



The ability to learn the skills of planting spinach hydroponic wick system for mild mental retardation children class vii in slb b-c bina kasih bandung city

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Abstrak

Skills are the human ability to use thoughts, ideas and creativity, change or make something into more value so that something has more meaningful value. All living things have skills including children with disabilities. A child with a disability is a child who has an IQ that is significantly below average, accompanied by an inability to adapt to the environment. Therefore, various efforts are needed to develop skills, one of which is through learning the skills of growing spinach hydroponic wick system. The purpose of this study was to determine the ability of children to carry out learning skills in growing spinach hydroponic wick system for mild mental retardation children in class VII at SLB B-C Bina Kasih Bandung City. This research uses a qualitative approach with descriptive methods conducted at SLB B-C Bina Kasih Bandung City. Data collection techniques in this study are: interview, documentation, observation and test. The results showed that children with mild mental retardation children class VII were generally able to learn the skills of growing spinach hydroponic wick system with little help or direction from the teacher. The implementation of planting spinach hydroponic wick system is an attraction for children in participating in learning. So it can be concluded that planting with a hydroponic wick system can improve

farming skills for children with disabilities. Recommendations are expected for teachers to make the hydroponic wick system as a sustainable learning to support the success of learning for children and also as a provision for the world of work. For parents to be able to facilitate hydroponic planting activities to provide benefits to the surrounding community as a livelihood that can be done by mildly retarded children.

Keywords

Skills, Hydroponic Wick System, Mild Mental Retardation.

1. Introduction

Children with special needs as well as children in general have the right and need to develop so that they can live independently, therefore, special education as a form of education for those who experience obstacles in learning must make more efforts to improve special education services.

A child with special needs is someone who needs special services. Lynch (1994) in Lis Mulyati (2010: 9) explains that: "children who fall into the category of special education needs are exceptional children (children with disabilities and extraordinary abilities), children who have never been to school, children who are irregularly schooled, children who drop out, sickly children, children working at a young age and street children".

One type of child with special needs who needs special education services is a child with a disability, which is a group of children who experience limitations in the development of intellectual intelligence.

Children with disabilities experience weakness in many ways or many areas such as low academic ability, personal ability, motor barriers. This is in accordance with the AAMD definition quoted by Grossman Kirk and Galagher in Astati & Lis Mulyati (2015: 9) explaining that: "Mental retardation refers to significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period".

Based on the above quote, it can be explained that children with mental retardation are a group of children who have below average intellectual abilities and have deficiencies in behavioral adaptation, while Sutjihati (1996: 86) explains that: "Mildly retarded children are also called morons or debils, namely those who have an IQ of 52-68, according to Binnet and IQ 55-69 according to the Weschler scale (WISC)". So it can be concluded that mild mental retardation children are children who experience intelligence barriers with an IQ of 55-69.

Limitations in intellectual intelligence result in limited ability in academic learning, however, mildly retarded children have potential that must be developed, one of which is in the field of skills. Learning skills in addition to providing a lot of satisfaction also provides a very important provision to children with mild deafness.

Skills are human abilities in using thoughts, ideas and creativity, changing or making something into more value so that something has a more meaningful

value. Sri (2010: 49) states that: "Skill is the ability to operate work easily and carefully". Meanwhile, according to Amirullah (2003: 17) "the term skillful is also defined as an action or task, and as an indicator of a level of proficiency".

According to Sugianto (2011: 7) "skills are the process of helping learners develop the abilities, capabilities and skills needed to run life. The purpose of skills education is to prepare students who are able, capable and skilled to maintain their survival and development in the future". Riyani (2016:1) explain that: "Education that is suitable for mild mental retardation children in the future is vocational education or life skills".

Based on the above opinion, it can be concluded that skills are the ability to do something well, quickly, and precisely. Skills will be achieved or improved with continuous action training. Skills not only require training but the basic abilities that everyone has can help produce something of value more quickly, because they have been trained through the learning process. One of the skills that can be given to mild mental retardation children is hydroponic farming through a wick system.

The term Hydroponics comes from the Greek language, namely hydro which means water and ponos which means work, power or method. So hydroponics is a way of planting by using water as a growing medium. The principle of hydroponic plant cultivation is to provide the nutrients needed by plants in the form of a solution by sprinkling, dripping, flowing or spraying on the plant growth medium.

According to Prihmantoro (2003), explains that: "hydroponics is a farming technology without the use of soil. Planting media is replaced with other planting media such as rockwool, husk charcoal, zeolite, and various media that are lightweight and sterile to use. The most important thing in hydroponics is the use of water instead of soil to deliver nutrient solutions to plant roots".

Wick systems utilize the capillarity of water with fibrous materials such as flannel. The felt serves as wicks that connect the water and the planting medium for the plant roots. Not only felt can be used as wicks. Fabric, fibrous rope, and other materials that are fibrous and able to absorb water can be useful as wicks. However, the use of flannel cloth as a wick is because flannel cloth is not easily damaged if exposed to water continuously and the price is cheap With capillary power, water propagates through flannel cloth (wicks) to the planting medium of plant roots. Then the water that propagates through the flannel absorbs into the plant roots. Because it relies on a passive system, the movement of water towards the roots is very slow. The wick system is only suitable for small plants such as vegetables, herbs, and small ornamental plants. The wick system is not suitable for growing fruit plants that consume a lot of water such as chilies, tomatoes, and others.

The results of preliminary studies conducted by researchers at SLB B-C Bina Kasih Bandung City found that the skill of growing spinach hydroponically has been implemented at school, but not all children are able to do these skills.

Koerniawati & Susila, (2004) in a journal entitled "The Effect of Volume of Soil Media Types on the Growth and Yield of Lettuce Plants in Hydroponic

Technology Floating Systems" explained that: Hydroponics is a way of farming where the principle of providing nutrient solutions is adjusted to what the plant needs. The system used is the hydroponic system axis with rockwool planting media. This axis system as a link between plants and water that already has nutrients just like how a stove works.

According to Hendro Permadi (2020) in his journal entitled "Workshop on Making Wick System Hydroponics as an Effort for Food Security for the Kasri Village Community", explained that planting activities were much liked by PKK mothers and providing understanding to the community in theory about hydroponics greatly influenced skills in planting. There are many techniques in hydroponics that can be done by the community such as Nutrient Film Technique, Deep Flow Technique, Floating Raft System, Ebb and Flow System, Drip System, Wick System, Aeroponics and Aquaponics. The hydroponic system practiced by the participants was the wick system and the plant grown was pakcoy. The purpose of hydroponics is to grow plants using water as a substitute for soil media and emphasize the fulfillment of plant nutrition.

Meanwhile, according to Triwijayanti, Fatmawati and Zulmiyetri (2019) in a Journal entitled "The Effectiveness of the Project Method in Improving the Skills of Planting Hydroponic Wick System Mustard for Mild Mental Retardation Children in class IX at SLB Luki Padang", the first thing researchers did before conducting research was to observe the learning process of skills in planting where teachers teach planting skills always using polybag media so that students are not interested in planting. It can be seen that children do not feel familiar with the learning process of planting skills using polybag media. Thus, teaching mustard planting skills using the hydroponic wick system.

2. Research methodology

This research uses a qualitative research approach with a descriptive method. Descriptive method is a research method that functions to solve problems faced in the present. In connection with this, Nana Syaodih (2017: 72) states that: "Descriptive method is the most basic form of research. Aimed at describing or describing existing phenomena, both natural phenomena or human engineering, and used to try to solve problems that are being faced in the current situation ". Based on the quote above, the descriptive method is one that explains the current research.

This research uses descriptive methods to examine the current situation using research instruments. As stated by Arikunto (2010: 203) that: "research instruments are tools or facilities used by researchers in collecting data so that their work is easier and the results are better, in the sense that they are more careful, complete and systematic so that they are easier to process".

The data collection techniques used in this study were interviews, observations, documentation and tests.

3. Interview

Interview is a data analysis technique that is carried out by asking questions directly to respondents or sources. According to Sugiyono (2016: 317) that: "interviews are used as a data collection technique to find problems that must be examined and also if the researcher wants to know things from respondents that are more in-depth". The interviews in this study were to find out the implementation of skills learning.

4. Observation

Observation is a data technique that is carried out by directly observing the subject to be studied. Riyanto (2010: 96) reveals that: "observation is a data collection method that uses direct or indirect observation". So that in this study, the observation process was carried out by directly observing the learning process of skills in growing spinach hydroponic wick system, difficulties and atmosphere in class VII mild mental retardation children at SLB B-C Bina Kasih Bandung City.

5. Documentation

Documentation is a data collection technique by looking at or analyzing documents made by the subject himself or by others about the subject. Sugiyono (2018:476) reveals that: "Documentation is a method used to obtain data and information in the form of books, archives, documents, written figures and images in the form of reports and information that can support research". Documentation in this study is photographing all activities in the learning process of growing spinach skills hydroponic wick system in class VII mild mental retardation children at SLB B-C Bina Kasih Bandung City.

6. Tes

Tests are generally measuring, although some forms of psychological tests, especially personality tests, are descriptive, but the description leads to certain characteristics or qualifications so that it is similar to the interpretation of the collection results. According to Sugiyono (2012: 223) that: "Tests used in education can be distinguished between achievement tests and psychological tests".

In this study, we will use a learning outcome test that measures the learning outcomes achieved by grade VII mild mental retardation students in the implementation of learning the skills of growing spinach hydroponic wick system in grade VII mild mental retardation children implemented at SLB B-C Bina Kasih. The above method is used to measure the ability of children in learning the skills of growing spinach hydroponic wick system in class VII mild mental retardation children at SLB B-C Bina Kasih Bandung City.

7. Research results and discussion

8. Research results

Each child has different abilities. The ability to plant in mild mental retardation children can be trained by repetition so that planting skills can be developed and mastered by children. Of the three children studied, in general the children were able to follow the learning skills of growing spinach hydroponic wick system. Children are able to recognize tools, such as: scissors, square basins, and netpots; children are able to recognize materials such as: spinach seeds, nutrients, rockwool, and wicks; children are able to carry out planting spinach in detail according to instructions or directions from the teacher, but there is one child who still has difficulty, so they need guidance and direction from the teacher; children are able to maintain tools and the remaining materials that have been used.

Difficulties faced by children in learning the skills of growing spinach hydroponic wick system, among others: difficulty in recognizing one of the materials, namely rockwool, and difficulty in practice, namely in the part of inserting the wick into the netpot. The strategy carried out by the teacher in dealing with these difficulties is first in recognizing rockwool material, by equating rockwool with foam, because rockwool has a texture and initial shape that resembles foam. The second strategy in inserting the wick into the netpot, namely by inserting a little tip of the wick into the netpot hole which is then slowly pulled.

In overcoming the difficulties faced by children, teachers must be smart and responsive in overcoming these problems. The atmosphere of learning the skills of planting spinach hydroponic wick system takes place in an orderly manner, children can follow the learning from beginning to end calmly. This learning gives the impression of enthusiasm to each child, because in this school planting activities are usually carried out with polybag media, while in this study by means of a hydroponic wick system, and this is a new thing obtained by children so that children feel happy in this learning activity. So that learning to plant a hydroponic wick system can be used as a new medium in improving planting skills for mild mental retardation children.

Activities carried out by teachers in the implementation of learning spinach planting skills for mild mental retardation children in class VII at SLB B - C Bina Kasih Bandung City include aspects of preparation, implementation, and follow-up. Preparatory activities carried out are preparing tools, such as; square basin, scissors and netpot, preparing materials such as: spinach seeds, wick, rockwool and nutrients.

The implementation of learning consists of initial activities, core activities, and final activities. In the initial activity the teacher begins the learning by praying, taking attendance and continuing with apperception. In the core activities the teacher explains the material to be given, namely learning the skills of growing spinach hydroponic wick system which starts from introducing tools such as square basins, scissors and netpots; introducing materials such as spinach seeds, wicks, rockwool and nutrients; followed by the process or steps of planting spinach plants.

At the end of the learning activity, the teacher teaches how to maintain the tools and tidy up the remaining materials and ends with praying together. Furthermore, the teacher conducts follow-up on children who master learning.

9. Discussion

Based on the results of research conducted on the ability to learn the skills of growing spinach hydroponic wick system in children with mild impairment, it can be concluded that learning the skills of growing spinach hydroponic wick system can be followed by children even though in certain parts it needs guidance from the teacher. In seeing the ability to learn the skills of growing spinach hydroponic wick system, the teacher compiles a grid of instruments that are developed into assessment instruments. This is in line with the opinion of Arifin (2016), stating: "The Wick system is the simplest method in the hydroponic system, where this system works based on the principle of water capillarity. The nutrients needed by plants will be absorbed by the wick through pores or cavities which are then channeled to the roots of the plant".

As for the child's ability to learn the skills of growing spinach hydroponic wick system, the child is able to follow from the activity of recognizing tools and materials, the child is able to follow the process of planting spinach steps even though some of the children need guidance from the teacher and in the final activity, namely the activity of maintaining tools and maintaining materials, the child is able to follow these activities with direction from the teacher.

In carrying out the learning of skills to grow spinach hydroponic wick system, there are some difficulties encountered by children, namely difficulty in recognizing one of the materials, namely rockwool, and difficulty in practice, namely in the part of inserting the wick into the netpot. However, these difficulties can be overcome by the teacher responsively, so that children are able to master planting skills slowly until they really master them.

10. Conclusions and recommendations

11. Conclusions

Learning for children with intellectual disabilities must be tailored to their abilities and disorders. Mild mental retardation children have limitations in the academic field, but they still have potential in other fields that can be developed, one of which is in the field of skills. The skills given to mildly retarded children aim to make them independent, not dependent on others and have responsibility in socializing life.

One of the skills that can be developed by mild mental retardation children is the skill of growing spinach hydroponic wick system. The process of learning the skills of growing spinach hydroponic wick system for children with mild grahita is not a simple process. The skill of growing spinach hydroponic wick system is related

to other abilities including the ability to recognize tools and materials, the planting process, maintaining tools and materials.

With this skill, it is hoped that mild mental retardation children will gain expertise and be able to live independently, not depend on others. The results showed that in general, children were able to grow spinach in a hydroponic wick system even though at some stages they still needed guidance and direction from the teacher.

12. Recommendations

Based on the conclusions of the research results, recommendations are addressed to:

a. For Children

This research is expected to improve children's abilities and skills in the process of farming, especially planting spinach hydroponic wick system, so that later children have soft skills in the world of work, especially in plant cultivation.

b. For Teachers

Can be input and material for consideration about skills and develop other learning about skills in the classroom and outside the classroom.

c. For Schools

The results of this study can be used as motivation for schools to facilitate in improving the quality of learning planting skills at school.

d. For researchers

This research can provide knowledge, add insight and can apply the knowledge that has been obtained during lectures.

13. Literature

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