

Utilization of English Reading Strategies by the Visually Impaired Student of Universitas Brawijaya for English Learning Material Comprehension

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Abstract: Visual impairment is a disability that affects the eyes function. Although a person utilizes the corrective lenses, he might still acquire the low vision ability that can impact his education performance, especially in reading courses materials, since reading is a fundamental tool for critical and creative thinking that enable the readers to acknowledge more information. Thus, there should be the reading strategies employed for the learning material comprehension. This study aims to observe the reading strategies utilized by the visually impaired student of Universitas Brawijaya in comprehending the English learning material. The Special Education Technology-British Columbia (SET-BC) theory is adapted for observing the reading strategies. By using observation, field notes, and interview as the methods of data collection, the data is acquired from the participant who is a visually impaired male student majoring in English Language Education Program, Universitas Brawijaya. The result demonstrates that there are three reading strategies employed by the visually impaired student, i.e., paper strategy, e-text strategy, and auditory strategy. The significances of the strategies are revealing that the strategies indeed assist the student in comprehending the English learning materials and found out the most effective reading strategy for the visually impaired student.

1 INTRODUCTION

It is estimated by the World Health Organization (WHO) and the World Bank (Officer, A. and Posarac, A, 2011) that more than one billion people suffer from various kind of disabilities. However, disability becomes an issue of human rights since people with disabilities are discriminated and often not treated equally by their fellows without disabilities, like in education (Officer, A. and Posarac, A, 2011). For this concern, the concept of inclusive education is established to eliminate barriers and contribute reasonable adjustment to enable all learners, either with or without disabilities, in participating and attaining in the regular settings as well as intensifying propinquity and diminishing prejudgment to the people with disabilities by their fellows without disabilities (Officer, A. and Posarac, A, 2011). United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2015) stated that “Persons with disabilities can access an inclusive, quality, and free

primary education and secondary education on an equal basis with others in the communities in which they live.” (p. 6). In following the statement of UNESCO about the educational right for the people with disabilities, Universitas Brawijaya opens an inclusive education that can accommodate the needs of students with disabilities by establishing Pusat Studi dan Layanan Disabilitas Universitas Brawijaya.

Pusat Studi dan Layanan Disabilitas (Center for Disability Studies and Services) Universitas Brawijaya, abbreviated as PSLD UB, is an institution which aims to actualize Universitas Brawijaya as an inclusive university. Established in 2012, PSLD UB was constituted due to the absence of access to the higher education for the people with disabilities in Indonesia. Starting from the concern, then PSLD UB was established after going through some consideration among the university officials about the operational system and the facilities for the people with disabilities. By establishing PSLD UB, Universitas Brawijaya, in fact, attempts to raise an

awareness about the educational right for people with disabilities in Indonesia, so that the people with disabilities can acquire the equality of educational rights like their fellows without disabilities (Pusat Studi dan Layanan Disabilitas Universitas Brawijaya, 2017).

PSLD UB functions as a service provider for the people with disabilities as well as a research center for the disability issues (Pusat Studi dan Layanan Disabilitas, 2017). As a service provider, PSLD UB assists the students with disabilities by empowering volunteers with certain criteria to assist the students in their learning process in the inclusive classrooms. Then as a research center, PSLD UB becomes a place for the academics and researchers to conduct the research regarding the disability issues. By serving these functions, the objectives of PSLD UB are providing the opportunities for the people with disabilities to acquire the higher education as well as providing the opportunities for the academics and researchers in enriching the knowledge in the disability field as well as increasing public's awareness on the disability issues.

In becoming a service provider for the people with disabilities, PSLD UB accepts many students with different categories of disabilities to study in various departments in Universitas Brawijaya. Since 2012, there are 111 students with various range of disabilities, such as autism, hearing impairments, visual impairments, mental retardation, and so on, majoring in various departments, such as fine arts, English language education, international relations, accounting, sociology, psychology, visual communication design, information technology, and so forth (Pusat Studi dan Layanan Disabilitas, 2017). This demonstrates that Universitas Brawijaya does not distinguish the category of disabilities to be accepted in the university. The students also own the rights to choose the departments they desire to enroll in, although there are some departments which restrict the acceptance of the students with disabilities regarding the safety and capability of the students.

One of the disability categories accepted in Universitas Brawijaya is visual impairment. In Universitas Brawijaya, like other students with different disabilities, the visually impaired students enroll in the regular classes. However, since they have special needs, they might encounter some obstacles in enrolling in the regular classes. One of the obstacles encountered by the students is the reading skill. In the regular classes, the adjusted material given to the visually impaired students is

limited. The assistance of the volunteer empowered by PSLD UB is also often insufficient for the students in their learning process. Thus, the visually impaired students require the specific reading strategies in comprehending the materials given to them, as well as specific materials and equipment that meet their needs for the learning process in the regular classes (Hallahan, D. P. and Kauffman, J. M, 1991).

Noting the phenomenon of students with visual impairment above, this study aims to observe the reading strategies utilized by the visually impaired student majoring in English Language Education Program, Faculty of Cultural Studies, Universitas Brawijaya in comprehending the English learning material. In observing the reading strategies, the reading strategy created by the Special Education Technology-British Columbia (SET-BC) is adapted as the reference. This study attempts to reveal whether the strategies employed by the students actually assist him in comprehending the English learning materials and also to discover the most effective reading strategy to be utilized by the visually impaired student. After finding out the reading strategy employed by the visually impaired student, this study may be useful for the lecturers and other visually impaired students in understanding the kind of strategies suitable for them to utilize in order to acquire the good reading comprehension in the learning process.

2 LITERATURE REVIEW

Visual impairment is a disability that affects the eyes function that although a person utilizes the corrective lenses, he might still acquire the low vision ability that can impact his education performance (Gargiulo, 2012). Visual impairment is determined by the legal definition and educational definition (Hallahan, D. P. and Kauffman, J. M, 1991). The legal definition of visual impairment is employed to determine a person's sight disability from the medical perspective, in which the Snellen chart is usually involved to measure the visual acuity and the vision field a person acquires under certain state (Hallahan, D. P. and Kauffman, J. M, 1991; Gargiulo, 2012).

The legal definition generalizes the visual impairment as blind (Hallahan, D. P. and Kauffman, J. M, 1991). Blind is then divided into three categories, i.e., legally blind, partially blind, and totally blind. Legally blind is a kind of visual impairment which occurs to a person with the visual

acuity of 20/200 or less even with correction, or a person with a really narrowed field of vision which the widest diameter spans an angular distance no more than 20 degrees (Hallahan, D. P. and Kauffman, J. M, 1991). Then, partially blind or partially sighted is a type of visual impairment which occurs to people whose visual acuity only reaches between 20/70 and 20/200 with correction (Hallahan, D. P. and Kauffman, J. M, 1991). Next, totally blind or functionally blind is a category of visual impairment which occurs to a person who has no function of vision at all and relies primarily on other senses like tactual or auditory skills (Gargiulo, 2012).

However, this legal definition is considered as inadequate by educators in predicting a person's remaining visual function since the legal definition relies only on the visual acuity and the vision field in determining the sight disability of a person. Thus, the educational definition of visual impairment is required to be determined. The educational definition of visual impairment, unlike the legal definition, considers someone with the little ability to see not as someone who is blind, but as someone who has low vision. This comprehension is acquired since not all people who suffer from visual impairment lose their vision at all. A person is considered to acquire the low vision when his performance in daily activities is affected by the visual impairment occurs to him. Yet, the person with low vision can still employ his remaining sight by utilizing the specific assistance media (Gargiulo, 2012).

The individuals with visual impairment are assumed to have lower intellectual ability compared to their sighted peers, yet in fact, both the individuals with and without visual impairment own the similar intellectual ability (Gargiulo, 2012). Thus, visual impairment does not spontaneously generate lower intelligence (Hayes, 1941; Dijkhuizen, et al., 2016; Majerova, 2015; Ludíková and Finková, 2012; Vršmaš, 2014). However, most visually impaired individuals tend to experience academic delays and require additional assistance to follow the school activities due to the defiance they encounter in the learning process (Salleh and Ali, 2010). This is also related to the restricted development of conceptual abilities since the visually impaired individuals are more likely to depend on their tactual sense rather than the visual experience (Gargiulo, 2012; Hallahan and Kauffman, 1991). This what makes it challenging for the visually impaired individuals to engage in the

learning activities, particularly in reading the materials.

Reading, as one of the important skills for the learning process, is a fundamental tool for critical and creative thinking that enable the readers to acknowledge more information (Braunger, 2006). Reading functions to clarify the underlying meaning of a text (Küçükoğlu, 2013). Particularly for the college students, reading becomes an important skill to achieve since they are the independent learners who are required to obtain other sources of knowledge other than the classroom, where they usually acquire the materials only from the lecturers. The students are required to comprehend and utilize the information from the texts they find, and this becomes crucial for their success in the learning process (Monet, 2003). Thus, to reach this objective, students need specific strategies that enable them to achieve the good reading comprehension.

Reading strategy is a sequence of events the learners actively employ in reading to develop their reading ability (Nunan, 2003). The reading strategy is employed to assist the readers, especially learners, to understand the meaning of the texts they read (Monet, 2003; Nordin, et al., 2013). The strategy is meant to solve the difficulty of reading texts in the more efficient way (McNamara, 2009). Brown (2004), for example, develops ten strategies for reading comprehension, i.e., identifying the purpose in reading, using graphemic rules and patterns to assist in bottom-up decoding for the beginner learners, employing efficient silent reading techniques for relatively rapid comprehension for the intermediate and advanced learners, skimming, scanning, semantic mapping and clustering, guessing when learners are uncertain, analyzing vocabulary, distinguishing between literal and implied meaning, and capitalizing on the discourse markers to process relationships.

However, not all students are able to utilize the exact same reading strategies. When students strive to read, the additional instruction which focuses on the matter leading to the impediment is required (University of Texas , 2004). Students with visual impairment might need other unconventional strategies regarding their sight disability since reading engages the visual symbol system printed together to convey ideas (Savage, J. F. and Mooney J. F, 1979). These strategies are adjusted to their specific categories of visual impairment to assist them to comprehend the reading material. One of the reading strategies specified for the visually impaired students is created by the Special Education Technology-British Columbia.

The Special Education Technology-British Columbia, abbreviated as SET-BC, is a provincial resource program based in Vancouver, British Columbia, Canada, held by B.C. Ministry of Education. Established in 1989, SET-BC serves the physically disabled students by providing the technology-based services which assist the students in their learning process in schools. SET-BC was initially sponsored as a trial program and was conducted by the people from both the Ministry of Education and the Ministry of Health. The concerns of SET-BC are the students with special needs to be included into the regular classrooms as well as being expected to participate in the standard curriculum activities, the development of new technologies to enable students with disabilities to be more actively engaged in their educational programs, and the Provincial Advisory Committee on Computers, which examined the technology utilization in the school system, suggested that technology services for special education should be a priority (Nees and Berry, 2013; Regec and Pastieriková, 2013; Roberts, Crittenden, Crittenden, 2011).

The objective of SET-BC is to actualize the opportunities for the students with physical disabilities to learn their school materials through the utilization of assistive technology. The assistive technology can be adjusted based on the personal use, ranging “from access to word processing for a student with fine motor control, to screen readers for students who are blind or visually impaired, to switch access for a student who has limited or no use of their hands, to content enhanced with picture symbols for students’ with emerging literacy and/or communication skills” (British Columbia Teachers’ Federation, 2005). SET-BC cooperates with the school districts in British Columbia by providing the assistive technologies, such as the reading, writing, and communication tools, to facilitate their students in participating in the school activities. Besides providing the technologies, SET-BC also conducts the socialization to train the students in utilizing the technologies. The training includes “streaming audio-video webcasts, technology-specific narrated demonstrations, and user tutorials” (British Columbia Teachers’ Federation, 2005).

SET-BC creates different guidebooks for teachers in teaching the students with different disabilities. These guidebooks are also divided based on the skills the teachers attempt to educate the students. This division of different guidebooks with a different focus of skills enables the teachers to focus on teaching a particular skill to their students with a specific disability. For training reading skill

to the students with visual impairment, SET-BC provides a specific guidebook consisting reading strategies that can be employed by the teachers in training the reading skill. In the guidebook, SET-BC (2008) divides reading strategies into three categories based on the types of media that students utilize to accomplish the reading tasks, i.e., paper strategies, e-text strategies, and auditory strategies. For the paper strategies, the media that can be employed in assisting the students in their reading skill are the regular print, handled magnification, enlargement of small amounts of text, large print copy, standalone video magnification, video magnification with computer integration, and paper braille. For the e-text strategies, the utilized media are the non-enhancement regular e-text, changing text appearance, magnifying text and/or computer screen, tracking support, auditory support, and refreshable braille. Then, the media employed for the auditory strategies are the live reader, auditory books on CD, and digital audio files.

There are previous studies regarding the assistive technology utilized by the visually impaired students. Alves, et al. (2009) attempted to justify the utilization of assistive technology for the visually impaired students’ education from their teachers’ perception. The result exhibited that the teachers considered that the specific computer programs were required for specific visual impairment cases. However, since it lacked planning course, the pedagogical support was also still required in the learning process. Then, Emerson, et al. (2009) aimed to examine the different effects between the contracted and uncontracted braille teaching to the visually impaired young children’s literacy skills. The result demonstrated that the students who were taught the contracted braille exhibited the better performance on the reading measure, yet all students had no problem in spelling. The study concluded that the literacy would be acquired better if the teacher focused mainly on the basic reading skills without considering the introduction of either contracted or uncontracted braille. Next, Argyropoulos, et al. (2014) conducted an action research project which focused on the development and consolidation of teachers’ knowledge in the utilization of assistive technology for teaching the visually impaired students as well as engaging the teachers and the students in an interactive domain like the digital educational game. The result showed that the digital educational game as an example of assistive technology was an advantageous tool in both becoming an instructional material for the teachers and encouraging the

visually impaired students in engaging in the class activities.

3 METHOD OF THE STUDY

3.1 Research Design

The case study is employed as the research design. The case study is conducted to obtain detail information about the student's reading strategies as well as finding out the most effective strategy utilized by the visually impaired student.

3.2 Data Source

There are two categories of data source, i.e., the primary data and the secondary data. The primary data is obtained from the visually impaired student while the secondary data is acquired from the field notes and observation processes. The primary data is obtained by setting some criteria in selecting the participant, i.e., the participant is visually impaired and currently majoring in English Language Education Program, Faculty of Cultural Studies, Universitas Brawijaya. By setting the criteria, then a participant who meets the criteria is acquired. The participant is a male student who suffers from visual impairment and he is currently in the second semester of English Language Education Program. The participant is then interviewed to gain some information about the strategies he utilizes in reading the material handed to him. Moreover, the secondary data is acquired by taking some field notes and conducting some observation during the teaching and learning process in the class. The field notes and observation processes are conducted to record any activities related with the research objective which later can support the data gained from the interview with the participant.

3.3 Data Collection

For this study, the data were collected through interview, observation, and field note. The interview is conducted face to face with the participant by asking open-ended and unstructured questions to obtain his opinion and views about the reading strategies he employed in comprehending the course material. There are eleven questions arranged but then are developed based on the condition when the observation is conducted, i.e., in the class, which related to the participant's activities, particularly in the material reading process. There are 46 elaborated questions as the total since the interview is

conducted to obtain the deeper information and to confirm the data obtained from the observation process. Then, the observation process is conducted in seven out of eight different courses taken by the participant, which are Introduction to Literature, Basic English Grammar, Paragraph Writing, Guided Reading, Guided Speaking, Guided Listening, and Introduction to Linguistics. These courses are required to be observed since all the courses require English as the language of instruction to deliver the material related to the topic of this study. The instrument utilized in the observation process is the observation checklist adapted from the Special Education Technology-British Columbia (SET-BC) with some modifications to adjust with the requisites of this study. Also, the field notes process is employed along with the observation. The utilized field notes are adapted from Creswell (2013). The field notes are about any activities executed by the participant to provide some additional details about what happens during the teaching and learning process, such as the lecture presentation, examination and quizzes, and so on. There is a list of indicators to examine the student's activity in the teaching and learning processes created in the field note sheets, particularly focusing on the reading process since the indicators can be specifically elaborated to support the study.

3.4 Data Analysis

The acquired data are analyzed by referring to Miles and Huberman (1994) data analysis process, which are data reduction, data display, as well as conclusion drawing and verification. In the data reduction, the data obtained from interview, observation, and field notes are selected. The acquired data from the interview are reduced by omitting the answers that are irrelevant with the focus of the interview. Meanwhile, from the observations and field notes, the acquired data are reduced by selecting the activities related to the topic of the study. Hence, in data display, the observation, field notes, and interview data are displayed in the form of narrative description. Besides, the results of the observation are displayed in the form of table to ease the readers in reading the result of the observation. Last of all, the conclusion from the results of the observation, field notes, and interview are drawn. The results from each data instrument are then cross-checked using data triangulation to validate the result from those three instruments.

4 FINDINGS AND DISCUSSIONS

4.1 Findings of the Observation and Field Note

The observation was conducted on March 29, April 18, April 20, April 22, and April 26, 2016. The data were collected from the classroom activities, especially in reading, reading material used by the participant, and the role of the volunteers and lecturers in assisting and teaching the participant. The tables 4.1 and 4.2 demonstrates the notes taken during the observation, which include the classroom activities, reading strategies employed by the participant, volunteer's roles in assisting the participant, and lecturer's role in teaching the participant's class.

Table 4.1.1: Observation of reading strategies employed by the visually impaired student.

Course	Classroom Activity	Reading Strategies Used (SET-BC, 2008)
Course 1	• Presentation	Live reader
Course 2	• Discussing the mid-term test result.	Live reader
Course 3	• Discussing the mid-term test result. • Discussing gerund and infinitive in Betty Azhar book.	Live reader
Course 4	• Discussing Morphology	Live reader
Course 5	• Discussing and presenting about the favorite TV program	Live reader
Course 6	• Discussing the worksheet given by the lecturer about 'Mystery'	Live reader
Course 7	• Discussing 'guessing a topic' in a short text.	Live reader

Table 4.1.2: Observation of volunteer and lecturer's roles.

Course	Volunteer's Role	Lecturer's Role
Course 1	• Helping the mobility • Helping the participant in writing and reading the material from the	Teaching regularly (no special treatment)

	power point • presentation.	given)
Course 2	• Helping the mobility • Reading the material written on the whiteboard. • Giving a little explanation of the task.	Teaching regularly (no special treatment given)
Course 3	• Helping the mobility • Reading the question for the participant. • Reading the explanation written on the whiteboard. • Giving an additional explanation if the participant seemed to not understand the topic.	Teaching regularly (no special treatment given)
Course 4	• Helping the mobility • Writing the material on the cellphone. • Writing the task given by the lecturer.	Teaching regularly (no special treatment given)
Course 5	• Helping the mobility • Reading the material presented on the power point.	Teaching regularly (no special treatment given)
Course 6	• Helping the mobility • Reading the exercises on the worksheet. • Writing the answer of the exercises.	Teaching regularly (no special treatment given)
Course 7	• Helping the mobility • Reading the exercise on the worksheet.	Teaching regularly (no special treatment given)

4.2 Findings of the Interview

After doing the observations, the interview with the visually impaired student was then conducted. Based on the interview, during the reading activities in the classroom, the participant was assisted by a volunteer empowered from the university. The volunteer assisted him by helping the participant reading the material and writing the answer to a quiz or test. The employment of volunteer was included into the live reader in the reading strategies adapted from SET-BC. The participant mentioned that being assisted by a volunteer was more effective rather than utilizing the screen reader or Braille as the reading strategy. But, sometimes the volunteer was not able to assist the participant, so his classmates help him to read the material. Furthermore, there was no special material or media for the reading

material handed by the lecturers to the participant, and the participant obtained the same reading activity material as other students. However, even though he preferred to employ the live reader inside the class, sometimes he utilized the scan reader application in his cellphone, i.e., Talk Back, to read the material typed by the volunteer on her cellphone and sent it to the participant via Bluetooth or email, but unfortunately this method appeared only once during the seven-course observations.

Meanwhile, the participant employed different reading strategies when he was outside the class. It happened because the assistance of the volunteer was available only during the teaching and learning process inside the class. The strategies utilized by the participant were the screen reader and Braille. A screen reader is an application employed to interpret a text into audio. There were several applications which could be utilized as the screen reader. In the computer, the application name is Jaws. For the cell phone, the application name is TalkBack.

Furthermore, the participant also employed Braille as one of his reading strategies. The participant explained that if the reading material was not too long and could be summarized, he prefers to use Braille as the reading strategies. In addition, he also wrote down the explanations of the lecturers that had been recorded using cellphone before the explanations were changed into the form of Braille by using a tool named Riglet. Riglet is a tool to write in Braille which consists of slate, a mold to form a Braille word, and a stylus. Besides, the participant also could use Braille printer to write. The Braille printer was provided by PSLD UB and the students were allowed to use it. However, the participant stated that the utilization of Braille printer was only to print official books or documents such as national examination worksheet, while if it is only for writing some short materials, the participant preferred to use Riglet. However, the participant said that Braille was considered inefficient and wasteful since it spent a lot of papers and could not be reused.

The participant also explained that Braille was crucial to be mastered by the students with visual impairment. The reason is that mastering Braille for visually impaired students becomes a fundamental requirement and it is as important as mastering alphabet for the students without disabilities. Besides, mastering Braille for the visually impaired students is very influential for their reading activity. Therefore, the participant suggested the students with visual impairment to strengthen their Braille mastery in the special school before entering inclusive education since it is the fundamental

ability they need when they are going to join an inclusive education. The participant himself was enrolling in the inclusive education when he was in the senior high school.

However, the participant had not recognized or received any Braille textbook from the university. The textbooks were mostly in the form of a soft file in the PDF format. The participant mentioned that the lecturers provided him the soft files because based on the rule governed by the Ministry of National Education about disability, the lecturers should hand the students the soft files for their learning process in joining in the class activities (The Ministry of Education, 2014). This rule was then conveyed to PSLD UB to be delivered to the lecturers, then the lecturers informed this rule to the students. However, if there was any printed material handed by the lecturers, the participant could ask the volunteer's help to read the material.

Furthermore, if there were any notes written on a paper by the volunteer, usually the participant scanned the notes and converted it into JPEG format. Yet, the additional application, such as Open Book and Adobe Reader, is required to convert the JPEG-formatted notes into the PDF format so it can be read by the screen reader. However, the participant stated that the notes were better typed into the digital form since he could merely read it using the screen reader without having to scan and convert it into the PDF format. The information about the additional applications was obtained from the shared information among the members of the community of visual impairment.

Moreover, based on the observation and interview, the utilization of three reading strategies mentioned by the participant, i.e., the live reader, screen reader, and Braille, is employed depending on the situation where the participant was. The live reader (volunteer) was employed during the teaching and learning process inside the class since it was considered more flexible. Meanwhile, Braille was used when the material handed by the lecturers was not excessive, so the participant could record the material then write it into Braille using Riglet. Braille was also utilized when the participant required to learn the material outside of the class. Meanwhile, the screen reader was used when the participant considered the material was excessive and there was nobody that could assist him, so he only required to read the material by listening to it by using the scan reader. Above all, the participant considered that the most effective reading strategy for himself was the live reader.

4.3 Discussions

In this section, the findings are discussed and correlated with the theories related to the research topic in order to answer the problem of the study. The participant of this research is categorized as totally blind, referring to the characteristics of totally blind by Gargiulo (2012), which is no function of vision existed in a person's sight and the person primary relies on other senses, such as tactual or auditory skill to acquire information. Therefore, the reading strategies used by the visual impairment student both inside the class and outside the class are adjusted based on the characteristics mentioned.

There are three reading strategies used by the participant based on the observation and interview. The first reading strategy employed by the participant is the live reader and appears as the most frequently used reading strategy by the participant inside the class and considered as the most effective reading strategy because of its flexibility. The reason that the live reader is the most frequently used reading strategy by the participant is that he considers that the live reader, i.e., the volunteer, is more flexible since the volunteer can read not only the printed material but also the written material on the whiteboard and the power point presentation. Furthermore, the volunteer will explain if there are any pictures presented during the teaching and learning process. If there is material presented in the power point presentation or written on a paper that the participant does not understand, he can directly ask the volunteer. This is in accordance with the advantages of employing the live reader as the reading strategy stated by SET-BC (2008) in which by employing the live reader, the material in the form of charts, graphics, and pictures can be described.

Moreover, the participant is considered having a good listening skill. It was seen during the observation when the lecturer explained and asked a question, the participant responded to it well. This is supported by the statement of Hallahan and Kauffman (1991) about the importance of mastering listening skill for the visually impaired student as one of their fundamental requirement of the educational process since the students with visual impairment will rely more on their auditory skill to acquire information. However, the participant's final score did not really demonstrate his good listening skill. The participant indeed acquires the good listening skill, yet in the process of transferring the idea into the written form, it depends on the volunteer who assists him. Furthermore, the way the

volunteer assisted the participant in reading activity was by reading the gist of the material provided in the textbook or printed material. It was conducted that way since the volunteer had to keep up with the lecturer's explanation. While the volunteer read the material to the participant, the lecturer explained another material, so the participant had to listen to both explanations at once. However, the participant said that he did not get confused since the volunteer helped to reexplain what the participant did not understand from the lecturer's explanation.

Based on that reason, since the live reader is considered as the most effective reading strategy employed by the participant, it is better for the live reader, i.e., the volunteer, to have good English mastery. It is crucial for the volunteer to understand how to correctly pronounce an English word and how to spell it since she plays the main role in reading the material for the participant. Therefore, in this case, it is better if the volunteer enrolls in the same department with the participant, i.e., the English Language Education, or the English Literature student to assist the participant during teaching and learning process. The students from these departments can assist the participant well since they have the similar language of instruction, i.e., English, for their courses as well.

The second reading strategy utilized by the participant is the screen reader. The participant mentioned that the screen reader is mostly utilized outside the class when there is no volunteer to assist him in reading the materials. Besides, the participant also stated that the utilization of screen reader is favorable when the reading material is lengthy. This reading strategy is in accordance with the one from SET-BC (2008), in which the screen reader is called as 'e-text with auditory support' and categorized in the electronic-text (e-text) reading strategies. This type of reading strategy is suitable for the students who have difficulties in reading. With the assistance of the application, the computer voice will read the electronic text for the students and they merely require in listening to it. Further, SET-BC (2008) also mentioned that providing e-text with auditory support can develop the students' literacy.

The third reading strategy employed by the participant is Braille. This is in accordance with the statement of Gargiulo (2012) about the employment of tactual sensory, besides audio sensory, as the reading strategy used by the visually impaired students to acquire information. However, Hallahan and Kauffman (1991) argued that the use of Braille is considered hard to do and is more difficult rather than reading the printed material. This happens

because the student should remember the pattern of each letter of Braille and they cannot read a word all at once just like their sighted peers. It makes the student with visual impairment read the Braille materials slower than their sighted fellows. To illustrate, the participant explained that he prefers utilizing Braille as the reading strategy only if the reading material is not lengthy and can be summarized.

Moreover, the participant employs Braille when he attempts to review the material explained by the lecturer by writing it down. The way he writes the material is by listening to the audio of the lecturer's explanation that has been recorded beforehand using his cellphone. Then, he summarizes the material and writes it in the form of Braille using Riglet on a paper. In addition, even though the efficiency of Braille is restricted (Hallahan, D. P. and Kauffman, J. M., 1991), the participant said that mastering Braille for visual impairment student is as crucial as mastering alphabet for the sighted students. Therefore, the participant suggested to the students with visual impairment to strengthen their Braille mastery by joining special school before entering the inclusive education. This is supported by Kirk, et al. (2009) that using Braille for visually impaired students, especially the blind students, is the main skill for communicating with the sighted world.

5 CONCLUSION

Based on the reading strategy adapted from the Special Education Technology-British Columbia (SET-BC) (2008), there are three reading strategies employed by the visually impaired student, i.e., paper strategy, in the form of Braille; e-text strategy, in the form of screen reader; and auditory strategy, in the form of live reader. All these reading strategies immensely assist the student in comprehending the English learning materials inside and outside the classroom. Yet, the most effective reading strategy for the visually impaired student is the live reader since it is flexible and more efficient compared to the other two reading strategy. It means that the fellow students with visual impairment in inclusive environment can consider in utilizing the strategy in reading the materials handed to them.

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