The Potential of Podcast as Online Learning Media for Supporting Visual Impairment Students to Introduction to Education Course in Universitas Negeri Padang

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Abstract. Education equality has been a critical issue in higher education where the students with special needs should obtain the equal opportunities to acquire knowledge through the appropriate learning methods and media. This article discussed the analysis of the potential of Podcast as learning media for inclusive students, specifically for those with visual impairment in online educational setting. This study conducted the qualitative methods with focus group discussion to collect the data. Four blind students from Special Education Department, Faculty of Education in Universitas Negeri Padang involved through video conference application, Zoom, approximately 50 minutes. There were two aspects would be analysed, such as: the characteristic of the learners and the course, and current learning situation. For the results, it is indicated from the students that there should have been certain methods and media to increase the engagement of inclusive students to the materials provided in online learning. As the students have difficulty in visual ability, it is necessary to develop a specific learning media to help the students cope with the problems. Developing Podcast for learning is expected to be one of the strategies to help blind students understand the topic studied more easily.

1. Introduction

Education has been one of the fundamental aspects of human’s life. Indonesia, through the Law, article 31 paragraph 1 stated that each citizen has the right to an education. It means that formal education will be an obligatory privilege to everyone, without tending to particular ethnicity, religion, economic and social background, etc. It is expected that human can know, understand, and develop their potential through the learning experiences encountered during the proper education.

The opportunity to have proper education is also addressed to those whose physical, mental, and social impairment. The government has developed inclusive education program to the disabled students. Inclusive education, according to the regulation of the minister of national education No. 70 of 2009 article 2 paragraph 1 and 2 has an objective to organize an education program which can respect diversity and do not discriminate against all students with physical, emotional, mental, and social disabilities [1]. The definition of “not discriminating” in that sentence refers to the attempt to give equal learning procedure between the regular and disabled students. The learning methods...
applied in the inclusive classroom should help the special students to have the same treatment as regular students. Thus, the learning goals for students with special needs can optimally be reached.

Universitas Negeri Padang (UNP) as one of the higher education institutions that provides inclusive education and accepts students with special needs must provide space for students to get education as regular students. From the data collected, in the range 2016 - 2019, 15 students with special needs at UNP are spread across different majors. If calculated collectively, the percentage of students with disabilities at UNP is still relatively small. However, this percentage should not reduce the commitment of policy makers at the university level to provide the same excellent service to students with disabilities. The form of services provided can be in the form of providing facilities and infrastructure in accordance with the needs of students with disabilities, counseling services, and academic services, including learning activities.

In the meantime, Since March 2020, learning activities at UNP have shifted from face-to-face to online learning due to the coronavirus pandemic. This condition raises various challenges, such as: the readiness of lecturers and students in carrying out online learning activities, the availability of online learning materials and media, and also the problem of the absence of a network and internet data packages. This is not only a problem for regular students, but this problem also affects students with special needs. By relying on the learning management system (LMS) platform, www.elearning.unp.ac.id (applied in the academic period January-June 2020) and www.elearning2.unp.ac.id (July-December 2020) and supported by several applications like Zoom and Whatsapp, learning activities are carried out.

Usually, distance learning platforms are designed based on the needs of normal students, with a variety of features that require complex skills that cannot be used by some groups of students who need special treatment. One of them is a blind student. The term ‘visual impairment’ covers a wide variety of conditions, some of which have been present since birth and some of which result from gradual deterioration of sight. Visual impairments include low vision and blindness, but there are many aspects of seeing. ‘Low vision’ is used to describe a loss of visual acuity while retaining some vision. ‘Blindness’, on the other hand, ‘usually refers to a complete lack of vision. People who are considered legally blind may have some useful vision’ [2]. Blindness encompasses a variety of conditions, some of which are congenital, and partly due to deteriorating visual quality. Blindness can include nearsightedness and blindness. Paramedics define a blind person as a person who has a central acuity of 20/200 feet or visual acuity only at a distance of 6 meters or less, even with glasses, or a narrow field of vision so that the angle distance is not more than 20 degrees. Meanwhile, people with normal vision will be able to see clearly up to 60 meters or 200 feet [3].

Blind students are having crucial problems to access information, and this issue is getting more difficult by the involvement of technology in it [4]. Blind students have a weakness in reading text when studying. Even though they already have screen readers on their devices, both on their laptops and on their cell phones, the large number of pages they must read reduces the quality of their understanding of the learning material. In addition, in online learning, the need for good quality internet and data packages externally also affects the quality of their learning. One of the efforts that can be used to achieve these goals is to develop an appropriate learning model.

Therefore, this study aims to analyze the needs of blind students regarding the importance of learning media that can maximize their access to knowledge in learning activities. There are three aspects that will be analyzed, namely the characteristics of blind students, online learning situations, and characteristics of courses related to suitability with the character of the Podcast media. It is hoped that by obtaining this data, researchers can develop media in accordance with the needs of blind children to expand the opportunity to get learning equality at Universitas Negeri Padang. The existence of Podcast learning media is also intended as an alternative media in online learning activities at Universitas Negeri Padang.
2. Methods
This study applied a qualitative method using forums group discussion (FGD) as a tool to collect the data. The selection of informants in this study implementing purposive sampling method so that the data obtained is more focused and contextual. The data sources were four blind students from the Department of Special Education, Faculty of Education, Universitas Negeri Padang who were involved in this activity for approximately 50 minutes which was carried out using Zoom media. Participants of the FGD were recruited by personal contacts. All participants have been verbally informed about their willingness to take part in the FGD, confidentiality, and their freedom to withdraw from the FGD session at any time. The data that has been obtained are then analyzed thematically and interpreted descriptively.

3. Findings and Results
From the forum group discussion conducted with four blind students about the need analysis of the development of Podcast media for special students in Universitas Negeri Padang, it was found that there were three aspects to be analysed, as follows:

3.1. Learners’ barriers
There were some crucial issues came out while the students conveyed the experiences of studying in Universitas Negeri Padang as visual impairment students. It is important to note that there have been some good conditions, especially in the conventional learning, such as: positive relationship with other students, additional deadline for assignment from the lecturers, etc. However, in the online learning context, the participants mentioned some unfortunate obstacles, as captured in the Table 1.

| No | Problems     | Situation                                                                 |
|----|--------------|---------------------------------------------------------------------------|
| 1  | Methods      | The implementation of online discussion on the e-learning platform reduces the engagement of blind students because they are rather slow in typing. |
|    | Media        | The features in the e-learning platform cannot be functioned optimally by the blind students |
| 2  | Resources    | References are presented in PDF format and the number of pages is large, so it takes a lot of time to understand the material. |
| 3  | Accessibility| The use of video in the learning process requires a good internet network and / or a lot of internet data packages. The difficulty to complete the video-based assignment and have an issue with the deadline. |

Students with visual disabilities have problems understanding the information displayed in text form. In this case, in presenting material, lecturers still provide many references in PDF form. Even though there is a screen reader application, it requires more time for blind students to understand the material, especially if there are many pages of the material. In addition, references using PDF also contain less important information, while screen readers cannot choose which information is important and which is not. As the online learning is still on going, all participants expect to have such an alternative media to help them more understand about the materials, so the participants can reach the maximum potential of the course enrolled.
3.2. Course’s characteristic
One of the mandatory courses in Universitas Negeri Padang is Introduction to Education Course (Dasar-dasar Ilmu Pendidikan). Each student who is from a pre-service teacher education program must take this course in his first or second semester of study. For one semester, it discusses about the theoretical concept of education, social phenomena happened in educational environment, and the engagement of digital technologies to education. It takes 100 minutes for one session. This short duration is frequently not enough to convey the materials since it has been spent to conduct the discussion among the students. Therefore, it is often to happen that the lecturer has not enough time to reflect and conclude the materials.

Furthermore, as the learning methods now changed to distance learning, the use of online discussions is a challenge for students. Especially if there are students in the class with visual problems. The written-based online discussion process is less profitable for blind students because they have difficulty expressing their opinions. This happens because the student must type the letters at a slow speed, so they often miss opportunities to answer. Also, they cannot keep up with the pace or rhythm of the discussion because they cannot see how far the discussion has progressed. Therefore, it is necessary for the lecturer to facilitate the students with additional and complementary knowledge through Podcast as a reflection of the material discussed. This podcast can be such an assistance for the students to understand the topic from the lecturer’s perspectives. In addition, this media is also important for the students to know the conclusion of the materials they have talked on the class.

3.3. Learning situation and environment
The change of learning system from conventional to digital has been emerging some problems for disabled students. In addition, since March 2020, educational institutions, especially Universitas Negeri Padang have been instructed to convert the learning system to not online, but also distance learning. The difficulty of visual-impaired students to experience the alter of teaching and learning condition, and it is considerably getting harder when it is conducted from home, no guidance from the teachers [5]. Usually, the blind students can listen to what the teachers deliver in the classroom. Once they have got some problem to understand the materials, their classmates are there to give some assistance. However, the distance learning creates potential issues on the engagement between the blind student and the lecturers and their classmates. This distance learning environment is not giving any beneficial impact, if the digital learning platform is accessible to but usable to blind students [6].

4. Discussion
Having an appropriate and flexible methods and media for online learning in the pandemic situation is an essential issue to accomplish. Once the covid-19 is suddenly coming, educational system, especially the teachers have not been prepared to face to negative impact for teaching and learning process. As the consequences, the provided online learning methods have not reached the maximum potential of learning objectives. This condition is not only experienced by the regular students, but also disabled students. This study then focuses on how blind students cope with this the influence of digital learning for their academic achievement using specific designed learning media. There is one primary component should be considered when it is come to design electronic learning material or system, namely the ability of the users [6]. The designer should analyse the needs and requirement of the targets so this material can meet their expectation.

The notion of Podcast as learning media in the online learning has been essential for visual impairment students in Universitas Negeri Padang. The characteristic of Podcast which focus on audio-based material delivery assist the blind students to maximal their potential of hearing. Generally, students believe that Podcasts are a more effective medium than textbooks and more efficient in helping them to learn [7]. The interest of people to listen to Podcasts continues to increase due to the level of simplicity, accessibility, and availability of Podcasts for free [8]. Some of the advantages of podcasts are: 1) Podcasts can be used as a learning reference source for students, 2)
Efficient, which includes the practicality of storing and carrying them. Due to the small file size, podcasts can be downloaded via a computer or mobile phone connected to an internet network and stored on a computer or cellphone / smartphone, so that at any time they will listen and can be played immediately. This allows learning to be done anywhere and anytime; 3) Ease of listening. The students can choose whether to just listen to it or download it for later storage and listening at any time without having to go through the internet network; 4) Ease of distribution through certain portals so as to save time and costs for conventional distribution; 5) Bandwith friendly (lane width) [9]. Bandwidth friendly is because the file size to be uploaded and downloaded is compressed in digital format with a small size, so only bandwidth is needed for small data transfers. The concept of Podcast development in learning is more often used as a medium for review and reflection, rather than as a substitute for class absence [10].

The condition of students with visual impairment insisted the teachers to create such a sound-based learning media. It is expected that the students can maximize the potential of their hearing to understand the materials. The relationship between the teachers and blind students are positively increasing in the use of use speech to a much greater extent. The comfortability created in this relationship, at the end, will develop blind students’ confidence to share knowledge and skills [11].

5. Conclusion
From the discussion, it can conclude that the visual impaired students in Universitas Negeri Padang require specific learning media which can assist them to understand the materials clearly. The provided text-based references with many pages takes their time to study, with the help of screen-reader application though. Therefore, the simplicity of Podcast is assumed to increase the eagerness of blind students to learn effectively due to the materials conveyed through the Podcast have been summarised by the lecturers from various books and articles. In addition, students can play the Podcast frequently with no fear that they need a large amount of credit and good quality of internet connection.

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