

Application of Learning Mobility Orientation on Social Skill of Blind Children

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Abstract

Visually impaired children within aged of 7–8 years old often face problems dealing with the adaptation in the environment. They have very low social skill and turn into dependence on their parents. Further, they need developing their self-confidence towards social skills. Mobility orientation, learning was one of the learning strategies that aimed to improve their social behavior in the environment. The purpose of this study was to develop the social skills of blind children in interacting with the environment and peers. This study involved a single subject research method (SSR) with A-B-A design. The subject of the study consisted of 3 blind children within 7–8 years old. The results showed that there was a significant improving in their social skills and independence during their daily lives. The female children tended to have some difficulties during the school activities compare with the male children. The family's involvement is important to be used for helping them during the learning adaptation process with the environment. In short, the social skill development really matters for the blind children as they can imagine what kind of places where they are.

Keywords: orientation of mobility, blind children, social skill

1. Introduction

Children with disabilities tend to be susceptible to social isolation which are due to receiving a slightly positive response to involvement in social interaction (Celeste, 2006). Blind children have feelings of fear, inferiority, and limited opportunities resulting in obstructed social development. D'Allura (2002) concluded that the children with disabilities showed their shortcomings in social interaction. This limitation in social interaction results in their independence in the daily life. Parents and families did not tend to trust blind children in daily activities.

The condition of blind children aged 7–8 years in learning have barriers to social communication as follows, (1) blind children who have just entered the observation class, (2) teachers still have difficulty in training blind children due to the different conditions of each child, (3) teachers often change the program because they feel that the programs are not made right with the abilities of blind children. Blind people determine three constraints, (1) self-control and environment in relation to the environment, this can increase the acceptance of information in social interactions, (2) on the concept of levels and concepts, blind people who improve intelligence from birth will face difficulties in compiling new concepts, such as technological developments, clothing, and environmental change, (3) mobility, this increase is not supported as early as possible, then blind people can have difficulties in relation to their environment (Lowenfeld, 1948).

Kemp (1981) explained that children who are blind in speaking prioritize expressions, namely facial and physical expressions by rejecting speech. The blind children use facial expressions when in an emotional state. **However**, children who replace congenital blindness are less expressive. Blind children experience interference in social interaction (Celeste, 2006). They are more neurotic, introverted, submissive, and less self-reliant and confident, who basically feel social need (Hasselt, 1983).

Good social skills can influence the ability of orientation and mobility because all of them are related to each other. Salleh and Zainal (2010) stated that developing social skills is as important as developing other skill. The social skills of blind children are not well developed due to difficulties in modeling or feedback (Jindal-Snape, 2004).

Orientation and mobility training aimed to improve the movement skills for the blind people in the environment in a safe and efficient manner by focusing on skills and techniques (Goldschmidt, 2018). Mobility orientation learning is a strategy that can help blind children to understand their environment. Orientation and mobility is the ability to know where you are and to move to another place safely and effectively. However, the mobility activity is the most important skill needed for the blind children. Furthermore, understanding the relationship of the location between individuals and objects around the environment between objects and other objects is known as the orientation abilities. In this study, the focus was on the introduction of the location of bathrooms and toilets in school and home environments, so they are accustomed to use the toilet.

2. Method

The experimental research method used is in the form of Single Subject Research (SSR) using the A-B-A design, which used two control conditions (baseline) before and after the intervention. The design was able to show the existence of cause and effect between independent and bound variables. Kazdin (1980) in Watson and Workman (1981) explained that the design of multiple baselines was a cross-individual observation carried out simultaneously. A-B-A design would be able to be identified that there was the change from baseline to intervention, specific changes, knowing the truth of predictions, and A-B-A design gave a temporary conclusion on the intervention that has been done (Riley-Tillman & Burns, 2009).

Research with $N = 1$, was the best alternative for understanding behavior change (Bergin & Strupp, 1972 in Kratochwill, 1978). The subjects consisted of three transitional blind children 7–8 years old, 2 girls and 1 boy. Interventions were carried out by teaching children to get to know and do daily activities independently in the bathroom or toilet. It was used to train them to tell the teacher when they want to go to the bathroom. The learning steps carried out in this study were (1) identification of the environment according to ability and experience, (2) remembering and listening to what is found in the surrounding environment, (3) telling what is observed according to experience, and (4) giving feedback. The study was carried out for 20 days, divided into 3 stages: baseline 1 (3 days), intervention 12 days, and baseline 2 (5 days). The study was carried out in schools and the surrounding environment.

3. Result and Discussion

The result of the calculation in Figure 1 illustrated that the 1st female child got R^2 0.4343, male student R^2 was 0.6882, and the 2nd female child was 0.6255, and the average is 0.583. The results showed the effect size of the intervention that had been done. Effect size based on the criteria of Cohen (1988) including large, above 0.02. Brossart, Parker, Olson, and Mahadevan (2006) argued that a very effective intervention was the average effect size between 0.034 to 0.895. Based on these two criteria, the intervention carried out in this study was very effective.

The description of the three research subjects is explained as follows:

Baseine-1 stage

BOY

The results of the assessment of the social abilities of blind children in the toilet training them are gained by Boy's abilities, namely (1) being able to express his wishes to the bathroom, (2) being able to go to the bathroom with the help of a companion, (3) being able to walk freely without being dragged, (4) and being able to use the equipments in the toilet, (5) being able to flush the toilet, (6) being able to bring hands, (7) being able to put pants in a bag hanging. Of the 4 toilet training abilities needed include: (1) the ability to walk using the trailing technique, (2) the ability to take off and wear shoes, (3) the ability of rectal safety, (4) the ability to sit on the toilet.

The training mentioned above needs to be developed by Boy in toilet training. Related to the ability to walk by using trailing techniques, planning is done so that Boy is able to walk without fear. In connection with Boy taking off and wearing shoes, the planning is done so that Boy is able to take off and wear shoes comfortably without any interchangeable parts. In connection with the ability to clean the rectum, planning is done so that Boy is able to secure the anus without any feelings of doubt and fear. Related to the sit ability, the planning is done is about how Boy will be able to sit on the toilet without fear and hesitation. From planning the necessary skills, Boy's ability in learning toilet training still needs full help.

Intervention Stage

Boy

The intervention phase is carried out in accordance with the ability material to be developed. The first material

that needs to be developed by Boy is the ability to walk by using training techniques. At this stage Boy must be able to carry out 6 stages, including: standing, walking, open the door, closing the door, hand holding the wall, finding landmarks, going to the bathroom. The second ability is to take off and wear shoes. At this stage Boy has to carry out 15 stages, including: boy is in front of the toilet, Boy sits on a chair while raising legs alternately, taking off the right and left socks alternately and putting them on each shoe, putting both shoes on the rack, shoes, walk to the toilet door, walking to the shoe rack after coming out of the toilet, taking the pair of shoes and sitting on a chair, taking his right sock and putting it on. Taking the left sock and putting it up, taking the right shoe and opening the tongue width of the shoe, then putting the foot into the shoe, taking the left shoe and opening the shoe tongue width. Then inserting the foot into the shoe, tying/closing the shoe pin, and returning to class. The ability to clean anal. At this stage Boy has to carry out 8 stages including: *draining stool/keti*, looking for a dipper, sitting in a squatting position, pouring water into the rectum with his right hand, cleaning the dirt with his left hand, cleaning the rectum until clean and 5 times a splash, finally putting the dipper in place beginning. The ability to sit on the toilet. At this stage includes 5 stages, among others: standing in front of the toilet, going forward 1–2 steps forward until the knee touches the toilet, rotating the body 180 until the back knee touches the toilet while the right hand is directed back to touch the toilet, and adjust the sitting position as comfortable as possible.

Boy Baseline-2 Stage

This stage are related to the visible developments and difficulties when the child gets an intervention or treatment. After getting a lot of exercise for 2 months with material accompanied by task analysis on the ability to walk to the toilet with the Trailing Boy technique to do independent activities without the help of a companion. This is supported by the habit that Boy every day walks alone by using the trailing technique starting from the motorbike down to the toilet. In taking off material and wearing shoes, the difficulty faced by Boy is distinguishing between right foot shoes and left foot shoes. The way that is done is to put shoes next to each foot. The skills in wearing shoes and taking off Boy's shoes are getting better because of the habit at school during prayer and reading Al Qur'an time that requires children to take off their shoes. In the matter of anal ability to cleanse, the difficulty experienced by Boy is the distance between sitting and taking water in the bathtub is high enough so that Boy often says that he is not biased. In the material's ability to sit on the toilet, the difficulty experienced by Boy is the slippery floor position, so that the child is afraid to turn around. To overcome this, it is necessary to check the existence of the toilet floor regularly so as not to endanger the child when he is in the toilet.

Girl Baseline-1 Stage 1

The results of assessing the social abilities of blind children in the toilet training theme were obtained by Girl 1's abilities, namely (1) Being able to express their desire to go to the toilet with a gesture, (2) Being able to go to the toilet with the help of a companion. The abilities that need to be developed include: (1) The ability to walk using the trailing technique. (2) The ability to take off and wear shoes. (3) The ability to detect the contents of a toilet room. (4) The ability to sit on the toilet. (4) The ability to flush the toilet (6) The ability to clean the rectum. (7) The ability to wash hands. (8) The ability to lay down and take the pants by pants.

The ability of AH in walking is still experiencing fear, the body and legs balance condition are not able to run properly. The ability to take off and wear shoes also still need to be added so that there are no mistakes in putting the position of the foot with the shoe. The ability to detect the contents of the toilet room Girl 1 is very afraid, this is influenced by the slippery floor and the child is not accustomed to doing alone. The ability to sit in the toilet also still needs repetition due to the condition of the child who was afraid from the beginning with a different situation from the conditions at home, making it difficult for Girl to place herself anywhere. Likewise with the ability to flush the toilet, clean the rectum, and put on pants still need habituation so that children are accustomed to have good social abilities wherever they are.

Girl Intervention Stage 1

The intervention phase is carried out in accordance with the material to be developed. In this stage there are materials and task analysis that must be done and achieved by students so that the child's development will be seen. There are eight skills that must be done by Girl 1 first, the ability to walk using trailing techniques. At this stage there are 6 steps that must be done namely: Girl is able to stand up, walk open the door, close the door, hand holding the wall, find landmarks and determine the position of the toilet. At first the child does not want to hold the door handle for fear of being pinched with help and verbal instructions repeatedly so the child becomes accustomed to opening and closing the door. The ability of the hand to hold the wall also looks stiff and goes sideways by holding two walls because of the lack of balance, causing the child to be unable to detect objects

that are around him. Then from this incident, the child is given an example of how the position of the hands and feet when walking using the trailing technique, namely the little finger touches the wall and the right hand forwards to cover the stomach. Its function is to help the Girl become able to detect objects that are around him so as not to hit. The second material is taking off and wearing shoes. There are 15 stages that need to be achieved by children include: AH is arriving in front of the toilet to take a seat, opening the strap/shoe cover with help. holding the heel of the shoe and pulling the feet out alternately, placing the shoes that have been removed beside each foot in order to be not confusing. AH is taking two shoes and is placed on a shoe rack, AH is taking both shoes and sitting on a chair, taking right socks and putting them on, taking left sock and putting it on, taking the right shoe and opening the tongue width of the shoe, then putting the foot into the shoe, taking the left shoe and opening the shoe width, then putting the foot into the shoe, pulling/closing the shoe pin, returning to class. The next material is detecting toilets. This stage consists of 8 steps including: feeling the length and width of the toilet/bathtub, touching the water faucet, feeling the toilet, feeling dipper, touching the soap, touching the trouser hanger, and touching the toilet door. Material in the toilet seat, at this stage consists of some steps among others, such as: standing in front of the toilet, advancing 1–2 steps until the knee touches the toilet, rotating 180 until the back of the knee touch the toilet, adjust the sitting position comfortable in the toilet. In the anal cleansing material, there are 8 stages including: sitting still then standing after defecating and small; looking for a dipper position, the right hand takes water using a dipper in the toilet, sitting squatting position, flushing the fertile water, cleaning the dirt on the left hand, cleaning the rectum until clean, putting the dipper in its original place. The next material is the ability to wash hands include: the position of the child standing, taking water using a dipper and putting it on the bathtub, taking soap to clean both hands, and taking a dipper filled with water and soap in the hands until clean. The next material is to flush the toilet. At this stage there are 3 steps: Girl is standing, taking water using a dipper and flushing the toilet with water until it is clean. The last material is wearing pants. At this stage there are 4 steps, among others: search for the position of a trouser hanger, take pants, look for holes right and left.

Girl Baseline-2 Stage 1

This stage is related to what are the visible developments and difficulties when the child gets an intervention or treatment. After getting a lot of exercise for 2 months, the material is accompanied by task analysis on the ability to walk to the toilet with the trailing technique. The difficulty experienced by Girl 1 was seen when she balanced her legs when lifting and wearing socks. It is also influenced by the condition of the excess body, so he still needs help from 5 steps that have not been done independently. The independence in removing and wearing shoes is supported by refraction to the toilet, prayer room, and hand washing activities in schools that require to take off and wear shoes, with practice as often as possible the child becomes better. In the material sitting on the toilet, the difficulty experienced by Girl 1 is that it requires assistance in several steps such as squatting, and left-hand cleaning dirt. The difficulty is influenced by the posture that is quite fat when he wants to squat and stand looking scared. Likewise, when cleaning rectal/pubic discharge, Girl has a difficulty in the form of her hand positions can not reach the rectum/pubic. The ability in hand washing material is not too problematic. It's just that Girl has difficulty taking water in a tub that is not full. Girl's ability to flush the toilet is good. It's just that the ability of the visually impaired child when watering is hindered clean or whether or not the dirt is cleaned due to his inability to see, eventhough the child has tried to flush the toilet up to 5 times or more, the former soap scent is also felt.

Baseline-1 Stage

Girl 2

The results of the assessment of the social abilities of blind children in the toilet training theme were obtained by Girl 2's abilities, namely (1) ability to walk dragged, (2) ability to open class doors. The abilities that need to be developed include: (1) The ability to walk using trailing techniques. (2) The ability to take off and wear shoes. (3) The ability to detect the contents of a toilet room. (4) The ability to sit on the toilet. (4) The ability to flush the toilet. (6) The ability to clean the rectum. (7) The ability to wash hands. (8) The ability to lay down and take the pants by pants. ZH's ability in schools in toilet training requires sufficient assistance, this is influenced by ZH's perception that toilets in schools are dirty. Initially, ZH did not want to go to the toilet because he felt uncomfortable with the toilet in the school. When the toilet skills training activities he is often not problematic.

Intervention Stage

Girl 2

The intervention phase is carried out in accordance with the material to be developed. In this stage, there are materials and task analysis that must be done and achieved by students so that the child's development will be

seen. There are eight skills that must be done by the first Girl 2. The ability to walk using trailing techniques. At this stage there are 6 steps that must be done namely: Girl is able to stand up, walk open the door, close the door, hold the wall, find landmarks and determine the position of the toilet. At first, the child does not want to hold the door handle for fear of being pinched with help and verbal instructions repeatedly so the child becomes accustomed to opening and closing the door. The ability of the hand to hold the wall still looks stiff and the way to walk is still dragged and slowly tends to be very careful. The child is given an example of how the position of the feet and body when walking using the trailing technique, namely the little finger touches the wall and the right-hand forwards to cover the stomach. Its function is so that Girl 2 is able to detect objects that are around it so as not to hit. The second material is taking off and wearing shoes. There are 15 stages that need to be achieved by a child including: the child reaches the toilet to take a chair, opens the laces/shoe cover with help, holds the heel of the shoe and pulls the feet out alternately, puts the shoes that have been successfully removed beside each foot so as not to be confused takes two shoes and puts on a shoe rack, the child takes both shoes and sits on a chair, takes right socks and puts them on, takes left socks and puts them on, takes the right shoe and opens the shoe tongue wide, then puts the foot into the shoe, takes left shoe and opens the tongue of the shoe widely, then puts the foot into the shoe, pulls/closes the shoe clip, and goes back to class. The next material is detecting toilets. At this stage consists of 8 steps including: length and width of the toilet/bathtub, feeling the water tap, touching the toilet, feeling dipper, touching soap, feeling the pants hangers, and feeling the toilet door. Material in the toilet seat, at this stage consists of steps, among others: standing in front of the toilet, advancing 1–2 steps until the knee touches the toilet, rotating 180° until the back of the knee touch the toilet, adjusting the sitting position comfortable in the toilet. In the anal cleaning materials, there are 8 stages including: sitting still then standing after defecating and small, looking for a dipper position while right hand is taking water by using a dipper in the toilet, sitting squatting position, flushing fertile water, cleaning the dirt of the left hand, cleansing the rectum to clean, putting the dipper in its original place. The next material is the ability to wash hands include: the position of the child standing, taking water using a dipper and putting it on the bathtub, taking soap to clean both hands, and taking a dipper filled with water and soap in the hands until clean. The next material is to flush the toilet. At this stage there are 3 steps: Girl 2 is standing, taking water using a dipper and flushing the toilet with water until it is clean. The last material is wearing pants. At this stage there are 4 steps, among others: searching for the position of a trouser hanger, taking pants, looking for holes right and left. Each material provided includes several stages that must be carried out and achieved by children. If in the material the child only controls a few stages, repetition and intervention will be carried out until the child is able to do all stages.

Baseline-2 Stage

Girl 2

This stage is related to the visible developments and difficulties when the child gets intervention or treatment. On the subject of walking using the Trailing Technique, the ability to walk Girl 1 with the trailing technique initially requires assistance, namely slowing down and fear of crashing into people or objects around it. However, by doing practice for 2 months, the child can already do it independently without the help of a companion. The initial target of children can do 1–3 steps walking using trailing techniques. However, in what happened Girl 1 was able to make 6 walking steps using the trailing technique independently without the help of a companion.

The independence of Girl 1 in walking uses the trailing technique through independent walking from the school fence to the classroom. It is also done when they want to go to the cooperative, to the mosque, to the office of the teacher and other classes, habituation is done so that children can walk without the assistance of a companion. In taking off and wearing shoes, it's good enough, just a few steps that need help. From the 15 steps taken the target for 2 months, the first step until the seventh step are carried out without assistance. Although there are some difficulties such as difficulty in wearing shoes using a chair, do not put socks in accordance with the shoes, so that when we are wearing shoes, the position of the toe is not same as the foot. The ability to wear and take off shoes has been given in the classroom, but so far doing them sometimes irregular so that errors are still found, such as not being able to take shoes properly and wearing socks. On the material detects the room and equipment, detect the room and equipment in Girl 1's toilet is good enough. It's just difficult to see when detecting water faucets, because the child's hands cannot reach water faucets that require assistance. When touching an object in a child's toilet, it is often accidentally dropped by that object. On the subject of sitting in the toilet, the natural difficulty of Girl 2 is the fear of falling and getting wet in her clothes and when adjusting the sitting position of the child is still difficult, he tends to show an uncomfortable facial expression for that ability to sit on the toilet a few steps require assistance. In the matter of cleaning the rectum, the child still needs assistance, because when he tries to clean the anal area/genitals, it is not entirely clean. For that the ability to clean the rectum/genitals needs to be given continuously until the child is able to flush thoroughly. In addition, when the child sits

squatting to clean the rectum, he often pays little attention to his clothes so that some of his clothes are wet. On the subject of hand washing, the difficulty experienced by Girl 2 is when taking water using a dipper using the left hand. On the material flushing the toilet, the difficulty is experienced by Zahwa is not knowing the condition of the toilet, it's clean, so how to work around it is watered until the smell disappears. In the matter of wearing pants, the difficulty experienced by children is finding and inserting feet in each hole of pants. To work around this, children are given the task of wearing and removing pants at home.

The results of the subject research obtained in the year result from the improvement of the social ability of blind children aged 7–8 years in understanding the place at home and school. The application of Mobility Orientation learning can improve the social abilities of blind children. Mathieson (2005) explained that providing a rich learning environment that can give children to find out about their weaknesses, and reflect on their progress and gain the confidence to get new challenges. Special skills training would encourage the development of self-esteem and restructuring cognitive aspects of children’s perceptions (Kafer, 1982). Special interventions that showed the problem was more appropriate to use in social skills (Merrell & Wolfe, 1998)

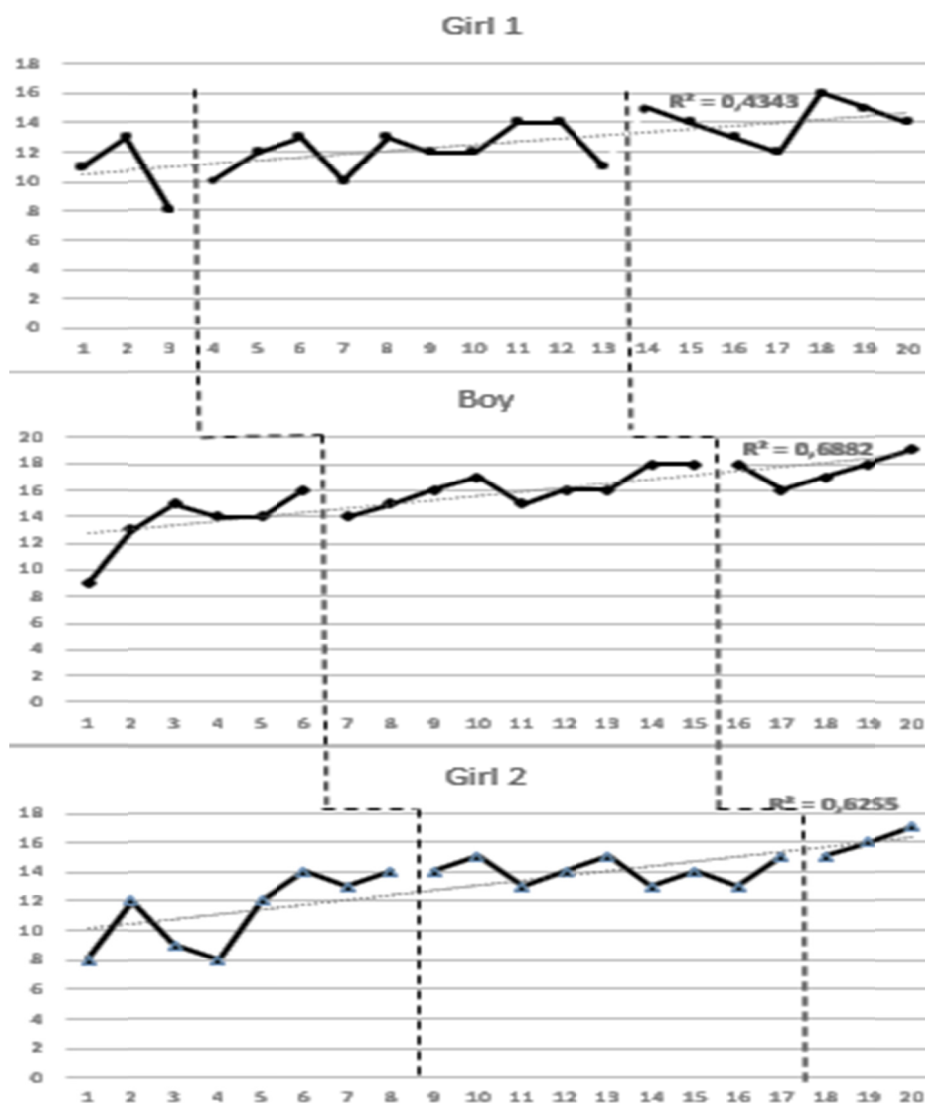


Figure 1. Multiple baseline chart and effect size

Blind children for experience cannot specify directly (Landau, Gleitman, & Spelke, 1981). Blind children must be clear in providing verbal instructions and directions, as well as the placement of goods. Interventions developed skills that really needed the right direction from adults by involving teachers and manipulating the

environment with social reinforcement (DiSalvo & Oswald, 2002). A person who had social attention would not be introverted from others (Van Doesum, Van Lange, & Van Lange, 2013). In practicing social skills, the use of peers would improve skills especially for children (Stokes & Baer, 1977; in Bass & Mulick, 2007).

Blind children were stronger toward obligations and sociability, and monotonous movements, and showed aggressive behavior in others compared to their mothers (Imamura, 1965). The mother of a blind child really needed to be involved in the intervention process, with the aim that they would focus on the goals of forming thoughts. Blind children would more easily contact objects they loved from touching dead objects, and mothers were the only way to lead them to the outside world (Sandler & Wills, 1965). Blind children had the limitations in spatial ability, with the ability to train those who know various places expected to have a lot of experience about space and the environment.

Spatial knowledge can develop in blind children, this knowledge can arise under various environmental conditions and many shortcomings (Landau, Spelke, & Gleitman, 1984). Landau, Gleitman, and Spelke (1981) based on the results of his research explaining about blind children with visible controls, able to understand some properties of space metrics. Blind children were able to share the distance between objects after receiving information about the length of the connecting route. For blind children, performance was similar to visible controls (Landau, 1991). Bigelow (1996) discussed the knowledge of the environment of blind children made them familiar with the layout of the entire world. Blind children could achieve mental structure construction through sound and spatial imagery that can be built and transferred through spatial sound (Sánchez, Lumbreras, & Lumbreras, 2001). In spatial understanding of large and small scale spaces, it was defined that the sound could provide the spatial understanding of blind children achieved through an experimental approach (Andreou & McCall, 2010).

The ability of blind children to understand their environment and commands from sound could help them in improving social skills. Social skills in blind children were shown by expressions and sounds. The quality of social interaction among children could be viewed from verbal skills, body language, play skills, cooperation and expression (Caballo & Verdugo, 2007). The spatial ability was very helpful for them in communicating by understanding the environment in which they were. The mobility orientation learning based on research from Malik, Manaf, Ahmad, and Ismail (2018) was claimed as very important to make blind children being independent where there was active participation from family and peers in their social environment. Nawrocka-Labuś (2018) explained that students' understanding of their spatial orientation would make children move independently, be able to overcome difficulties with self-awareness, and balance in personal life.

4. Conclusion

Mobility orientation learning was a learning strategy that aimed to introduce the environment. The results showed an increasing of the blind children's social skills and their independence in carrying out daily aschool activities as well as daily lives at home. The male visually impaired students developed better than to the female ones. The orientation of the environment is more than the introduction of the distance between objects for blind children, but also necessary to familiarize with the environment or object.

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