Voca Poly: Food Security Introduction through English Vocabulary for Blind and Physically Impaired Children at SLBN 1 Bantul

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Abstract: Children with special needs require specialized educational services that accommodate their diverse learning characteristics, and digital-based media offers flexible and adaptive learning opportunities tailored to individual abilities. The digital learning media "Voca Poly" was developed to provide education and practical skills training for blind and physically disabled children, particularly in strengthening knowledge and cooking skills to support independent living. This community service program was implemented through three main stages: preparation, implementation, and evaluation. The preparation stage involved needs assessment, media design, and coordination with partner institutions. The implementation stage included interactive learning sessions using the Voca Poly educational game, focusing on food security concepts through English vocabulary from planting to food processing. The evaluation stage assessed participants' understanding, engagement, and skill improvement. The results showed increased knowledge of cooking concepts and improved practical skills among participants. Moreover, the game-based approach successfully fostered enthusiasm, motivation, and active participation among visually impaired and physically disabled children.

Keywords: Community Service; Education Games; Food Security; Physically Disabled; Visually Impaired.

1. Introduction

According to Law No. 20 of 2003 concerning the National Education System (SISDIKNAS), is a conscious and planned effort to create a learning atmosphere and learning process that enables students to actively develop their potential in order to possess religious values, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, the nation, and the state. As stated in Law No. 20 of 2002 on the National Education System, Article 5 paragraph 2, citizens who experience physical, emotional, intellectual, mental, and social barriers have the right to obtain education. This implies that every individual, whether typical or with special needs, has the right to equal access to education. Technological advancements have triggered rapid changes in various aspects of

human life. Modern society has been influenced by the utilization of technology, one example being food security (Ibrohim, 2021). In today's era, technology has become a vital component in many aspects of life, including education (Mar'atullatifah, 2024). Mastery of English language skills is an important aspect that must be considered in education. Therefore, greater efforts are needed to foster educational practices that utilize digital-based learning media (Ngongo et al., 2019).

Digital-based learning media refer to audio-visual media that utilize devices such as computers/laptops and smartphones (Mariyah et al., 2021). Digital learning offers various advantages, including flexibility in time and place, access to more diverse learning resources, and more accurate evaluation methods. The use of digital media plays an important role in creating a supportive learning environment and increasing students' motivation and engagement to optimally achieve educational goals (Dhuha, 2025). Various innovations in auditory media have been developed for learning purposes; however, there are still limitations in accessibility to materials that adequately support the academic skills of children, especially children with special needs.

Children with special needs are defined as children who differ from typical children in several aspects, including communication skills, sensory abilities, social behavior, emotional development, mental capacity, and physical condition (Nengsih, 2021). Therefore, they require special services due to developmental barriers and disorders (Desiningrum, 2016). Among the various categories of children with special needs, children with visual impairments (blind) and those with physical and motor impairments (orthopedically impaired) require assistance in their education (Wardhani, 2025).

Children with visual impairments are those who experience limitations in vision; therefore, in carrying out daily activities or communication, they rely on functioning senses such as hearing, touch, smell, and taste (Aisyah, 2014). Children with physical disabilities (tunadaksa) are those who experience movement function impairments caused by problems in bones, muscles, and joints that do not function properly (Somantri, 2007). For visually impaired children, learning media that emphasize auditory elements are highly appropriate, as they can be interpreted through the sense of hearing, such as music, sound effects, and spoken words (Dewi, 2025). Meanwhile, children with physical disabilities require specialized learning to develop soft skills so they can utilize their remaining motor functions to produce creative works (Nisa, 2018).

Innovations in the development of learning media have been carried out; however, there are still limitations in accessibility for visually impaired and physically disabled children. Media use must be tailored to children's needs. Digital media designed for visually impaired and physically disabled learners are certainly different. Visually impaired learners require digital media containing audio elements, whereas physically disabled learners can benefit from videos or images in their learning process (Winarto, 2017). The use of engaging audio, video, and image-based learning media is essential in the process of teaching English and food security to visually impaired and physically disabled children to enhance their willingness and ability to learn (Sagirani, 2015).

Previous community service and research related to food security and English learning in schools have been conducted. For example, Retnowati (2023) focused on developing a terrace vegetable gardening program for horticultural cultivation to promote a

healthy environment. The study showed that the program is highly effective for implementation in learning, particularly environmental education for human well-being. Previous research on English learning using digital media by Sinaga et al. (2025) highlighted that English proficiency remained very low due to the absence of ESP-based learning involving the vocabulary of "agricultural tools." The study demonstrated improved understanding and skills related to ESP vocabulary on agricultural tools. Similarly, Rasyimah et al. (2024) conducted research focusing on learning new English vocabulary using flashcard media integrated with environmental education. The study showed students' understanding of the vocabulary taught as well as their comprehension of waste classification by type.

Efforts to improve English learning integrated with food security using digital-based learning media have been carried out to enhance reading skills in vocabulary and food security understanding for children without special needs. However, these media have not specifically accommodated the learning needs of children with special needs, particularly visually impaired and physically disabled children. No digital learning media have been found that effectively integrate English learning with food security materials. Therefore, there is an urgent need for learning media that specifically accommodate the needs of visually impaired and physically disabled children.

Based on the identified problems and existing gaps, this study focuses on the implementation of the "Voca Poly" learning media. This digital-based media utilizes audio, video, and images, specifically designed to improve the academic abilities of visually impaired and physically disabled children in learning English and food security simultaneously. The materials within the media are structured by incorporating vocabulary and English pronunciation related to food security, from planting to food processing. Thus, the objective of this study is to improve the academic abilities and cooking skills of visually impaired and physically disabled children through integrated English and food security learning tailored to their needs.

2. Community Service Method

The method used in this community service program is a qualitative approach. Rusli et al. (2024:159) state that qualitative methods refer to approaches that utilize non-numerical data, such as words, images, or narratives, with the aim of obtaining a comprehensive understanding of problems, experiences, and the perspectives of the communities being served.

This community service activity was carried out over a period of approximately three months and involved various stakeholders, including lecturers from the Special Education program, Special Education students, special school teachers, and children with visual impairments and physical disabilities. The program employed a training model that emphasized learning activities and skills training. Its primary objective was to enhance the capacity and competence of the community in addressing challenges encountered in daily life (Rusli et al., 2024:5). The stages in the implementation of the community service program are as follows:

Image 1. The stages in the implementation of the community service.

Preparation Stage

The preparation phase was conducted approximately three weeks prior to the implementation of the community service program. During this stage, the student service team collaborated with *SLB Negeri 1 Bantul* (State Special School 1 Bantul) to gather information regarding existing problems and potential within the school. The team determined the target participants, schedule, and location of activities, as well as the materials to be delivered in each meeting. Additionally, the team prepared digital-based learning media tailored to the needs of visually impaired and physically disabled students.

Implementation Stage

The educational activities were carried out on September 26, 2025, in the classroom of Department D (Physical Disabilities) at *SLB Negeri 1 Bantul*, targeting students with visual impairments and physical disabilities. The approach used in delivering information during this community service activity was an andragogical approach, employing discussion and lecture methods. The materials covered various types of vegetables found in the surrounding environment, introducing their English vocabulary and demonstrating how to plant crops using polybag containers. After the educational session, the service team conducted skills training in planting using polybags and processing the harvested food products, as follows: a) Training in planting using polybags with tomato, pakcoy, mustard greens, eggplant, and water spinach. b) Daily plant monitoring by providing a routine morning watering schedule with visually impaired and physically disabled students. c) Training in processing tomato harvests into tomato juice. d) Training in processing mustard greens and pakcoy into *capcay* (mixed vegetable stir-fry). e) Training in processing water spinach into stir-fried water spinach. f) Training in processing eggplant into crispy eggplant.dasds

Evaluation Stage

The evaluation stage was conducted after each activity in collaboration with visually impaired and physically disabled students. The method used involved question-and-answer sessions to assess their understanding of the educational materials and skills training that had

been delivered. In addition, a report on the outcomes of the community service implementation was prepared.

3. Results and Discussion

The community service program was conducted at SLB Negeri 1 Bantul, located in Ngestiharjo, Kasihan, Bantul Regency, Special Region of Yogyakarta. The program took place from Friday, September 26 to Friday, November 14, 2025, providing education and skills training in processing food products. The educational activities were delivered to visually impaired and physically disabled students, focusing on food security through the introduction of various types of vegetables that can be cultivated using polybags. The students were introduced to the tools and materials required for polybag planting and observed the planting process demonstrated by the student service team. At the same time, English vocabulary related to food security education was introduced to support their language learning.

Image 2. Delivering of Food Security Material.

The process of delivering the material was conducted by Special Education students on food security in order to introduce English vocabulary. Food security education for visually impaired and physically disabled students was delivered alternately by the student service team using a digital-based media tool called *"Voca Poly."* This approach aimed to help visually impaired and physically disabled students understand food security education while learning English vocabulary related to planting using polybags.

Through this activity, the students explained the importance for persons with disabilities to improve their knowledge and skills in food security. This is supported by Wijayanti (2024), who states that enhancing knowledge and skills in food security for persons with disabilities is essential for achieving independent food fulfillment. Therefore, to improve food security knowledge and skills among visually impaired and physically disabled students, educational activities and food processing skills training are necessary. The education began with an introduction to various types of vegetables and explanations of English vocabulary adjusted to the vegetable types, such as *tomato, pak choy, mustard, eggplant,* and *spinach*, accompanied by relevant vegetable images.

Skills training in planting vegetables using polybags and daily plant monitoring through morning watering routines (Figure 3) served as an initial step in introducing quality crop cultivation to produce balanced nutrition. This is in line with Zuhri (2024), who states

that cultivating plants using polybags as planting media can improve food availability and quality, contributing to balanced nutritional distribution. This practice is feasible due to the presence of vegetable cultivation in the area. Considering its function as a food supply source, the tradition of planting vegetables at *SLB Negeri 1 Bantul* demonstrates its potential contribution to sustaining food security (Aini et al., 2020).

Image 3. Vegetable Planting Skills Training using Polybag.

In addition to skills in planting vegetables using polybags, one of the life skills that can be provided to visually impaired and physically disabled students to support independent living is cooking skills. This is supported by Hermawan (2025), who states that cooking skills are highly suitable for children with special needs because they promote independent living and provide useful competencies for both personal and social contexts. The cooking skills training provided to visually impaired and physically disabled students was conducted over four weeks, with different food processing activities each week. Students were also introduced to English vocabulary adjusted to the type of processed vegetables (Figure 4). In the first week, the cooking training focused on processing tomatoes into tomato juice, during which students were informed about the importance of tomatoes for health. In the second week, the training involved processing mustard greens and pak choy into *capcay* (mixed vegetable stir-fry). In the third week, students learned to process water spinach into stir-fried water spinach. In the fourth week, the training focused on processing eggplant into crispy eggplant.

Image 4. Vegetable Food Proccessing Skills Training.

The evaluation conducted by the service team took place after each activity with the visually impaired and physically disabled students through question-and-answer sessions. This evaluation aimed to assess their understanding of the educational materials and skills training that had been delivered. The students were able to answer the questions provided, both in

identifying types of vegetables through English vocabulary and in demonstrating cooking skills. The results indicate that the educational activities and cooking skills training implemented were appropriate and aligned with the students' needs.

4. Conclusion

The educational activities and skills training for visually impaired and physically disabled students were conducted at SLB Negeri 1 Bantul, Ngestiharjo, Kasihan District, Bantul Regency, Special Region of Yogyakarta, over a period of approximately three months, from Friday, September 26 to Friday, November 14, 2025. This community service program aimed to improve knowledge and skills related to food security by introducing English vocabulary through a digital-based learning media called "Voca Poly." The program supported students' understanding of food security through integrated educational activities and skills training.

This community service emphasized the importance of strengthening food security fulfillment for all individuals. The implemented programs included food security education using the digital media "Voca Poly," hands-on planting using polybags, and processing vegetable products such as tomatoes, mustard greens, pak choy, water spinach, and eggplant. It is expected that this program will encourage visually impaired and physically disabled students to cultivate plants using polybags and develop cooking skills, thereby supporting independent living and equipping them with useful competencies for themselves and their communities.

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