Strategies in Teaching Reading to Visually Impaired Students

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ABSTRACT

This study aimed to determine the strategies that are used in teaching reading to visually impaired students and the challenges in teaching reading to visually impaired students in SLB Negeri 1 Tabanan. The research design used was a descriptive qualitative design. Subject of the study was the students with visually impaired in SLB Negeri 1 Tabanan which amounted 5 students. Data were collected by video recording, field note, and interview. Then, data were analyzed qualitatively. The results showed that (1) The English teacher used six strategies in teaching reading to visually impaired students in SLB Negeri 1 Tabanan, namely reading paper strategies (paper braille with pen reglet), reading e-text strategies (regular e-text with JAWS application), tracking support with JAWS application, auditory support (in the form of words and sentences level by using JAWS application), auditory strategies (live reader with a story entitled My School) (2) There were some challenges in teaching visually impaired students in SLB Negeri 1 Tabanan. One of them was the students were lack of vocabularies, so they could not response the lesson as good as normal students and the teacher needed longer time to teach those students. Second, the visually impaired students could not learn or did something individually, so they always needed assistance from the other people because visually impaired students could not see object around clearly. The last, the teacher looked a little difficult when showing an object to the students, because of the visual limitation experienced by students. It is suggested more strategies, software and application could be used to teach visually impaired students, and there will be more training or workshop for teachers so they have more experiences in dealing with students with special needs.

1. Introduction

Education is an important part of the human being aspects of life. Education is basic rights for all individuals, even for all situations and conditions of an individual, because education is the foundation for lifelong learning. By acquiring knowledge, individuals are expected to be able to develop their potential so that they can compete with the community. Therefore, education is a mandatory requirement for all individuals, including for Children with Special Needs. So far, special needs children attend education that is in accordance with their abnormalities. Indirectly this has discriminated children with special impairments, consequently inhibiting the process of getting to know each other, between the regular children and children with special needs. The impact is children with special needs become excluded in interacting with the community. The right to get equal education for all children in Indonesia is the main reason of emerging the concept of inclusive education. Fulfillment of the rights of every child to obtain education is also stated in the 1945 Constitution of the Republic of Indonesia Pasal 31 ayat (1). It says that every citizen has the right to education, ayat (2) that every citizen is obliged to attend basic education and the government is obligatory pay for it (Undang Undang Dasar 1945. Relating to efforts to fulfill the right to education without discrimination, inclusive education emerged in Indonesia. Children with special needs were created by God on earth, there is no such thing as a failed product. Disability or cognitive and physical deficiencies will not be able to prevent a person from achieving peak performance. Indeed, they also harbor enormous self-potential. However, treating children with special needs in obtaining education is still marginalized. For example, many people who have different abilities physically must be removed from the world of education and employment Asyhabuddin (2008). The same thing was also shown by Maftuhin & Fuad (2018) that children with special needs get different treatment in terms of educational services, because they are seen to have obstacles in several dimensions of life, so in education services...
must be separated from "normal" children. "So that the learning process is not interrupted. One type of children with special needs is visually impaired students.

Visually impaired people are known difficult to see objects clearly. To teach visually impaired students, especially English, it needs expertise, enthusiasm, and seriousness from teachers. Visually impaired students have difficulty to maximize the function of their eyes or even barely can use their eyes at all. Visual impairment is the condition of the eyes, in which the visual acuity in 20/200 or less in the better eye with the best correction and the field vision is so narrow that its widest diameter subtends an angular distance no greater than 20 degrees Koeswiyono, Asori, & Setyaningsih (2012). Although they are difficult to do visual activity, they are able to do activities using other senses. To support their lack in visual activity, they need their other senses such as hearing, movement, or tactile.

In teaching visual impaired the teacher need some of the strategies for handling learners with visual impairment in the classroom Sarahmboshi (2018). The strategies are the first is using large writing on the chalk board or visual aids. The use of colored chalks is recommended. Let the children come close to the board or teaching aids so that they can see more easily. The second is read aloud what is written on the chalkboard. The third is learners may have difficulties seeing the lines on writing papers. They can be given papers with thicker lines drawn on it. Next the fourth is some learners will benefit from using magnifying aids. The fifth is children with poor visual need to learn through touch as well as through hearing. They should be given a chance to handle objects. And the sixth is use verbal praise or touch to give the children encouragement. The last is use the name of the pupil's or students during class discussions so that the individual knows who is talking. Basically, visually impaired students pose difficulties in learning foreign language since human vision serves as a major stimulus for learning a language Agesa & Arslantas (in Susanto & Nanda, 2018). Without vision, the students rely on the remaining senses of hearing and motor-kinesthetic feedback in learning.

In Indonesia, English learning is intended to be one of the compulsory subjects from junior high school, heading to senior high school and lastly be up to the universities. In learning English, there are four main skills, namely speaking, writing, listening and reading. In this sense, the writers principally discussed reading skill since it can essentially cover the three other skills due to its continual existence when students are learning writing, speaking, and listening. English is not only taught for the majority of normal students, but also for students with any physical disorder Kartikasari & Lestiono (2017).

According to Kartikasari & Lestiono (2017), visually impaired students commonly have faced difficulties in learning English especially in reading. More assistance from teacher and environment are needed by students with special needs to improve their English skills, especially reading skill. Visually impaired students learn reading skill in a different way from the usual of students, such as they use Braille book because their disabilities to accommodate some visual teaching media. English teachers are required to know how to use the appropriate strategies in teaching reading to visually impaired students. So, they are required to be creative and to have a good preparation in teaching reading to visually impaired students in the classroom.

In teaching and learning the language, at least there are two basic barriers found in the classroom Susanto & Nanda, (2018). The first is when the teaching materials are sight based lessons. The lessons consist of materials with visual format such as pictures. Then, the classroom may face difficulties to avoid pedagogical methods with sight based on visual perception. The second is when the teachers are not aware of the specific needs of the students and the general implications of their visual impairments. They are not aware of how to behave towards the students. Also, they are not aware what the cognitive implications of the visual impairments for the students are. This may implicate slowing down the learning process in the classroom and the learning outcome is not maximum.

In the early observation the researcher had conducted observations at SLB Negeri 2 Buleleng and SLB Negeri 1 Tabanan. From the observation researchers had seen some students with special needs such as hearing impaired, visually impaired, mental retardation, mental impairment, tunalaras, and tunaganda. Not all groups could be found in one SLB school and from the two places that had been observed, researchers are interested in investigating visually impaired students. Visually impaired students were found in SLB Negeri 1 Tabanan. Then the researcher conducted further observation and interview in that school. It was found that visually impaired students learned to read and be taught using special strategies by the teacher. Therefore, researchers are interested in knowing what the special strategies are used.

Based on the phenomena above, the researcher is interested in conducting this study about the strategies that used in teaching reading to visually impaired students as well as the challenges in teaching reading to visually impaired students.
THEORETICAL DESCRIPTION

Visually Impaired Students

Definition of Blindness according to Kauffman & Hallahan (2017) is an individual who has vision impairment or vision accuracy of less than 6/60 after being corrected or no longer has vision. Because visually impaired people have fairness in the sense of sight then the learning process emphasizes in other sense organs, the sense of touch and the sense of hearing. Therefore the principle that must be considered in giving instruction to visually impaired individuals is that the media used must be tactual and sound, for example the use of braille writing, embossed drawings, model objects and tangible objects. Meanwhile the media that speak out are tape recorders and JAWS software. To help visually impaired activities in special schools they learn about Orientation and Mobility. Orientation and Mobility include learning how the visually impaired know the place and direction and how to use a white stick (a special stick of visually impaired people made of aluminum).

The following is the identification of a child experiencing visual impairment:
1. Unable to see.
2. Not being able to recognize people at a distance of 6 meters.
3. Real damage to both balls eye.
4. Groping / stumbling frequently time goes on.
5. Difficulty taking small objects nearby.
6. The black part of the eyeball cloudy /scaly/dry.
7. Eyes keep swaying.

The default value is 6, namely if the child has at least 6 symptoms above, then the child is visually impaired.

Strategy to Visually Impaired Students in Reading

According to Burton et al. (2010) there are several reading strategies for students with visually impairment. Those reading strategies are based on media used. The strategies are reading paper, reading e-text strategies and auditory strategies. Each strategy has its own sub strategies. It can be explained as follows.

1. Reading Paper Strategies
   a. Regular Print
      Regular print is the source print without adaptations. A typical student who would use regular print is one with normal or near normal acuity.
   b. Handheld Magnification
      Refer to websites that teachers use as part of their curricular practices. A handheld magnifier is an optical device that provides magnification and or illumination. A typical student who would use a portable magnifier is a student with low vision who has difficulty reading regular print and requires immediate enlargement of text and/or graphics.
   c. Enlarge Small Amount of Text
      This solution means that small amounts of material are enlarged for the student using a photocopier. A typical student who would use these materials is a student with low vision who has difficulty reading regular print and needs quick access to classroom materials.
   d. Large Print Copy
      A large print version of text is material (e.g. textbook or novel) that has been prepared in a larger font size. Standard large font is 18 or 24 pt. A typical student who would use large print material is a student with low vision who has difficulty reading regular print.
   e. Video Magnification
      A video magnifier is a system that uses a video camera to project a magnified image of printed text, handwriting or photographs onto a video monitor or TV screen. Some video magnifier models (e.g. room viewing systems) have the capability to view the blackboard or materials posted on walls around the classroom. A typical student who would use a video magnifier is a low vision student who has difficulty reading regular print and requires enlargement of text and/or graphics.
   f. Video Magnification With Computer
      A video magnifier is a system that uses a video camera to project a magnified image of printed text, handwriting or photographs onto a video monitor, PC or TV screen. Some video magnifier models (e.g. room viewing systems) have the capability to view the blackboard or materials posted on walls around the classroom. A typical student who would use a video
magnifier is a low vision student who has difficulty reading regular print and requires enlargement of text and/or graphics. The computer allows the student to save the printed text and/or graphics as a computer file.

g. Paper Braille

Braille is a tactile reading system. Each Braille character or cell is made up of six dot positions, arranged in a rectangle containing two columns of three dots each. A typical student who uses Braille is one who has limited or no functional vision. This student cannot read print or cannot read print for long periods of time.

2. Reading E-text Strategies

a. Regular E-Text (No Enhancement)

E-text (from "electronic text"; sometimes written as etext) is, generally, any text-based information that is available in a digital format and read by electronic means. A typical student who uses e-text requires access to curricular and recreational reading materials in electronic format.

b. Change Text Appearance

Changing the appearance of e-text means changing the font, size, and color of text and/or background. A typical student who would benefit from changing the appearance is one who requires higher contrast, different font, larger print, and spacing.

c. Magnify Text or Entire Screen

Magnification of text means that the size of the text has been changed either by increasing the font size, increasing the zoom, or using special screen magnification software. Magnification of the computer screen means that elements such as icons, menus, and dialogue boxes have been enlarged either by customizing the operating system or by using screen magnification software. A typical student who uses magnification is one who requires enlargement of some or all on-screen elements.

d. Tracking Support

Tracking support means that words or sentences are highlighted on the screen as e-text is read to the student. Some programs allow this highlighting to be used with or without speech. An example of a student who would benefit from tracking support would be one with difficulty keeping his/her place when reading due to visual impairments that include: visual acuity loss, eye muscle imbalances, visual field deficits, visual perceptual skill delays and processing problems.

e. Auditory Support

Auditory support means that a computer voice will read e-text to the student. This requires a special program with text to speech features. An example of a student who would use auditory support is someone who has difficulties with reading or someone who suffers from visual fatigue.

f. Refreshable Braille

A refreshable Braille device is an electromechanical device for displaying Braille characters, usually by means of raising dots through holes in a flat surface. These displays can be attached to a computer or integrated into a Braille Note taker. An example of a student who would use this device would be an academic Braille using student. The main reason for using a Braille display is to support student literacy because students are reading the Braille and not just listening to content.

3. Auditory Strategies

a. Live Reader

A live reader is a person such as a peer, parent or teaching assistant who reads to a student. A student may use a live reader because they have difficulties with reading; they cannot physically access print material; or they do not have the print material in the appropriate medium.

b. CDS

A CD audio book is a recording of the contents of a book read aloud by a human voice. Depending on the CD player, there may be enhanced navigation and search features. An example of a student who would use this media would be a student who experiences visual fatigue, benefits from listening to some books on CD rather than reading them, and wants to use mainstream technology.

c. Digital Audio Files

Books in digital audio format can either be recordings of human voices reading books or computer voices. Books in this format can be played on a computer or a digital audio player. An example of a student who would use this media is someone who requires an alternative to print material in a portable form.
2. Methods

In this study, it was applied a descriptive qualitative design. This research was to describe the teacher’s strategy in teaching reading to visually impaired students in SLB Negeri 1 Tabanan. Here, all detailed data were gathered then a conclusion was drawn at the end. The data were collected through observation and interview. All of the data were described and analyzed qualitatively to find out and discuss further about teacher’s strategy in teaching reading to visually impaired students in SLB Negeri 1 Tabanan.

In analyzing the data in qualitative data analysis, it is needed to do some actions. There were four concurrent ways of conducting the action, such as: data collection, data condensation, data display, and also conclusion: drawing/verifying Miles & Huberman (1994) Those four steps were related to each other. It checked and re-checked the data until the researcher obtained the real data needed in doing this study.

3. Result and Discussion

In gaining data about the strategies or media used by the teacher to teach the visually impaired students in SLB Negeri 1 Tabanan, observations were conducted three times. The first one was on January 16, 2020, the second one was conducted on January 30, 2020, while the last one was on February 6, 2020. There was only one teacher being observed in this school. There were five students observed consisting of one student in the 7th grade, two students in the 8th grade, and two students in the 12th grade. The strategies and media used by the teacher in Meeting 1, Meeting 2 and Meeting 3 could be seen in the following table.

Table 1. Strategies and Media Used Meeting 1, Meeting 2 and Meeting 3

<table>
<thead>
<tr>
<th>No</th>
<th>Strategy</th>
<th>Meeting 1</th>
<th>Meeting 2</th>
<th>Meeting 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>READING PAPER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular Print</td>
<td>With Pen Reglet</td>
<td>With Pen Reglet</td>
<td>With Pen Reglet.</td>
</tr>
<tr>
<td></td>
<td>Handheld Magnification</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Enlarge Small Amount of Text</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Large Print Copy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Video Magnification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Video Magnification With Computer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paper Braille</td>
<td>With Pen Reglet</td>
<td>With Pen Reglet</td>
<td>With Pen Reglet.</td>
</tr>
<tr>
<td>2</td>
<td>READING E-TEXT</td>
<td>JAWS Application</td>
<td>JAWS Application</td>
<td>JAWS Application.</td>
</tr>
<tr>
<td></td>
<td>Regular E-Text (No Enhancements)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Change Text Appearance</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Magnify Text or Entire Screen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tracking Support</td>
<td>JAWS Application</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auditory Support</td>
<td>JAWS (only word level)</td>
<td>JAWS (sentences level)</td>
<td>JAWS (sentences level)</td>
</tr>
<tr>
<td></td>
<td>Refreshable Braille</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There were two research questions in this study. They are (1) What are the strategies that can be used in teaching reading to visually impaired students? and (2) What are the challenges in teaching reading to visually impaired students? Each result is elaborated in detail in this part.

In answering the first research question, observations were conducted in order to gain data. The observation was done three times. The result of the observation showed that there were a number of strategies and media used by the teacher in SLB Negeri 1 Tabanan. The strategies and media were (1) Reading Paper strategies (Paper Braille with Pen Reglet), (2) Reading e-text strategies (Regular e-text with JAWS application), (3) Tracking Support with JAWS application, (4) Auditory Support (in the form of words and sentences level by using JAWS application), (5) Auditory strategies (Live Reader with a story entitled My School and Live Reader with multiple choice quizzes) and (6) Digital Audio Files with a story entitled My School. Those strategies and media used to teach visually impaired students was based on theories from Burton et al. (2010). In fact, there were only six strategies and media out of sixteen used in SLB Negeri 1 Tabanan. It was confirmed by the result of observation and the result of interview.

The result of this study was in line with the result of the study from Kartikasari & Lestiono (2017). It was found that there were six strategies used by English teacher in teaching reading to the visually impaired student, namely, the first one is identifying the purpose of a text, second one is skimming the text for main ideas, the third is the scanning the text for specific information, the fourth is analyzing the vocabulary, and two other strategies shown by the use of media suchlike, the fifth is e-text strategy and the last one is auditory strategy. This present study also found that the teacher in SLB Negeri 1 Tabanan used e-text combined with JAWS application and auditory strategy (Live Reader with a story entitled My School and Live Reader with multiple choice quizzes).

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**Table 1.**

<table>
<thead>
<tr>
<th>No</th>
<th>Strategy</th>
<th>Meeting 1</th>
<th>Meeting 2</th>
<th>Meeting 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>AUDITORY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Live Reader</td>
<td>A story entitled “My School”</td>
<td>Combined with Multiple choice quiz.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Digital Audio Files</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Figure 1.** The students doing the learning with paper braille

**Figure 2.** Braille with pen reglet
In addition, the result of this study was also supported by a research from Susanto & Nanda (2018) which found that visually impaired students actually can have unique ways of learning foreign language supported by the assistive technology. In relation to assistive technology, it was also used by the teacher in SLB Negeri 1 Tabanan in the form of JAWS application. It assisted the students in pronouncing words and sentences. Besides, it also assisted them in listening to the material.

Figure 3. The students learn with JAWS application.

Kauffman & Hallahan (2017) state there are identification of a child experiencing visual impairment. Those are (1) Unable to see, (2) Not being able to recognize people at a distance of 6 meters, (3) Real damage to both balls eye, (4) Gropping / stumbling frequently time goes on, (5) Difficulty taking small objects nearby, (6) The black part of the eyeball cloudy /scaly /dry, and (7) Eyes keep swaying. From those identification, the students in SLB Negeri 1 Tabanan were experiencing the black part of the eyeball cloudy so they were unable to see objects. Therefore, for reading activities, the teacher read the text for the students and assisted by JAWS application. This situation is similar with the result of a research from Rahmawati, (2018). It was found that in giving instruction to visually impaired individuals, the media used must be tactual and sound, for example the use of braille writing, tape recorders and JAWS software.

In teaching visually impaired students especially teaching reading, the teacher in SLB Negeri 1 Tabanan teach reading as intensive reading. According to Waring R (1997), intensive reading is very important for learning vocabulary and understanding how text is formed. When observation was done, the teacher taught reading by using a text entitled My School. In that text, there were unfamiliar or difficult vocabularies, such as "special needs", "autistic", "learner", and "foreigners". The teacher told the students the meaning of those words in Indonesian. After discussing the unfamiliar or difficult vocabularies, the teacher gave some questions related to the text to assess the students' comprehension.

Başaran (2012) conducted a study which was aims at investigating how visually impaired students are taught English as a foreign language and analyzing the techniques and materials that EFL teachers utilize to teach English at schools for the visually impaired. It was found that the teacher used traditional grammar-translation techniques in teaching visually impaired students. It also happened when the teacher in SLB Negeri 1 Tabanan teaching a topic about Parts of the School. The teacher translated English words and sentences into Indonesian, for example the word “Library”, “Canteen”, “Classroom”, “Music Room”, and “Hall.” An example of sentences translated was found when the teacher taught a topic about My School. The teacher translated every sentence in the story of My School into Indonesian, for example the sentences are “Hi friends, my name is Leni.” “I am from Lombok, Indonesia and I go to the school for special needs children, SLB Negeri 1 Tabanan in grade 7th.

In relation to the second research question about the challenge in teaching visually impaired, the finding of this study is in line with the result of the study from Kocyigit & Artar, (2015). It was found that the teachers who taught visually impaired students faced difficulty in the learning and/or teaching processes. The teacher in SLB Negeri 1 Tabanan also faced difficulties in teaching the students because the students were lack of vocabularies, so that the visually impaired students could not response the lesson as good as normal students and the teacher needs long time to teach the visually impaired students than normal one.

Another research which found similar finding with this research was a research conducted by Zorluel Özer & Cabaroğlu (2018). It was showed that teachers most frequently utilized auditory teaching strategies, used L1 and computer assisted teaching strategies while teaching vocabulary to visually impaired young learners. Material shortage, time constraints, and dependency of students on other people to study. Those strategies were also applied by the teacher in SLB Negeri 1 Tabanan in the form of JAWS application. It assisted the students in listening the correct pronunciation in reading the sentences.
other obstacles the teacher also felt lack of time, because the visually impaired students needed long time to understand the lesson that was explained by the teacher. Another similar problem usually found to the visually impaired student that was they could not learn or did something individually. The visually impaired students always needed assistance from the other people because visually impaired students could not see object around clearly.

When the researcher conducted the research, there were several challenges faced, like: The visually limitations experienced by students in conducting learning so the teacher looks a little difficult when wants to show an object to be shown to the students, the teacher should explain in detail to the students so students are able to comprehend the object. Besides, the obstacle faced is the lack of knowledge about finding good and correct information by students, so that it could cause the time needed for quite a long time. So the teachers who taught visually impaired students were required to be active and creative when carrying out learning. The solution to this problem was having a meeting with teachers from other schools that got the same problems. By doing this the teacher could exchange information, or they could use information sources interchangeably.

4. Conclusion

Based on the result and discussion on the previous chapter, it can be concluded on the following:
1. The English teacher used six strategies in teaching reading to visually impaired students in SLB Negeri 1 Tabanan. There were (a) Reading Paper Strategies (Paper Braille with Pen Reglet), (b) Reading e-text strategies (regular e-text with JAWS application), (c) Tracking support with JAWS application, (d) Auditory support (in the form of words and sentences level by using JAWS application), (e) Auditory Strategies (Live reader with a story entitled my school and live reader with multiple choice quizzes), and (f) Digital Audio (files with a story entitled My School).
2. There were also some challenges in teaching visually impaired students in SLB Negeri 1 Tabanan. One of them was the students were lack of vocabularies, so they could not response the lesson as good as normal students and the teacher needs long time to teach that students. Second, the visually impaired students could not learn or did something individually, so they always needed assistance from the other people because visually impaired students could not see object around clearly. And the last, the teacher looked a little difficult when showing an object to be shown to the students, because the visually limitation experienced by students.

1. To the teacher
   a. Due to the students limitation in written communication, it will be better to put emphasize more on their spoken communication, as it does not require vision but it can increase students vocabulary.
   b. Due to visually limitation experienced, it will be better when the teacher will show something they could bring replicas of object, so the students can feel the objects directly and it will more easily to describe the object for them.

2. To the researchers
   This research only explained six strategies in teaching reading to visually impaired students, more advanced researchers are hopefully to be able to carried on in the future to find more strategies that could be used to teaching the impaired students, in order the improve their English.

3. To the educational institution
   It could be suggested for educational institution to conduct more training or workshop for teachers so they have more experiences in dealing with students with special needs in common and students with visual impairment in particular. Besides, it is hoped that institution could introduce software and application to support teaching and learning process.

References


