

# EXPLORING THE VOICES OF BLIND STUDENTS IN LEARNING AT UNIVERSITY

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## Abstract

Blind students are being part of our academic society, yet there is still a lack of study on the voices of blind students in their academic journey at university in Indonesia context. By investigating their effort in keeping up with the teaching and learning process, exploring their difficulties encountered along their study and technology used to assist, this study tackled this void. This research employed a descriptive case study design and 6 students at a private university from various majors were recruited voluntarily. The data were gained from observation, questionnaire, and interview. The result of the research showed that most of the participants (95%) consider that being blind is not the end of the world. Blind students are resilient; they can adjust themselves to the academic society and have positive self-confidence (90%), even though they sometimes found discrimination in public areas (5%). Their resilience skill leads them to be persistent in the teaching and learning process, and make use of Screen reader application as their learning assistant (100%). However, the difficulties encountered are in Statistics and Mathematics subject since many symbols cannot be read by a Screen reader. In sum, their resilience skill will be very useful for developing and empowering their insight in learning at University.

**Keywords:** blind students, learning at university, resilience

## INTRODUCTION

Out of all the five senses, our vision seems the most important. Humans are quite unique in their reliance on sight as the dominant sense and this is reflected in how complicated our eyes are relative to other creatures. The eye or the sense of sight is one of the most important senses for humans and is useful for receiving light stimuli (Zheng, 2014). About 80 percent of human experience is acquired through sight. The sense of sight has a wider range than the other senses, meaning that by looking at an object, a person can obtain a lot of information to be learned. The importance of the sense of sight for life makes every human being want to have normal eyes that can function properly. But not all of the desires can be fulfilled and run according to what we want. There are some people who do not have a normal sense of sight or have lost their sense of sight. Eyes that used to function properly and can be used to see what is around us can turn into a loss of function and cannot be used to see.

A person who loses sight or loses the function of his sense of sight, whether he can still see light rays or even cannot see at all is called a blind person. Those who have no vision at all or called as total blind to those who still have residual vision but are unable to use their vision to read 12-point writing in normal light conditions even though they are assisted by glasses they are called blind people (Southwick et al., 2014). Loss of vision can have an impact on someone who experiences it. Morris (2014) argues that how far the impact of vision loss or abnormality on a person's ability depends on many factors such as when (before or after birth, toddlerhood or after five years) the occurrence of the disorder, the severity of the disorder, the type of disorder and others. A person who is visually impaired before birth until the age of five years has very little or no visual experience. A person who loses sight after the age of five years or older usually still

has a better visual experience but has a worse impact on self-acceptance.

Blindness in Indonesia ranks second in the world (Southwick et al., 2014, Zheng, 2014). About 45 million people in the world who are blind, 3.5 million are Indonesians. Blindness can be caused by various factors, including blindness that occurs from birth (congenital) or that occurs after birth. Scientifically, blindness can be caused by various factors, namely internal factors or external factor (Lieberman, 2019). Internal factors are factors that are closely related to the condition of the baby while still in the womb. While the things that are included external factors include factors that occur at or after the baby is born, as accident or unexpected event.

Based on the background above, the authors identified several problems as follows; Indonesia is a country with the second largest number of blind people in the world, blind people still get discriminatory treatment from the community and there is an assumption that being blind is the same as being sick, and there is a tendency that blindness that occurs after birth has an influence on the adjustment of the person to adjust with the environment.

Resilience is a relatively new concept in psychology, especially developmental psychology. According to Southwick et al., (2014), etymologically, resilience is adapted from the English word resilience which means resilience or the ability to return to its original form. So according to this opinion, resilience has the meaning of a flexural power that is used to return to its original state. Sobur (2014) revealed that the term resilience was introduced by Redl in 1969 and was used to describe the positive part of individual differences in a person's response to stress and other adverse circumstances. Resilience is the ability or human capacity possessed by a person, group, or community that allows him to

face, prevent, minimize and even eliminate the adverse effects of unpleasant conditions, or change living conditions that suffering becomes a natural thing to overcome (Zheng, 2014). Resilience can be defined as the ability of individuals, groups, or communities to be used to change difficult situations into conditions that are reasonable and can be overcome. So according to those opinion, resilience means the individual's ability to survive in a state of stress, and even be able to endure unpleasant conditions or trauma experienced in life.

So far, there are still many Indonesian people who doubt that blind people can also take higher education. For example, going to university, there are still many people who think that blind people can only go to special schools, not regular schools. For normal people, learning at university is a challenge and a way to enlighten their insight. However, not only normal people who want to learn at university, but blind people also have the same willingness to get more knowledge and new insight by learning at university. Somehow, learning is everyone's right, no matter what subject it is, what major it is. All human being have the right to learn.

This study explored the picture of six students' resilience of blind students who study in the Faculty of Education, of a private University in Cimahi, West Java, Indonesia. The results of this study are contemplated to provide theoretical and practical benefits, to provide a wealth of knowledge in the field of education, especially about resilience and blind students. This research is presumed to be used as information material about resilience, especially for blind people to continue to be enthusiastic and stay motivated in living their daily lives. The results of this study are also expected to increase the knowledge of teachers or lecturers regarding the condition of blind people, especially resilience among

students so that they can provide appropriate preventive services to students and to be used as a reference material for the development of further research in identifying resilience in blind people who are not born with visual impairment.

### **Methodology**

This research used qualitative descriptive method. According to Silverman (2005), Creswell (2014) qualitative research is aimed at understanding the phenomena of what is experienced by the subject of research such as behavior, perception, motivation, holistic actions qualitatively using words and language in natural special contexts by using various scientific methods. In this research, the blind students' voice or perception as the subject of research was investigated to know their experiences in learning at university. This was similar with Alwasilah (2011) who highlights that qualitative is used to understand a phenomenon by focusing on the total picture rather than breaking it into variable.

Qualitative research method was interpreted as a research that produces a qualitative data in the form of written or spoken words of the people, and it was to describe the participants of the research more complete and comprehensive (Emilia, 2008). In addition, it described people experience in-depth (Goodyear, et.al, 2014). This was in line with Creswell (2014) who explains that in a descriptive method, the researchers analyze and present the fact systematically, and therefore it could be understood and concluded easily and simply.

The main objective of this research was to explore the voices from blind students as part of academic society especially at university level. This research tried to figure out the real condition of blind students inside and outside classroom. With this specific objectives, the teacher as facilitator and observer combined a triangulation such as observation,

questionnaire, and interview to gain the data.

The subject of this research was six blind students of private Education Institute in Cimahi, West Java, Indonesia, majoring Education. Observation and questionnaire were used to create a natural situation on exploring the voices of blind students in learning at University. Since Covid-19 is still spreading in all over the world, including Indonesia and it has big impact to education sector, the observation sharing and questionnaire were conducted online. The result of observation and questionnaire were then used to answer the research question of this research. The interview then was conducted to validate the finding during the observation process. During the observation, the research used log book to create more holistic finding. During the interview the research used question that adopted from several resources that related to the blind students' perception in learning at university. In short, this research used two simultaneous steps to collect the data. Data were analyzed and it was an interpretative process. Authors reflect on their personal viewpoints and how they shape their interpretations of the data (Alwasilah, 2011; Silverman, 2005). All gained data from observation's log book then transcribed into excel order to manage the students' perception in more readable result. All the data then synchronized with the result of the interview. All the answer of the participants then also transcribed into excel and matched with the previous result obtained from the observation process. The result of this study cannot be generalized to other social situation (Creswell, 2014).

### **Finding and Discussion**

This study aims at exploring difficulties encountered by blind students along their study, elaborating effort in keeping up with the teaching and learning process, and identifying technology used to assist. The data were collected using questionnaire, and triangulated through observation and

semi-structured interviews. All interviews were transcribed for data analysis.

The semi-structured interview was done to the six blind students as the subject of this research. They were: 1) IW (25 years old) who was visually impaired due to the presence of 2 viruses that attack him. He got treatment and the virus was gone, but he is still visually impaired and totally blind in 2006; 2) SY (22 years old) was visually impaired because in 2007 he had a high fever, blistered and cracked skin then on his eyes there was a white membrane that made him lose his sight; 3) RPS (21 years old) was not blind from birth but it was due to an accident; 4) RA (23 years old); 5) EF (24 years old), and 6) MS (22 years old) who revealed that they were born in normal condition just like other children, however due to some diseases they made them end up in blindness.

During the semi-structured interview, the authors asked the six blind students about several questions like how they consider themselves as blind person, how they adjust themselves with the academic society and maintaining their self-confidence, how they face discrimination in public area, and how they apply resilience skill in teaching and learning process, and also how they make use Screen reader application as their learning assistant.

This finding is divided into four parts; blind students' perceptions on their condition, blind students' resilience skill in dealing with academic society, blind students' discrimination experience, and the use of technology in the form of Screen reader application as friendly learning assistant for blind students. Here is the detail result.

#### **a. Blind students' perception on their own condition.**

This research was done to blind students from various majors in learning at university, but still in the scope of education major. Below is the

data of how blind students' perception on their condition. The result of the data is presented in figure 1.

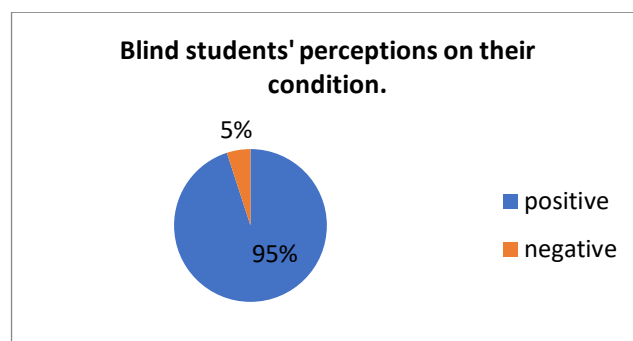


Figure 1. Blind students' perceptions on their own condition

Based on the data, most of the students (95%) have a positive perception about their condition. Only a few students (5%) have a negative perception about it. Most of them thought that being blind is not the end of the world. After getting the information about how blind students perceive themselves as human being, and then the data were analyzed to answer the research questions. Blind students can receive themselves just the way they are even though they are not categorized as normal people. According to the data from the blind students, most of blind students are resilient. The detail information can be seen in figure 2.

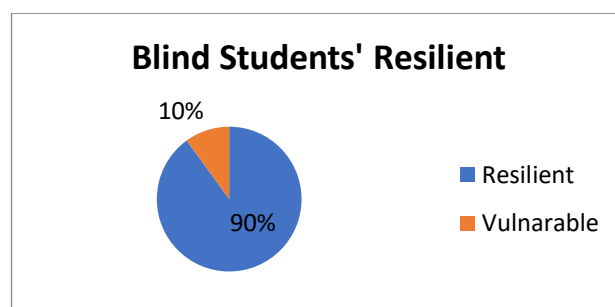


Figure 2. Blind students' resilient in academic society.

Figure 2 describes about blind students' resilient in academic society and 90% students answer they always be able to adjust themselves with the academic society and having positive confidence. Meanwhile 10% students answer they have difficulties with adjustment problem in academic society. Overall, even though the blind students learn in limited condition but most students always learn and have positive thinking. It means that they involve in teaching and learning process in the classroom and it shows they have high motivation to learn due to their limited condition.

Then, next question was about discrimination in public area. Based on the data, the blind students taught they did not get any discrimination in public area. Piechart below presents about percentage of discrimination in public area that was experiences by blind students.

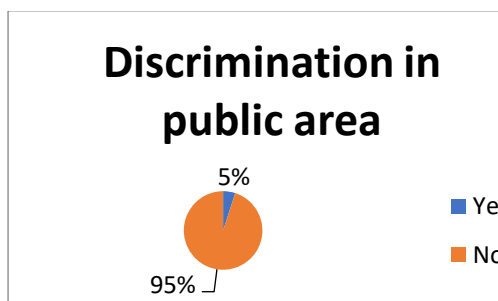


Figure 3. Blind students' discrimination in public area.

It can be seen from the figure 3 that only 5% of blind students who experienced discrimination in public area. It is also can be interpreted that most of the blind students experienced good experience in public area.

After getting information about discrimination in public area, then the authors asked the students about the use of

screen reader as a tool to assist them in teaching and learning process. Here is the result.

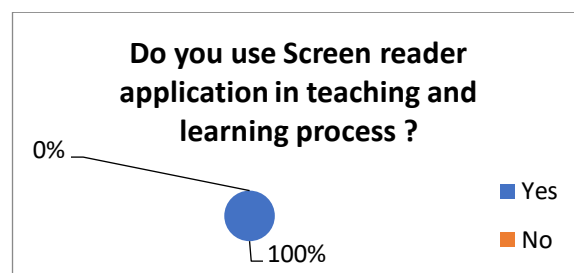


Figure 4. The use of Screen reader application in teaching and learning process

Figure 4 describes 100% students like using Screen reader application in teaching and learning process. It can be concluded that the blind students use this application in learning. However the difficulties encountered are in Statistics and Mathematics subject since many symbols cannot be read by Screen reader.

The table below is describing the result of the questionnaire which is expected to enlighten our insight into the voices of blind students in learning at University.

Table 1. The Result of Questionnaire

No	Difficulties encountered along study	Effort in keeping up with the teaching and learning process
A	Learning Experiences	
1	Dealing with materials	In general, the materials provided are understandable, except Statistics and Mathematics subjects which are difficult to understand, because they have to do with mathematical symbols, where mathematical



		symbols, in the form of braille writing, are still limited, and there is a lack of media that provide the visually impaired ease of access to information.
2	Dealing with not understanding the content of the lesson	5 out of 6 participants asked their friends first, and then if he/she could not explain, they asked the lecturer concerned with the course that could not be understood. Only one participant asked the lecturer directly
3	Dealing with books written not in Braille	Tried to get the materials on the internet, websites, blogs or YouTube, e-books which are read by the Screen Reader application, so the learning process goes well.
4	Dealing with college assignments, including presentation session	Typed the assignment then edited by classmates to meet the requirement format. To perform in a presentation session usually memorized the materials then helped by their friends to show the slides. If the materials were taken from a printed book, they used Screen reader application or asked their classmate/friend to read it.
5	Dealing with	Wrote the materials using

	taking lessons in class, in addition to listening to lectures	braille when the lectures took place, recorded the lectures using a smart phone, sometimes asked a friend to briefly explain the material when the class was finished, noted the important points using voice note application.
6	The lecturers do in helping to understand about the courses given	Some lecturers often asked personally during lectures, some others provided a complete description of the materials being taught, so that made them understand.
7	When participating in PPL(Teaching Practice program at school)	Taught normal students when having the PPL (Teaching Practice program at school) online. Assisted by theclassmates with editing teaching materials, checking assignments and students' attendance. Faced difficulties in creating interesting teaching materials and students' lack of motivation during online learning. Whereas in scoring the students' work which was submitted in photo format, they had to work twice because all of the students' assignments were

		converted into a document, then they could read and carry out the assessment process. Built communication with all parties such as among teachers, member of the group, college friends, and students. so that eventually they understood their circumstances and situation
<b>B. Experience with environmental</b>		
1	Lecturers, friends, people in neighborhood behave when knowing that you are blind/Visual impairment	The response of the lecturers is sympathetic, empathetic, no discrimination in campus. But, some people outside campus may avoid interacting.
2	Tuition fee	All of them paid by themselves/parents. Before college, some of them ever attended massage training held by the ministry of social affairs and working at Go Massage in 2019 before the pandemic hit.
3	Live with	Parents, some others live with the foundation run by the government (social ministry)

4	Transportation to college	<i>Grab, Gojek, Angkot, Damri, and motorcycle</i>
5	Help when using public transportation	Some are friendly, kindly welcome at the pick up point, sometimes having chat while on the trip, don't lie when giving the change of the fare given, but some are not.
<b>C Hope</b>		
1	For campus	They were invited to participate in decision-making events, their voice be heard and be decision-makers for their education. The campus became an inclusive pilot campus not only in West Java, but in Indonesia. There is a choice for blind students whether to have the final test using a computer or oral test based on the students' preferences. There is a special unit that accommodates students with visual disabilities, to convey aspirations in lectures. There is a special scholarship for visual disabilities.
2	For lecturers	The lecturers understand the characteristics of blind students as students with disability in order to create

		communication and mutual understanding between them
3	For public services	Public services can create a disability-friendly environment.
4	For the Foundation	The foundation can actively support campus policy by improving services for disability. Disability rights can be fulfilled, especially in jobs that are still few government and private agencies employing disabilities.
5	For government:	The government can implement the Disability Law no. 8 of 2016 better.

Table 1 describes two crucial things faced by blind students, they are: learning experience and experience with environmental. Most of the blind students have positive point of view in facing their reality both in daily life and academic life.

The results show that dealing with difficulties encountered along their study, all the participants argued that in general, the materials provided are understandable, except Statistics and Mathematics subjects which are difficult to understand, because they have to do with mathematical symbols, where mathematical symbols, in the form of braille writing, are still limited, and there is a lack of media that provide the blind ease of access to information. If they do not understand the content of the lesson, 5 out of 6 participants asked their friends first, and then if he/she could not explain, they asked the lecturer concerned with the course that could not be understood. Only

one participant asked the lecturer directly.

Furthermore, regarding the course books which written not in Braille, all of them tried to get the materials on the internet, websites, blogs or YouTube, e-books which are read by the Screen Reader application, so the learning process goes well. Meanwhile, dealing with college assignments, including presentation session, they typed the assignment then edited by their classmates to meet the requirement format. Then, to perform in a presentation session, they usually memorized the materials then helped by their friends to show the slides. If the materials were taken from a printed book, they used Screen reader application or asked their classmate/friend to read it.

Dealing with taking lessons in class, in addition to listening to lectures, they wrote the materials using braille when the lectures took place, recorded the lectures using a smart phone, sometimes asked a friend to briefly explain the material when the class was finished, noted the important points using voice note application. They also revealed that some lecturers often asked personally during lectures, some others provided a complete description of the materials being taught, so that made them understand. However, they argued there is a choice for blind students whether to have the final test using a computer or oral test based on the students' preferences.

When participating in *PPL*(Teaching Practice program at school), they taught normal students online, assisted by their classmates with editing teaching materials, checking assignments and students' attendance. However they faced some difficulties in creating interesting teaching materials and students' lack of motivation during online learning. Whereas in scoring the students' work which was submitted in photo format, they had to work twice because all of the students' assignments



were converted into a document, then they could read and carry out the assessment process. They also built good communication with the teachers, so that all parties can work together, such as *Guru Pamong* (Supervisor teacher), member of the group, eventually they understood their condition and situation.

The questionnaire also revealed that they claimed the response of the lecturers is sympathetic, empathetic. There were no discrimination happened at campus. Moreover, they hoped the lecturers could understand the characteristics of blind students as students with disability in order to create communication and mutual understanding between them. Nevertheless, they propose the campus authority to invite them to participate in decision-making, may their voice be heard, and be decision-makers for their education. They hope the campus provide a special scholarship for visual disabilities a special unit (*UKM, Unit Kegiatan Mahasiswa*) that accommodates them to convey aspirations in lectures, and they hope the campus become an inclusive pilot campus not only in West Java, but in Indonesia.

Blindness that occurs not from birth causes various impacts and also different problems from each subject. Therefore, blind people who are not born with visual impairment need support and enthusiasm in order to get through the problems they are experiencing (Lieberman, 2019). One way to help overcome the problems experienced and to be able to live life properly requires resilience. Resilience is the flexibility or ability of a person to get back up after experiencing difficult times or adversity (Morris, 2014). Individuals who are not blind from birth experience depression, inferiority, and personality problems. There is a need for resilience so that individuals can respond positively to the problems they experience so that individuals are able to bounce back and have a positive attitude.

This shows that each individual has a different way of responding to the problems they experience. Individuals who have a positive attitude will respond to the problems they experience in a positive way. For example, individuals who are blind from birth can bounce back by accepting their condition and then adapt and excel, persist with their limitations and show a positive attitude. This can be obtained by the existence of resilience. Individuals who have good resilience are individuals who are able to survive, overcome, do not give up on the difficulties they experience and are able to rise again, become strong, and become better. Good resilience will produce positive responses and actions, and vice versa. Individuals who do not have good resilience then the individual will be slumped, unable to survive or overcome the problems they are experiencing, and will show a negative attitude.

Whereas, individuals who are visually impaired not since the birth, it is not easy for them to form a resilience personality (Sobur, 2014; Colclasure, Thoron, LaRose, 2016, Zegeye, 2020). It takes a process, sources and factors behind a person to be able to bounce back from the difficulties they face. So it can be considered that students with visual impairments are those who experience disturbances in the function of their sense of sight who are currently or completed undergoing lecture activities at a college so that the teaching and learning process requires alternative use methods to do tasks, routines, or work-related. In this study, the blind students studied were students who had great motivation in completing their studies. Motivation in learning at university is very essential since it is where the dream of success started (Colclasure, Thoron, LaRose, 2016; Inayah & Argawati, 2019). Most blind students consider that being blind is not the same as being

sick. It is supported by Sobur (2014) who says that blind students' self-confidence can be one of the important factors in gaining success in university. So, the students' resilience can be a guideline for them to know and develop their adjustment in the academic society. In other words, the experience of learning at university can be more meaningful to them since they see this world from their point of view.

### Conclusions (10%)

All of the participants (100%) consider that being blind is not the end of the world. Blind students are resilient; they can adjust themselves with the academic society and, having positive self-confidence (90%), even though they sometimes found discrimination in public area (5%). Their resilience skill leads them to be persistent in teaching and learning process, and make use of Screen reader application as their learning assistant (100%). However, the difficulties encountered are in Statistic and Mathematic subject since many symbols cannot be read by Screen reader. In sum, their resilience skill will be very useful for developing and empowering their insight in learning at University. For blind students, they actually have a physical challenge that they face it. However, blind students want to tell the rest of the world that they want to be treated like everybody else, with no special favors and same right to learn. A blind person also has the right to do things and have a similar experience with other people who have a much more normal condition.

### The implications of the study

Based on the findings and discussions, it highlights that researchers, educators, and parents should understand the kind of difficulties that blind students face in the classroom. As a result, they will recognize when it is appropriate to assist and support blind students. Then, this research shows some helpful strategies for assisting blind students. These strategies can be explored

in intended to assist more blind students in tackling educational problems. Furthermore, this study provides the foundation for engaging blind persons in educational research. Finally, the results of this study may encourage policymakers when making decisions concerning blind access, support, and education.

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