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Pembelajaran Bina Lingkungan Atau Anak Berkebutuhan Khusus Berbasis Project Base Learning (Menanam Melalui Media Aqua Phonics & Mobile App) Untuk Anak Berkebutuhan Khusus (Cacat Mental)

Community Development Learning Or Children With Special Needs Based On Project Base Learning (Planting Through Aqua Phonics Media & Mobile App) For Children With Special Needs (Mentally Disabled)

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Abstract

Children with special needs or commonly abbreviated as (ABK) are conditions where children have special characteristics that are different from children in general who experience limitations / extraordinary physical, mental, intellectual, social, and emotional. Special School (SLB) C is one of the schools that treats mentally retarded children. Mental retardation (mental retardation) experiences obstacles and underdevelopment of below-average mental-intellectual development, so that they experience difficulties in completing their tasks. They experience obstacles in behavior and adjustment. These obstacles occur during the developmental period. The problem experienced by partners is the condition of ABK with limitations so that it requires creative and innovative learning methods, especially in increasing creativity and developing the environment for ABK. The main objective of this program is to increase creativity and environmental development (introduction and process of growing vegetable and animal/fish plants) for Children with Special Needs (ABK) through learning with aquaponic media and mobile apps. The educational method provided in this program is about workshops that can increase the creativity of mentally retarded crew members on how to grow plants and raise animals, plants and animals which are used as objects in this service are types of vegetables and fish which are food ingredients , food, which is needed to nourish their daily bodies, so that this introduction can have an impact on increasing ABK's love and concern for the environment.
Keywords: *Mobile App, Development Learning, Children Spesial Needs*

Abstrak

Anak berkebutuhan khusus atau biasa disingkat (ABK) adalah kondisi dimana anak memiliki karakteristik khusus yang berbeda dengan anak pada umumnya yang mengalami keterbatasan/keterbatasan fisik, mental, intelektual, sosial, dan emosional yang luar biasa. Sekolah Luar Biasa (SLB) C merupakan salah satu sekolah yang menangani anak tunagrahita. Tunagrahita (retardasi mental) mengalami hambatan dan keterbelakangan perkembangan mental-intelektual di bawah rata-rata, sehingga mengalami kesulitan dalam menyelesaikan tugasnya. Mereka mengalami hambatan dalam perilaku dan penyesuaian diri. Hambatan ini terjadi selama masa perkembangan. Permasalahan yang dialami mitra adalah kondisi ABK yang serba terbatas sehingga membutuhkan metode pembelajaran yang kreatif dan inovatif, khususnya dalam meningkatkan kreativitas dan mengembangkan lingkungan bagi ABK. Tujuan utama dari program ini adalah untuk meningkatkan kreativitas dan bina lingkungan (pengenalan dan proses menanam tanaman sayur dan hewan/ikan) bagi Anak Berkebutuhan Khusus (ABK) melalui pembelajaran dengan media akuaponik dan mobile apps. Metode edukasi yang diberikan dalam program ini adalah tentang workshop yang dapat meningkatkan kreativitas ABK tunagrahita tentang cara bercocok tanam dan beternak hewan, tumbuhan dan hewan yang dijadikan objek dalam pengabdian ini adalah jenis sayuran dan ikan yang merupakan bahan makanan. , makanan yang dibutuhkan untuk menyehatkan tubuh mereka sehari-hari, sehingga pengenalan ini dapat berdampak pada peningkatan kecintaan dan kepedulian ABK terhadap lingkungan.

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Kata Kunci: Aplikasi Seluler, Pembelajaran Berkembang, Anak Berkebutuhan Khusus

1. Introduction

Scouting Activities

Special School (SLB) C Muzdalifah is a school intended for children with special needs (ABK) Mentally disabled, located on Jalan Garu VI, Gg Merak No.15 A, with a building area consisting of two floors having a total of students as many as 78 students.

Figure 1. Students at SLB C Muzdalifah

Figure 2. ABK Learning Atmosphere at SLB C Muzdalifah

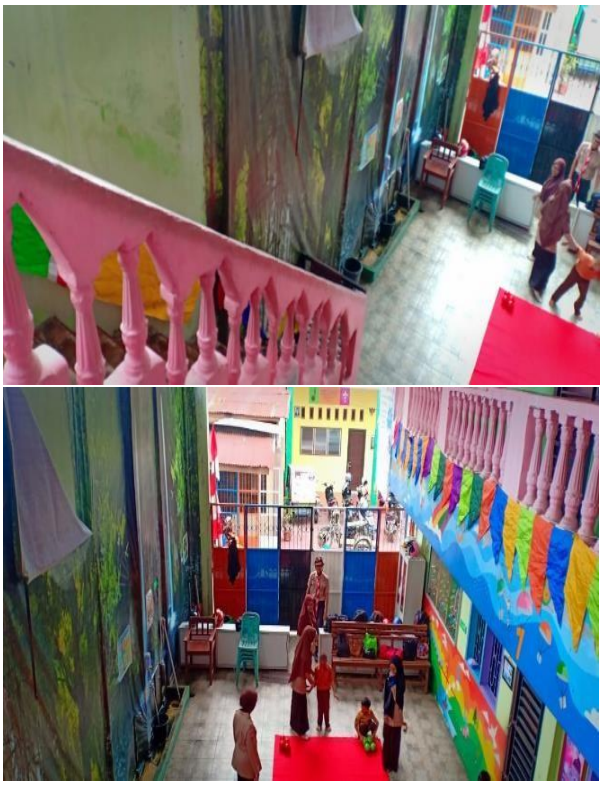

Figure 3. The atmosphere of the schoolyard at SLB C Muzdalifah

SLB C school is intended for ABK who experience mental retardation, however, Muzdalifah SLB C school has a policy and accommodates all types of Children with Special Needs (ABK) by utilizing limited resources, there are several types of children with special needs, namely: mentally retarded 30 students, deaf 38 and Autism as many as 10 people. The conditions for ABK are different so that the treatment given in education is also different so that this program is only carried out for one type of ABK.

Based on Permendiknas No. 70 of 2009 article 3 paragraph 1: Every student who has physical, emotional, mental, and social disorders or has potential intelligence and/or special talents has the right to attend inclusive education in certain educational units according to their abilities and needs.

Special Schools (SLB) are schools or educational institutions aimed at ABK. SLB C Muzdalifah is a place for special education for mentally retarded children. Mentally disabledis one of the children with special needs. Children with special needs (ABK) are children who have special characteristics and are different from other children in general, ABK tends to show behavioral disabilities and mental, emotional, and physical disabilities. The pattern of education at SLB C Muzdalifah experiences several problems including: the intelligence possessed by students is limited, the general public's perspective on ABK often does not seem good, the lack of student independence, the potential for intelligence in students with mental retardation has not been explored, the utilization of natural resources and the environment is limited, and the lack of utilization of the environment as a learning medium. The learning that is carried out for ABK is an increase in independence or self-development.

ABK with mental retardation in a comfortable environment One of the solutions to improve self-development for ABK with mental retardation can be through: training students' skills and independence, exploring the abilities and potential of students so that students can become superior at school, utilizing existing resources in schools optimally so as to create a pleasant atmosphere and can be a medium for student learning. The free air needed by humans contains 78% nitrogen, 20% oxygen, 1% argon and 0.1% carbon dioxide [4]. The presence of plants and trees can also increase the aesthetic value around the environment. The condition in Muzdalifah SLB C is that there are no plants or trees, this is because there is

no land that can be used for planting. One of the efforts to plant trees in narrow land is through the hydroponic method. Aquroponics is a farming method that anyone can do with limited land use. Through this method, it is hoped that mentally retarded crew members will have an interest in efforts to protect and protect the environment. The educational method for ABK is through spontaneous responses and direct stimulation. With this activity it is hoped that it will stimulate and bring up a good sense of self-development, especially towards the environment, and increase creativity. Planting through hydroponics can also increase love and care and be healthy. Through this method, it is hoped that mentally retarded crew members will have an interest in efforts to protect and protect the environment. The educational method for ABK is through spontaneous responses and direct stimulation. With this activity it is hoped that it will stimulate and bring up a good sense of self-development, especially towards the environment, and increase creativity. Planting through hydroponics can also increase love and care and be healthy. Through this method, it is hoped that mentally retarded crew members will have an interest in efforts to protect and protect the environment. The educational method for ABK is through spontaneous responses and direct stimulation. With this activity it is hoped that it will stimulate and bring up a good sense of self-development, especially towards the environment, and increase creativity. Planting through hydroponics can also increase love and care and be healthy. Through this method, it is hoped that mentally retarded crew members will have an interest in efforts to protect and protect the environment. The educational method for ABK is through spontaneous responses and direct stimulation. With this activity it is hoped that it will stimulate and bring up a good sense of self-development, especially towards the environment, and increase creativity. Planting through hydroponics can also increase love and care and be healthy. Through this method, it is hoped that mentally retarded crew members will have an interest in efforts to protect and protect the environment. The educational method for ABK is through spontaneous responses and direct stimulation. With this activity it is hoped that it will stimulate and bring up a good sense of self-development, especially towards the environment, and increase creativity. Planting through hydroponics can also increase love and care and be healthy.

Aquaponics is one way to reduce water pollution produced by fish farming and is also an alternative to reduce the amount of water used by the culture system. Aquaponic technology is a land-saving applied technology that can be applied in the context of narrow land use. In addition, aquaponics can also increase business efficiency through the utilization of nutrients from leftover feed and fish metabolism for aquatic plants and is an environmentally friendly plant and animal cultivation system. The interaction between fish and plants in an aquaponic system creates a more productive growing environment than conventional methods. This system can also produce quality organic fish and plants, without the use of artificial fertilizers.

ABK education in SLB for children who experience problems and problems include: the level of ability of students who experience limitations in listening and communicating, from the social aspect in the form of a poor perspective of society, students tend to experience a lack of self- confidence. The educational method applied at SLB C Muzdalifah still uses visual aids and sign language media, and there are only two (2) teachers who can sign language and there is no maximum utilization of technological innovation. The environmental and academic atmosphere around the school is supported by facilities and infrastructure that have not been maximized. The teaching material applied in ABK schools is in the form of general material, and is still theoretical, not yet practical. Particularly in environmental development materials,

2. Literature Review

a. Project Based Learning

The model is a set of procedures that have a sequence in realizing the process, such as needs assessment, media selection, and evaluation (Brggs, 1978 in Meike & Nyoman, 2019). Learning models are structured stages in carrying out learning in a class/field attended by students, with the aim of producing students who master the subjects taught through certain learning models. The learning model is used by educators as a guide through the existing stages, to produce classes that can discuss well, classes that are able to collaborate, and classes that are able to solve problems.

b. Mobile Learning

According to(Warsita, 2018)Mobile learning is a learning model that uses mobile devices or smartphones, which is intended so that students can get learning materials, study instructions, and mobile learning that are not limited by time and anywhere.(Gómez et al., 2014)recognizes that mobile devices are technological tools or devices that can be used to facilitate learning and teaching strategies.(Dold, 2016)said, the development of mobile devices has provided an opportunity for educators to reach students by utilizing mobile learning.

3. Research Method

Solutions to the problems offered to solve partner problems are in accordance with research that has been carried out by the team with the title Design of a Water Circulation System from Fish Ponds to Plants (Aquaponics) using a Microcontroller. Referring to the results of this study, the solutions provided are as follows:

1. Socialization and basic understanding of environmental concerns for ABK. The output produced is an increase in ABK's understanding of environmental concerns about the importance of a clean, healthy environment, and how to foster a love for the environment. This activity was carried out by a team with scientific competence in the environmental field accompanied by a team of experts from early childhood education teachers and child psychologists
2. The workshop on how the aquaponic equipment works will be carried out by a team with scientific competence in the field of Electrical Engineering. The output that will be produced is ABK's understanding regarding the performance of the equipment that supports the implementation of the program. This activity was also accompanied by early childhood education teachers and child psychologists
3. Workshop on planting plants and raising fish through aquaponics, this activity is carried out by a team with scientific competence in the field of animal husbandry and accompanied by a team of experts from Agrotechnology. The output produced in this activity is an increase in the creativity of ABK.
4. Field Practice, this activity is carried out using the method of forming groups, each group will be given a package of aquaponic land to manage, ABK will do the planting and rearing of fish. The output of this service is an increase in the creativity of ABK, this activity is carried out and accompanied by the entire implementation team.
5. Accompaniment. This activity was carried out as a continuation effort in program implementation. Monitoring and evaluation at this stage is expected that crew members will care about their environment through aquaponics. Evaluation of a sense of concern for the environment through planting trees is an indicator of the success of program implementation.

4. Results And Discussion

The implementation begins with the Preparation for the Making of the Service Equipment. The service equipment that will be given to partners can be seen in the following figure:

Figure 4. Service Products to be Provided to Partners

The program was carried out from 21 to 22 September 2022. The activities were attended by SLB students and teachers in the Muzdalifah SLB C school environment. Implementation of activities in several stages, namely:

a. Socialization

The socialization was carried out to provide knowledge to the community regarding the use of Aquaphonics and learning methods for SLB students in learning through aqua phonics (Siti Anisah,ST,.MT and Ir. Ramayana,M.Si) Workshop

Workshop activities were carried out for SLB C students in the practice of planting and raising fish through aquaphonics (Ir. Maimunah, SP and Andika Putra, S.Pt,.M.Pt)


Figure 5. The obstacles faced by the service team

The obstacles faced by the team in implementing the program were:

1) The audience in the implementation of the program are students with extraordinary children. The obstacles faced are maintaining the unstable mood or attitude of ABK, so that teacher warfare is needed here in carrying out activities
2) The budget disbursement process for the phase II grant was long and (unlike the phase I grant) while the implementation and reporting schedule was the same as the phase I grant, so that there were several outcomes with progress being constrained.

b. Mobile App Learning

There is a mobile-based learning application resulting from this activity. This application aims to produce an interactive digital teaching and learning process. With this application, it can help students to be able to study anytime, anywhere.

The following is a display of the mobile application:

Figure 6. Introduction Display

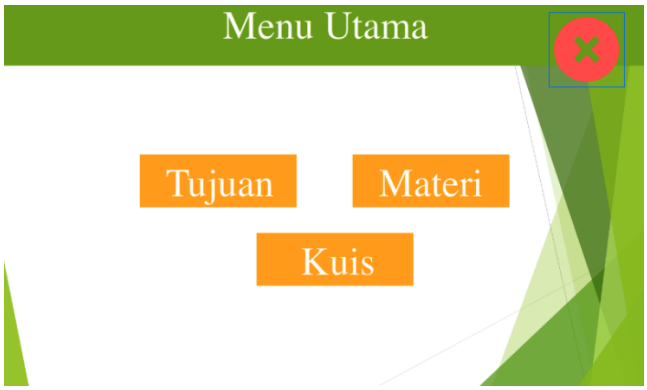

Figure 7.. Main Menu Display

Figure 8. Material Display

Figure 9. Quiz Display

5. Conclusion

Based on the results of the implementation of community services that have been carried out at the Muzdalifah SLB C Special School, it can be concluded that:

1. Project-based learning methods Base learning applied through aqua phonic media is very effective for implementation in the education of children with special needs.
2. With this interactive learning method and the spirit of curiosity and enthusiasm of children with special needs is very good.
3. The project-based learning method is very suitable to be applied in the education of children with special needs.

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