaning the genitals by directing water on the genitals. In addition, students are still not used to urinating by squatting. Students are also not skilled in using dippers when cleaning the genital organs. In addition, students are still not skilled in cleaning the toilet after using urinating, students are still not clean in flushing to clean the toilet. So that love requires guidance from researchers. Students seem to be able to follow the learning process well. Students can also take steps in the practice of personal genitalia hygiene This is in line with the steps to improve behavior using the shaping technique according to Hardiyanti (2017 p. 30), namely each step of the activity begins with small steps. If the steps that have been achieved are lost, then the repetition starts from the beginning. So that by using this shaping technique, the practice of personal genitalia hygiene has increased.

The increase in the independence of visually impaired students in the practice of personal genitalia hygiene as described above, proves that the shaping technique is effective in increasing the independence of the personal hygiene genitalia of students with moderate disabilities. Before the intervention of students with the shaking technique, students had difficulties and did not know how to clean the genitalia properly. Starting from cleaning the genital organs after urinating, washing hands after cleaning the genitals, and using underwear independently. This happens because students experience intellectual barriers, especially when understanding something complex and abstract such as in the practice of personal genitalia hygiene. As according to Munawaroh (2021, p. 125), students with disabilities are students who have below-average intelligence, they experience limitations in adjusting to their environment. And they are not capable of understanding abstract things.

The problems and conditions possessed by students with disabilities are that in learning so that students give optimal responses, teachers provide stimulus to students by first detailing the learning tasks into small and simple parts, after that the teacher provides positive and negative reinforcement to each student's response to learning, in accordance with the

procedures for implementing the shabbing technique. So that students can provide optimal responses in learning. As explained by Paul (1997, Mubin, 2011, in Yanni, 2020, p.15) stated that based on Behavioristic theory, teachers plan learning by arranging the parts in a hierarchical order from simple to complex. Based on Behavioristic theory, the techniques used in learning by first detailing them into small and simple parts, in order to help students according to problems and conditions in learning and provide reinforcement to every behavior that is close to the final desired behavior appears, namely by using the shabby technique.

According to Faz (2022, p. 242) Through shaping techniques by applying positive reinforcement to situations that are made in stages from easiest to most difficult, this gradual process is important in modifying the behavior of stabbing techniques. This is because if someone encounters failure due to the expected target being too high in the initial session, it tends to cause a decrease in motivation. Therefore, through the application of this technique to the participants, it makes it easier for participants to go through each session and finally succeed in mastering the new behavior. Providing positive reinforcement in the form of fruits and praise in certain sessions strengthens the emergence of participant behavior. Based on the theory of operant conditioning, the existence of positive consequences on behavior will strengthen the behavior, therefore it is not surprising that this technique can help participants strengthen the independence of personal hygiene genitalia of moderately disabled students.

Based on this theory, the provision of learning using the shaping technique is very suitable for the conditions and problems of moderately disabled students who experience intellectual barriers and difficulty thinking abstractly, because the implementation of learning is carried out in simpler steps and there is reinforcement to strengthen and maintain the behavior that has been formed by the shaking technique.

CONCLUSION

Based on the data from the results of the research and the analysis of overall data, it can be concluded that the shaping technique has an influence on the independence of the genitalia of children with moderate disabilities. This can be seen from the development of score results in each phase that have increased. The initial condition of the subject was not able to practice personal genitalia hygiene independently and was still very dependent on others for the cleanliness of his own genital organs. The intervention technique of shaping personal genitalia hygiene independence in subjects experienced a positive change. This can also be seen based on the mean level in each phase that is increasing. The provision of positive reinforcement in the form of fruits and praise in certain sessions strengthens the emergence of behaviors and forms new behaviors in the form of subjects' independence in carrying out personal genitalia hygiene practices. Based on the results of the research, it is suggested that teachers and parents of students with disabilities can apply shaping techniques preceded by a detailed task analysis to form independence in other aspects of personal hygiene such as brushing teeth, bathing, or dressing. Schools should provide facilities and infrastructure that support the practice of personal genitalia hygiene, such as clean and easily accessible toilets, hand soap, and clean wipes or towels. Researchers are then advised to expand the research subject, increase the duration of the intervention, and conduct further tests on the generalization of behavior in the home or community environment. In addition, further research can combine shaping techniques

with other behavior modification techniques such as prompting or fading to increase the effectiveness of interventions.

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