



# Developing Information Services for Visually-Impaired Students in Indonesia

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## Abstract

This study aims to acknowledge the information needed by visually-impaired students in Indonesia. The results of this study will be used as a basis to develop library services that can be useful for visually-impaired students. The research was conducted in Foundation for Blind Handicapped Persons (YPAB) in Surabaya and involved 30 visually-impaired students ranging from 11-20 years of age. The research was conducted using questionnaires and interviews at YPAB. From the results it can be known that all students regularly visit the library 1-4 times a week, they know about the library services in the school from the teachers and the most widely used service is the general collection service in braille format. The most frequent activities done by students are chatting and discussing, whereas browsing is rarely because there is no internet connection and the number of computers is limited. Information available in the library includes information for completing schoolwork and fiction books in the form of braille. The recommendations from research results include: improving information services through teacher librarians and provide information and internet literacy training for students and teachers.

**Keywords:** Information service, Visually-impaired student, Information needs.

## 1. Introduction

Based on the UN data, the number of people with disabilities in Surabaya is as many as 200,000 people or 15% of the population that includes physical disability, mental disability, and physical and mental disability. Whereas the number of physically disabled people in Indonesia in 2003 was 156.9 people and increased very sharply in 2010 as much as 1.6 million people<sup>1</sup>. For areas around East Java, Surabaya is ranked as the highest in number of people with disabilities, which reached up to 168 thousands in 2010. The number of blind people in Indonesia was 3.6 million people by 2015. While the number of blind people in Surabaya reaches 200 people. Based on the data above, the number of people with disabilities for any type tends to increase every year. For that fact, the existence of people with disabilities should all be our concern [1]. According to Constitution No. 4/1997, Article 1 (paragraph 1) and government regulation No. 43/1998, Article 1 paragraph 1 states that, just as other citizens, persons with disabilities have the rights to be treated with equality, have positions, rights and obligations, in the roles and integrations totally in accordance with their abilities in all aspects of his life and livelihood [2].

However, the results of the study mentioned that there are many social organizations for people with disabilities in East Java do not understand and implement the accessibility policy as stated in Law No. 4/1997 above [1]. Currently, the provision of access to disabilities people is emphasized on facilities and infrastructure only. As for the provision of non-physical are just in the form of sign-age that supports physical services only [4].

The equality to access the information is also still not adequate; people with disabilities including blind people also need information to survive, for today we live in the digital era, where the need for information is the main thing for everyone without exception. But there are few facilities that support the blinds to gain the access easily and quickly because providing that access for the disabled (blind) is relatively more expensive. One of the library's initiatives to help people with disabilities is to provide blind corners, such as those found in the Jogjakarta Library and Archives [5].

Based on the data, the cases occurred to these blind people is that they have difficulty in accessing information because of facilities and infrastructure which do not support them. For example small monitor size, unavailability of keyboard braille and document in form of text.

Looking at some of the problems above, the researcher team would like to propose a library service solution for the blind people that can be implemented in public libraries as well school or special libraries for students with special needs.

## 2. YPAB Library

As stated by Prayitno in Wati [6], the criteria of a good school library are as follows: a. Easy to reach; b. Provide pleasure and convenience for the visitors; c. Provide readings that fit to the needs of the users; d. In accordance with the subject learned by the students; e. Have a useful infrastructure to help students in teaching and learning process; f. Having skilled librarians in library field/literature; g. Librarians know the needs and taste of the users; h. Having enough budget; i. The librarians prepare the collections

and provide attractive services; j. Attentive to the usage and promotion of the library.

The library at YPAB is located in a room which also functions as a class. The main function of the establishment for the library is as a source of information, which means the library should provide the information needed by the reader [7]. The source of information in the YPAB library is books owned by YPAB students for teaching and learning process. Among the collections owned by the library are: textbooks, Braille Qur'an and several novels that have been recorded into audio form. There is no particular classification in placing the collections. The collection is placed on the shelf based on the type of collection.

The YPAB library consists of one room, and the room is also used for the 8th grade, due to the limited classroom owned by the foundation. For 8th grade students, they can access library collections throughout the learning time, but for other grade students, they only permitted to access the library at break time for 30 minutes.

Many collections are provided by the library. The majority collections are in braille to facilitate the students in digesting the information they read. The types of collections are also diverse, ranging from books for supporting their learning, magazines, Koran, and Bible and all of them are available with braille alphabet. The collections are only placed by type of group only. For the audio collections, the library also provides it in the form of CDs and tapes, but for cassettes, they are rarely used because the player has been damaged, so the collection is stored only. Audio CD collection contains fairy tales or novels converted to the audio form, so the students do not need to read books but just listen to the story. In the library, there is also a collection of atlas and also embossed-printed globe, so the students can feel the existing forms of the island. This collection is used to support Social Sciences course.

Services in the library are circulation service, general collection services, reference services, serial services, and audio services. The circulation service consists of recording collections borrowed by students, for public collection services in the form of books dominated by braille book. Reference service consists in the form of atlas and globe with braille form. Serial service consists in the form of magazines in braille, while for audio services such as cassettes and CDs contain stories or novels converted to audio form, so that students can use them. There is no internet-based information service in the YPAB library and they also do not provide computer and internet connection.

To assist students in finding the required collection, there is a librarian. Students can ask questions about library services to the librarian.

### 3. Method

This research was conducted by distributing questionnaires to all students with blind disabilities in YPAB for 30 students. Besides distributing questionnaires, the researcher also conducted interviews to get a clearer information needs and utilization of library services at YPAB. From the survey results, the researcher then conducted an analysis and formulated recommendations for school libraries in meeting the information needs for people with blind disabilities.

Ages of respondents are between 11 - 20 years old studying in Junior High and Senior High. The law also mandates to provide accessibility for persons with disabilities as a whole, integrated and sustainable, including the accessibility of educational facilities and infrastructure and one of the means of education is the library. Research data show that female respondents are more than men. Central Bureau of Statistics (BPS) of East Java (2012) released the percentage of persons with disabilities based on type of disorder they experienced. It is mentioned that the number of female with disabilities (177,890) are fewer than men (154,200).

Various facts show unfair treatment and discriminatory attitudes are still common towards persons with disabilities when they meet their primary needs. For example, the rejection of children with

disabilities to enter public schools, the absence of information providing facilities and so forth. The main conclusion from the results of research conducted by Williamson and Schauder<sup>8</sup> is that blind people deserve to be provided in various ways to meet information needs, such as those provided for people with normal vision.

### 4. Findings

The data taken from YPAB shows that almost every student comes to the library minimum once a week. Even some students come every day to the library because the library is merged with the class. Library utilization is for 15-30 minutes only, during school break. All students know the information about the library from their classroom teachers. Librarian that have never made informational brochure about the services provided in the library. Here, teachers at YPAB also serve as classroom teachers. The most widely used service is the circulation service. Besides borrowing books, YPAB students also use the library to have chat or discussion with friends, do the task, reading [8] popular books, and relax in the library is also done by students. The most rarely activities are reading academic supporting collections and seeking general information. It is because of the less information source of academic supporting and general information in library.

#### Blind students' information needs

The table above shows the type of information needed by YPAB students where the source of the information needs is available in the library. The students need the most information to complete their school assignments, which is 21 students or 70%, the need information of entertainment is 16 students or 53.3%, the students who need information about their hobbies are 15 students or 50%, information of health and religion is required by 5 students or 16.7%, and only 2 students or 6.7% need information about fashion, while information about current events, local information about Surabaya, information about school condition, information about government policy or new ideas about school materials and research information, all students as many as 30 students or 100% answered did not need those information. All students as many as 30 students or 100% feel satisfied when they need some information.

Students also need information that is related to their social role can support their academic activities, so they try to find the information needed. According to David McClelland's need for achievement theory, everyone (including students) is motivated to perform because everyone wants to be seen as a successful person in his life [9].

The respondent's needs of information on entertainment is a need to escape from emotional tension or escapist needs, and desire to seek diversion. Thus their needs for these information is used to break away from daily fatigue.

Research conducted by Harisanty [10], shows that in average, students have requirements of high personal information, but requirement of entertainment and higher education information is very high. The need for information related to social roles that have a relatively high average value, yet the information needs for the completion of school assignments is very high. The need for environmental information is also highly valued, but the government's policy information needs are considered moderate. While in this study with YPAC students as respondents stated that the information needs are high which is related to the completion of school assignments, entertainment, and hobbies. In meeting the information needs, respondents responded casually.

From this study, it is clear that not all information that YPAB students need is available in the library. Based on the survey results, the resources in the school library that used for academic purpose is text books, for entertainment is fiction books, such as: novel and comic, and for hobby is magazine. This study is related with Harisanty's study [11] who stated that almost all high school

students like to read magazines for supporting their hobbies. This students will subscribe or buy the magazines, such as: otomotif magazines, Gadis, Kawanku, sport magazines, computer magazines, and music magazines, on the book store.

If we look at the need and the availability of collection in the library, we can see that the library collection has not yet fulfil students' need for information fully. This is can be related with Harisanty's study[12] who stated that high school students are not satisfied with the availability of resources in the school library which cannot fulfil their need for information. So the students prefer to use other information channels rather than school library even though there are resources for entertainment, such as: comics, novels, and magazines, in there.

The students mostly search the information on the internet access on their own phones, so their needs for information can be fulfilled. Their phones help them to read the information that they needs because the students always bring their phone wherever they go, and there is a device to zoom in or zoom out the text.

*"I often cannot find the book that I seek in the library, so I prefer looking for it on the internet using my phone because it easier to find, the font size can be larger so it can be seen."* (R. 28)

Now in phone, there is a specific application for they are who are visually-impaired, so it helps them in using such devices.

*"Using hand phone is not so difficult, miss, because there is a special application called Mobile Accessibility in the Android phone, so it makes the phone easy to use."* (R17)

On the field, the books collection is dominated by braille braille books, it is rare to find the common text books. For CDs or cassettes collection, the CDs are mostly played by the children than the cassette one because CDs are easily to use.

*"The cassettes collection is rather old, miss, the tape recorder had been already old, so I prefer to play CDs. The children also prefer CDs rather than cassettes."*

The students prefer the text books collection rather than the audio collection because they can find the audio collection on the internet.

*"There are so many things on the internet, so we can search anything on it meanwhile there are only books in the library."* (R. 20)

This study is related with Harisanty's study<sup>11</sup> which stated that the chosen information channel for high school students in Surabaya is internet. Wersif stated, according the fact that the traditional information system and service (library) only used as the alternative among other information channels. Usually traditional information channel is less desirable in the process of discovering information [13]. Even though one of library function as a recreation area and if we judge based on the data above, we can see that the function is not utilized as maximum yet.

This study is convenient with rational choice theory where someone has tendency to compare the benefit that they will get from every possibility that they will find to achieve their goals. This is why the user can choose one of the best choices that will give them a relative advantage. This is also supported by Pirelli and Card, as they wrote that the society in the process of discovering the information then can assure that they will choose retrieval mode which give them the maximum quantity and quality information for a short time [14]. Adding by Friedman, an individual will estimate cost and benefit based on their belief of preference and value [14].

Based on the list above, we can see how students find the collection in the library which are: 83.3% or 25 students look at the book shelf without some help, 10% or 3 students ask about the book placed to the librarian, and 6.7% or 2 students ask some help to the librarian to find a book. So we can see that the students are more independent to find the information that they are looking for, and it is rare for them to ask question or help from the librarian.

*"Just look it up on the shelf, miss. Even it takes more time to find it, but it will more comfortable to find it by ourselves. If we cannot*

*find it, we will ask the librarian to help us because sometimes there is no keeper at the library."* (R. 5)

This is also similar to the study done by Harisanty [15] who stated that almost all High School students would directly go to the shelf to find the book because most of them did not know how to utilize the catalogue. This behaviour is resulted with a longer time to look at the collection as show in this list below.

The duration of YPAB respondents needed to look for some collections were mostly 10-20 minutes. It consumed some time because there was no OPAC in the library. If it was correlated to duration of the library visit, most of their time was spent in looking for the collections.

According to result of probing, one of the respondents that managed to look for collections in between 10-20 minutes said:

*"I quite often go to the library, but I cannot manage to look for books quite fast because the bookshelves is not tidy, so I have to handle it slowly."*(R.12).

Other opinion was also found in a respondent that managed to look for collections within 10 minutes. Here was what he said:

*"I read novels when I go to the library. What is it, hmm, Harry Potter. It is recommended. I usually find it quickly, because I place it where I am the only one who knows. As the result, when I come back, I straight heading there, and usually it is not missing. If it is missing, I will look for it, but it is rarely. Haha"* (R.5)

There was also a statement from a respondent who usually take almost 30 minutes to look for books. Here was the statement:

*"I am sometimes confused if the bookshelves are messy. It is hard for me to look for the books. Moreover I have to finger it one by one."* (R.13)

#### Information source used by YPAB students

Result of the survey showed various information channel which often used by YPAB respondents to search information about entertainment, religion, hobby, and school assignments. For information about entertainment, students use the internet, library school, and the radio as the information source. For information about health overall, they use the internet. For information about religion, they use the internet and library school. While for information for fashion and style, they get it from their friends. For the information that is needed to do school assignments, they use library school and the internet as the source.

## 5. Discussion

Library utilization is a term that is used to describe the means how to utilize the library and all the facility provided by librarians and the maximized usage [16]. From observation result and questionnaire in YPAC, it can be seen that the library usage and utilization has not been maximized. It is indicated from the total borrowed book collection in a month. From research result, it shows 76.7% just borrow 1 copy, and the rest 23.3% borrow more than 2 copies. Lack of interest in borrowing books does not mean low interest in going to the library. Students rarely do borrowing because they tent to read in the library or class, beside the fear at losing the borrowed books.

Libraries where supposed to be information source for people with disabilities not functionally maximized. It can be seen from the low library utilization. In YPAB, libraries are just a neglected storage of book collections. In result, the students are unwilling to use the library. Library utilization special school for blind children reflects what those children needs. Required collections that have to be owned are books suitable to the curriculum in text form and braille or text with big fonts. Moreover, talking books/audio books are also recommended to be provided in order students to be able to listen those books. For those who are not familiar with braille, formatted braille printed books also can be provided, where they can learn how to read braille letters, where their parents or teach-

ers can read those books for them. Accordingly, for reference collections, like dictionaries in formatted braille print or audio.

Libraries can also improve their collections with some electronics, such as computer with certain software (talking computer), record players, and movie projector. Besides providing collections for blind children, collections for staffs and teachers are also needed in order both teachers and students can learn the same materials with different format. Collections with tactile format applied are also can help students absorb the material, for example story books with props they can touch and feel.

To enrich the collections, in this information era, this special library for blind children is able to improve their technology with the internet. Nowadays, printed form collections are not a must, electronic files that can be stored in the computer can also be considered. Teachers are able to accompany their students finding the information through the internet. The result of the research shows that students are finding the information through the internet using their gadget. They consider information they find in the internet are more varied and up to date. According to IFLA, in the developed country, the number of blind people is 3-5% only, and it needs to be added in order to obtain the right of accessing resources evenly.

### Teacher Librarian

Teachers in YPAB provide library information to their student such as collections that they have, what services are provides, and others can be seen from questioner results; which the student answers that they receive the information about library from their teachers. Teachers have an important role in utilization of library as IFLA argued that there are 4 student's activities in utilizes library collections such as do homework, do assignments, work on the final project, do the troubleshooting tasks, and make a paper where the activities above will not be separated from the role of teachers in the school. In YPAB, 30 students gave answers that no lesson or task which require students to use library, teachers more suggest the students to use internet in fulfilling the assignment that provided by teachers. It becomes one of causes of low library utilization in YPAB. On the other hand, the uses of internet in mobile phone also affect the reduced use of library for collecting information or do the assignment from the school. YPAB students prefer to use smartphone to get information and most of the students have smartphone that use mobile accessibility applications in android.

Given the importance of teacher role in fulfilment YPAB student's needs of information, the teachers should be equipped with the expertise of librarian or called librarian teachers so they are able to provide the information according to the student needs. Teachers can also guide YPAB students in browsing information using internet so that the YPAB students have long life learning skill; i.e. able to browsing valid information, up to date, and beneficial for their life, supporting academic activities and in daily life. Librarian teacher is the centre of student learning in school, where the duty of the librarian teacher is to link the school curriculum and fulfilment the needs of information in school. The duties of the librarian teacher are helping the student to defines, access, manage, integrate, evaluate, create, and well-communicate both ethically and intellectually. Broadly speaking, librarian teacher may help students to find information in the middle of overload information.

Many delays of information come into children with visual impairment because the form of media information is mostly printed. The access to printed collection has been recognized as a significant barrier for blind people either in school environment or beyond<sup>8</sup>. Luxton argued that standard printing slacken blind people to be independent and often make them depending on others. Although history shows that, the presentation of information has not shown much consideration for the needs of people with disabilities, nowadays, computer and internet looks better, more accessible with media variation than the printed one. In YPAB, there are several collection that converted into braille but its limited and it

need more time to converting, because not all printed information and non-printed can directly give in an easy form for blind people. The most common is that there are some social communities, which have concern with blind people that aware to converting information to an easy form that accessible like using braille or in podcast, but it is limited. This also happened in YPAB library where out of date collection, lack in entertain collection but more in textbook. This is become one causes of lack utilize in library for students and they prefer to using internet which give more media variation that accessible for blind people than the printed one.

According to research result by Hashemi [17] and Bodaghi [18] shows that blind people have botheration using library because lack of facilities and equipment and limited collection for blind people, lack of attention from the librarian for disability people especially the blind people and librarian also poor trained to faced user with disability. It also happened in YPAB library. Lack of awareness from the institution about the importance of library can be sees from limited collection in library, less renewal, and room that merge with a classroom that results in non-optimal utilize of YPAB library.

## 6. Conclusion

Information needs from the YPAB students is not much different with the normal children, where they prefer using the information from the internet. They choose internet as a source because it easy to access, fast, and have many information. The library collections still could not fulfil their needs especially to support school activities, adding knowledge, entertainment, and hobby. YPAB school library's condition is likely with another school library in Indonesia, with short visiting hours (open in school breaks), no librarian, not integrating with school curriculum, limited physical collection, and uncomfortable room condition. Teacher's participation only limited in introduce the location and library services, neither help the students in utilize the information physically nor from the internet.

Recommendation for this research are provide a special room for library with various collections whether digital or physical. Integrate an education Curriculum that involve school library so the student could make use of the information provided by the school efficiently. Do an interlibrary loan with other public town or province libraries that enable YPAB students to use their special collections. Give a thorough counselling regarding Internet information surfing so the students could browse for information efficiently. Do a literacy information education for disabled students that may enable them to browse for information all by themselves. For the next research, researchers may study on how to improve the school library service strategies for visually-impaired students throughout Indonesia.

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