



Design Electric Bells to Improve Kinesthetic Intelligence for the View Image in the Library and Archive Department of Bengkulu Province

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Abstract

This study aims to design an electric bell and determine the kinesthetic improvement ability of visually impaired people after using the Dewey Decimal Classification (DDC) listicv bell as an information guide. When a visitor wants to know the braille book, title, location, and classification of Dewey (DDC) then it is necessary to press the DDC bell and it will ring. People with visually impaired disabilities were the subjects of this study, and ten people as the object. Data collection using Tests, interviews, and documentation is used to collect data. The method used quantitative experiments. In addition, descriptive analysis showed that the average pre-test score was 25.87 and the average post-test score was 21.05. so H_a is accepted and H_o is rejected. The results of the study stated that the use of the Dewey electric bell (DDC) by the Bengkulu Provincial Library and Archives Service affected the kinesthetic ability of movement, visual and motor recognition of book classifications for the visually impaired.



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INTRODUCTION

Humans have five senses, the main one being sight, while the other senses provide the rest (Haryanti, 2019). These senses are a source of information for humans. Consequently, it is reasonable to assume that ability and kinesthetic a person will be very limited if his sense of sight is impaired because the amount of information and body that can be obtained will be very much reduced, compared to people who have normal bodies and eyesight, as with perception movement body (kinesthetic) is detect change location and action body without rely on information from five senses. So that blind have readiness when entering more education. The term "blind" usually refers to people who are visually impaired. Blind people are divided into two based on the level of the problem, specifically complete vision deficiency and low vision. Special services are absolutely necessary for people who have significant dewey decimal (on average) visual impairments.(Wijaya,2012). (Mulyanti et al.,2018) Obstacles faced by blind people in libraries include the inability to find collection shelves directly with the senses of touch and hearing because libraries have lots of shelves, rooms, tables and chairs. Therefore, the Bengkulu Province Library and Archives rarely move or rearrange library collections. Because blind users search for information based on their memory, their search becomes one and only when they are in the book shelf until they find the collection or information they are looking for. Based on studies preliminary conducted at the Library and Archives Agency Bengkulu Province and based on Interview with ten user blind and staff library , it is known that in an ideal world, the average user will easily find information news because books, magazines, Journal and resources other than everything are source

information. Organized and structured with good in accordance with reading genre and lesson.However,though have limitations,disabled blind still have difficulty looking for information in Libraries and Archives Province Bengkulu Library. this seen from behavior those among other things often ask, no can look for information alone, and often ask information (Fatmawati, 2015). The Dewey Decimal Classification (DDC) is used for organizing books and shelves of braille books,which resulted in assistance provided to librarians (Saleh & Komalasari, n.d.). this could occur because disabled blind no have experience, class or knowledge less kinesthetic, or they possible still not yet knowing method look for information from sources traditional .

Libraries must be able to implement technological innovations that are developing rapidly in the era of globalization, including technology for blind people with abilities the kinesthetic still less (Helda,2015). According to (BPPOM, 2013) state that children's physical development is influenced by hereditary factors in the family, gender, nutrition, health, socio economic status, and emotional disturbances. Then it is explained that the body will directly determine the skills of the senses hearing motion and health will indirectly affect the way of the blind in looking at himself and environment (Mardillah & yaningsih, 2019) claims that blind people are more sensitive to their sense of hearing and touch in their daily activities along with ability can still be less kinesthetic. In accordance with the statement (van Munster et al.,2015) To meet their needs, the blind need special media or access. According to (Sinurat,2018)the Dewey Decimal Classification (DDC) system can be used to guide visitors or users and convey information on bookstoread. The Dewey Decimal Classification system is

only effective if the user or visitor does not have a disability such as blindness and can read or see. The theory used is a combination between Joseph here used by the blind in listening directions from the bell when used like movement footsteps, location and classification of DDC books start from 000-900 b.(2) Laterality s ability to move muscle rough and smooth in accordance with the intended direction. Ability muscle rough and smooth interpreted ability brain and hearing when hear and leg muscles when follow instruction from the bell inside look for a book . Joseph Henry As inventor of the first electric bell in 1831,he found a coil of wire that is insulated tightly in the iron core to make a stronger electromagnet which became the beginning of the creation of the electric bell. Then there searchers made an electric bell for the blind by using the Df Player and the DDC Dewey Decimal Classification System (Rotmianto, 2010).

The purpose of this research is to design an electric bell that uses an electric bell with DDC sound and to measure how far the user is in increase ability kinesthetic in the Library and Archives Office of Bengkulu Province can find information, locations, and book lessons by using an electric bell in accordance with ability kinesthetic. Therefore, blind people are more sensitive to their sense of hearing and touch in living their daily lives (Erviana, 2019). So the researcher wants to make a bell electrikk DDC for guide books so that blind users can get the information they need.

METHODS

Method is an orderly way used to carry out a job to be achieved as desired (Nopiyanto et al.,2022). (Ganyang,2014). Sugiyono (Madi et al, 2018) claim that, which explains that experimental design studies are used to test the controlled

effects of various treatments on each other.

Participants

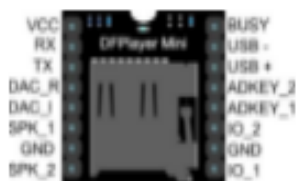
A term that refers to an individual or group involved in an activity, such as competitions, charity activities,community service, research (Harwanto, 2015). (Yusuf & Khasanah, 2003) From reports complete visit details periodically daily, obtained from participant Library of the Library and Archive Service Bengkulu Province. Seven men and three girls . 10 to 13 years old, two people. 13 to 14 years old , two people. 16(sixteen) years old 2(two) people. 17 years old 4(four) people. Who attended and participated.with level education starting from elementary to SMA. With 8 totally blind people and 2 people with low vision.

Sampling Procedures

The sampling technique is also called the research sampling technique. The sample in this case constitutes a portion of the population in the study (Rahman & Tengah, n.d.). .(Muhtadi, 2006) Participants in this study were all 10 library visitors at the Library and Archives Service of Bengkulu Province totaling ten blind people. By using the saturated sampling method or non - probability sample saturated using all members of the population as a sample. This examination is conducted at the Libraries and Archives Library Bengkulu Province, which is located at Jalan Mahoni No.12, Padang Jati Village, Bengkulu City, Ratu Samban. This research took place between 3 September 2022 to 17 September 2022.

Materials and Apparatus

The definition of material is raw material processed by industrial companies that can be obtained from local purchases, imports or (Permata, 2015). Tools and materials are tools that are used to help facilitate work and do not decrease or run out after use (Indrawati, 2018).



Picture1. PinOut DFPlayer

a. Module DFPlayer

The DFPlayer is a small module for MP3 players that has an output that can be connected directly to The DFPlayer is a small module for MP3 players speakers. The DFPlayer can be used as an independent module with additional buttons, speakers, and batteries, or it can be used in conjunction with other microcontrollers that have Transmit Picture1.PinOut DFPlayer (Santoso & Amri,2018).

Procedures

A set of actions that is the official or accepted way of doing something (Darminto, 2017). Research procedures are a series of steps carried out in research, namely: the preparation stage, the implementation of research and data analysis and report preparation.(Dijk, 2016).

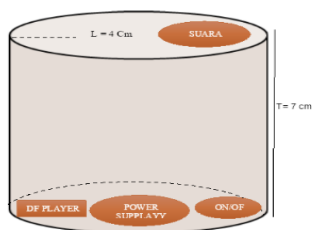


Figure 2. Design in bell and shape outside

In this bell manual , the user must first activate the Dewey Decimal Classification (DDC) electric bell using a power supply. Jamaris put forward that kinesthetic is development ability coordinate movement body and motor consists from three dimensions (1) Posture ability arrange directed ability coordinate visual and motor Visual and motor here

used by the blind in listen of DDC books start from 000-900 b.(2) Laterality ability in move muscle rough and smooth in accordance with the intended direction (Suwanti, 2022). Ability muscle rough and smooth interpreted ability brain and hearing when hear and leg muscles when follow instruction from the bell inside look for book

Principle Orientation Mobility Visual Impairments

Blind individuals have no vision, so they must find ways to use their normal abilities to take control of their eye abilities to achieve their goals. For example, using his sense of hearing, how does he use sound to stay oriented so that he can guess or determine the location of the sound source. (Ardiyan, 2015) the can distinguish the type and location of objects in his immediate environment by recognizing the sharpness of the stimulus generated. (Blind et al., 2011) "Where am I?" is one of the three main questions in orientation, which is the process of thinking and processing information. Similarly, "where am I going?" next, "how to get there?" Blind people must also be able to control, direct, and observe the development of students towards orientation and mobility education and training through orientation and mobility. There are several orientation and mobility goals, according to (Hosni, 2018):

1. Orientation and Mobility teach disabled blind how to navigate dangers and obstacles and how to move safely.
2. Move and travel in a manner independent, meaning that Skills orientation and mobility teach blind people how to move and travel without depending on others or asking help .
3. Effective move and travel , that is to say blind move and do journey not based on trial and error however

directed at the desired goal. He will move in the fastest and shortest time and distance.

4. Move and travel well, that shows that disabled blind have quality art when they move and travel. This shows that when he brought himself, his posture looked flexible without stiffness, body straight rather than bent, that her body step was not dragged, and so on.

Design or Data AN

Design is a plan or drawing made to show the appearance and function of a building, clothing, or other object before it is actually made (Surachman, 2005). (Direktorat Bina Pelayanan, 2014) For collecting data, researchers use the appropriate strategy tight with research. Method used in study this for collecting data is :

1. Method test

In study this, test pre and post intervention used for collecting data about use of the electric bell guided book with the Dewey Decimal Classification (DDC) system for introducing classification books. Instruments used in study are test actions. Theory pre-test and post-test covers questions classification books based on DDC systems and capabilities identifying books Library and Archive Service Bengkulu Province.

2. Observation

Study this using observation as method supporters. According to (Arikunto, 2022) observation is the process of using fifth sense to concentrate attention on objects. Statistics nonparametric used in method analysis of research data. Non-parametric statistics is a statistical test a block diagram mechanism work electric bell design reads :

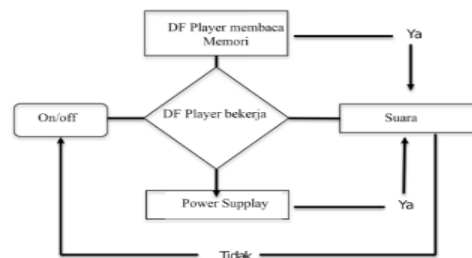


Figure 3. Diagram of the 2022 Plan g Build a Sounding Electric Bell Guide Book.

In general, the design of the ringing electric bell can be seen in the picture below:

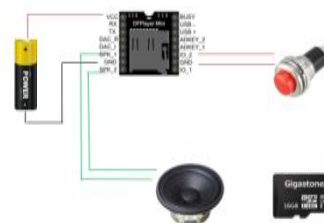


Figure 4. Design of Sounding Electric Bell Design Guide Book of DDC System

RESULTS

Something that happens or exists because of something else (Umar, 2013.). The results of the study are a review of the validity of the research results. The discussion of research results can be explained as the original thinking of researchers to provide about explanations and interpretations of research results that have been analyzed to answer questions in their research (roa & teegen, 2001) From September 3 to September 17 october 2022, research conducted in the library of the Library and Archives Service Bengkulu Province. Findings show that ability disabled blind for recognize classification book influenced in a manner significantly by the use of the Dewey Decimal Classification (DDC) electric bell. Following is description from research data :

Table 1. Summary of Respondent Characteristic Descriptive Results

No	Characteristic s of Respondents	Amount	Percentage
1	Gender		
	Woman	3 people	30 %
	Man	7 people	70 %
2	Age		
	10 years	3 people	40 %
	13 years old	2 persons	50 %
	14 years	1 person	10 %
	16 years	2 persons	
	17 years	2 persons	
3	Vision		
	Obstacles	8 people	90%
	Completely Blind	2 persons	10%
	Low Vision		

Seven male respondents (70 percent), three people under the age of 10 (30 percent), and as many as eight people (80%) are visually impaired or completely blind, according to an analysis of the sex characteristics of the respondents.

Table 2. Summary of Pre-test and Post-test Data Descriptive Results(in seconds)

No	Subject	Pre-test	Post-test
1	Rofiatul	30,60	23,27
2	Rina	25,09	22,37
3	Edho	28,65	20,15
4	Aris	26,74	20,27
5	Rexon	23,06	22,51
6	Praise	25,13	23,45
7	Efbro	23,54	19,21
8	Great	24,71	18,61
9	Iksan	23,40	17,27
10	Nanda	27,85	23,48
	Means	25,87	21,05
	Minimum	23,03	17,27
	Maximum	30,60	23,48
	std. Deviation	2,510	2,248

Descriptive analysis showed that the average pre-test score was 25.87 and

the average post-test score was 21.05. In this study, eight meetings were used to provide treatment. The time allocation for each meeting is two x thirty minutes. Ten visually impaired children participated in activities at the Bengkulu Province Library and Archives Service Library, Pros for blind individuals. The average value of the ability to recognize book classifications before using the DCC electric bell design tool is 25.87 to 21.05. Enhancement This kinesthetic is obvious. Utilizes the dewey decimal classification (DDC) electric bell.

According to (Akhmad, 2015), blind children have limitations because their sense of sight prevents them from receiving outside stimuli. Can help people with disabilities, especially the blind. Can answer the formulation of the problem and research objectives on the basis of research findings conducted to find out whether the use of the Dewey Decimal Classification (DDC) electric bell design by the Library and Archives Service of Bengkulu Province has an effect on the ability of blind people to recognize book classifications.

DISCUSSION

The action or process of talking about something in order to reach a decision or to exchange ideas (Nurhayati, 2018). Electric Bell Design for Tuanetra. The ability of the Bengkulu Province Library and Archives to recognize book classifications for blind users is greatly influenced by the results. It was found that the average pre-test score was 25.87 and the average post-test score was 21.05 after using the tool. before. With these results, it is hoped that problems related to libraries that lack support for the blind in searching for library materials can be resolved. However, there are still many libraries that do not support blind librarians, do not attach much importance to them, and do not provide more tools, materials, to other

departments, so using this bell is a solution.

CONCLUSION

A judgment or decision reached by reasoning (Umar, n.d.). Reader blind Libraries and Archives Bengkulu Province by significant more capable identify classification book blessing use Dewey Decimal Classification (DDC) electric bell design. This is seen from results before implementation utilization from dewey Decimal Classification (DDC) ring electricity. exploit electric bell design and the Dewey Decimal Classification (DDC) results average value of 25.87. Accumulated average 21.05. Ho is rejected and Ha is accepted User blind Libraries and Archives Bengkulu province more capable identify classification books and research results stated effect on ability kinesthetic visual and a motorcycle movement recognize book classification for the visually impaired . blessing use of the Dewey Decimal electric bell Classification (DDC).

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