Students' Perceptions of Innovative Learning Media as a Support System for Inclusive Education

(Persepsi Mahasiswa terhadap Media Pembelajaran Inovatif sebagai Penunjang Pendidikan Inklusif)

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Abstrak

Semua siswa tanpa kecuali diharapkan memiliki kesempatan yang sama untuk memperoleh pendidikan tinggi. Banyak perguruan tinggi di Indonesia termasuk Universitas Airlangga menerima mahasiswa berkebutuhan khusus (MBK). Namun, ketersediaan dan penggunaan media dan bahan ajar untuk MBK masih sangat terbatas. Penelitian ini bertujuan untuk mendalami persepsi mahasiswa terkait isu tersebut sebagai penunjang MBK tunanetra dan tunarungu. Penelitian ini melibatkan 80 responden yang merupakan mahasiswa regular dan MBK Universitas Airlangga. Penelitian ini menggunakan kuesioner untuk mengumpulkan perspektif mahasiswa mengenai media pembelajaran di Universitas Airlangga. Hasil penelitian menunjukkan bahwa mayoritas mahasiswa Universitas Airlangga menganggap bahan dan media ajar yang telah ada belum dapat digunakan oleh MBK dengan maksimal. Mahasiswa Universitas Airlangga juga menganggap kebijakan yang diterapkan dalam proses pembelajaran belum sepenuhnya sesuai dengan kebutuhan mahasiswa disabilitas. Selain itu, mahasiswa juga mengharapkan adanya support system yang dapat mendukung pembelajaran MBK. Dengan itu, mahasiswa telah menunjukkan opini positif atas inisiasi dan kebutuhan untuk scaling up. Perbaikan dan sistem pendukung yang lebih baik diperlukan untuk pengembangan lebih lanjut.

Keywords: mahasiswa berkebutuhan khusus, media dan bahan ajar inovatif, media pembelajaran untuk gangguan penglihatan dan pendengaran, pendidikan inklusif, pendidikan inklusif, persepsi mahasiswa

Abstract

All students, without exception, are expected to have an equal opportunity of acquiring higher education. Many universities in Indonesia including Universitas Airlangga accept students with disabilities. However, the availability and use of learning materials for these students are scarce. The study aimed to understand the students' perceptions on this issue, particularly for students with visual and hearing impairments. The study includes 80 participants consisting of regular students and students with special needs in Universitas Airlangga. The study used a

questionnaire to collect students' perspective on learning media provided by Universitas Airlangga. The findings of the study revealed how the majority of students at Universitas Airlangga considered learning materials and media available cannot be used to its full potential by students with special needs. Moreover, the policies have not been adjusted to the needs of students with special needs. Moreover, students expected support system to help the learning process of students with special needs. Lastly, the participants' responds on the questionnaire show positive opinions on the initiative and calls for the need to scale up and improve the support system.

Keywords: inclusive education, innovative teaching media and materials, learning media for visual and hearing impairments, students with special needs, students' perceptions

INTRODUCTION

The availability of learning materials, especially at the level of higher education, that can support students' learning process in Indonesia is still at a minimum. It is well known that higher education is one of the main factors that support children's preparation for achieving their goals in the future. Smith (2020) states that higher education gives the meaning of education to all. Problem-solving, communication, critical thinking, creativity, and cooperation are essential in building critical thinking skills and character. With the new skills gained, the opportunity for students to have a better career and wages will be increased. Higher education also provides benefits to the wider community by creating future leaders and highly competitive business creators or socio-entrepreneurs. Therefore, the government and higher education organizers have the responsibility for the continuity of the learning process of all students *without exception* to obtain an education of good quality.

This diversity of students developing and growing within educational institutes needs to be the major achievement in the higher education process. In this case, students with special needs have the same right as other students to continue their studies at the higher education level. In Indonesia, the percentage of graduates with special needs is rated much lower when compared to regular students. Statistics Indonesia (2020), in the report on Education Statistics, show that individuals with special needs over 15 years old who had never been to school reached 20.51%, while regular individuals over 15 years old who never went to school only reached 3.05%. Moreover, individuals with special needs over 15 years old who could complete education up to the higher education level reached 3.38%, while regular individuals with the same education level reached 9.68%.

There were changes in the number of percentages in 2021. According to Statistics Indonesia (2021), the percentage of individuals with special needs over 15 years old who have never been to school decreased to 18.54%, while the percentage of regular individuals who did not go to school decreased to 2.86%. Then, 4.54% of individuals with special needs over 15 years old and 9.82% of regular individuals over 15 years old completed higher education levels. Finally, it can be concluded that education in Indonesia, both for regular individuals and individuals with special needs has undergone development.

Although there were changes to the percentage of graduation of individuals with special needs, they were not significant. Figure 1 presented the comparison of the education done by regular individuals and individuals with special needs in Indonesia within two years.
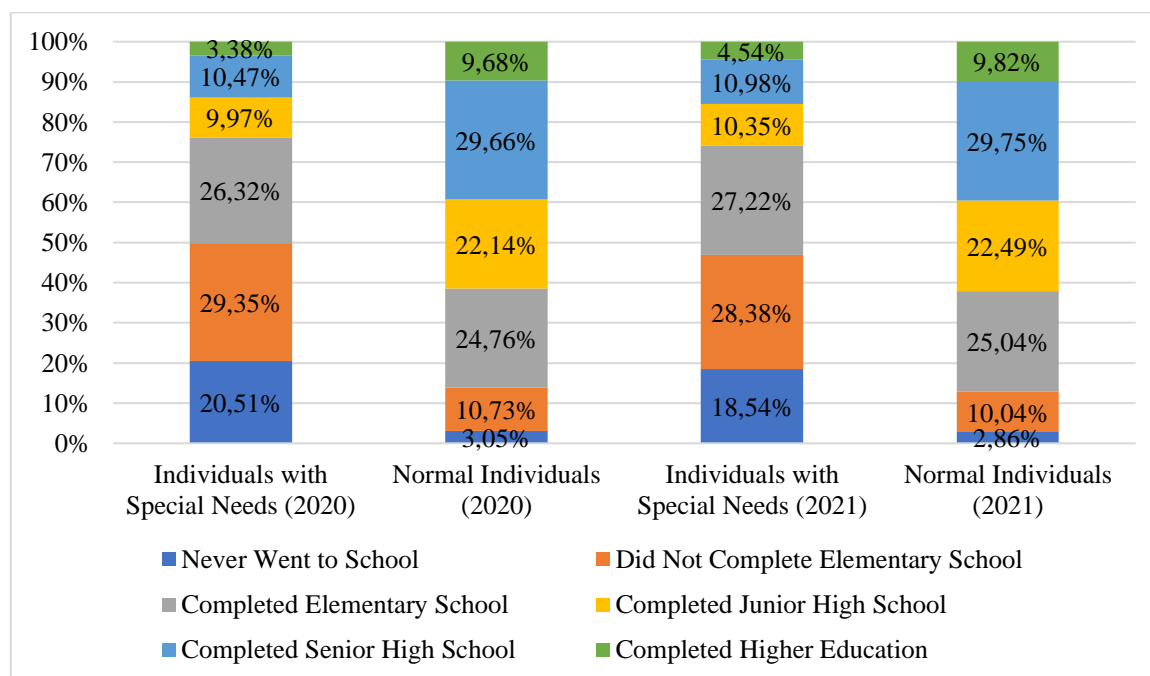
Figure 1. Comparison of Graduation Percentage of Special Needs Individuals and Regular Individuals above 15 years 2020 and 2021

The researcher suspected that one of the contributing factors to this problem is the lack of adequate materials available to support the learning process of students with special needs in many schools, institutions, and educational institutions in Indonesia. This statement is in line with research by Achyar (2018) which described various problems in the application of inclusive education in Indonesia. One of those problems is the limitations of schools in preparing programs that suit the needs of children with special needs.

The United Nations (UN) in the Convention on the Rights of Persons with Disabilities article 1 explains that individuals with special needs or with disabilities are characterized as having long-term physical, mental, intellectual, or sensory disorders (United Nations, n.d.). In addition, the United Nations also said that individuals with special needs have various obstacles in interacting with the community in their environment. Then, Bajaj (2019) stated that visually impaired students are faced with challenges in learning due to lack of experience, weak environmental control, limited non-verbal communication, and inadequate information about concepts. Furthermore, deaf students stated that if they are born with parents who can hear or have to communicate with hearing people in their early days, then delays in language development are most likely to occur and have an impact on their learning process (Singh 2019). These situations can affect the learning process, and cognitive, and social development of students with special needs. As an effort to provide support to students with special needs, inclusive education was introduced.

Inclusive education is a concept that can be discussed when exploring how the learning problems of students with special needs are solved. According to Unicef (2017), inclusive education refers to an education system in which all children, regardless of their background, can learn together in the same class and school. The Inclusive Education Service of Universitas Airlangga has a vision of raising awareness about the importance of inclusive education by providing facilities that can support the learning process of students and lecturers with special needs in the environment of Universitas Airlangga. Although Universitas Airlangga has been

developing inclusive education programs since 2017, facilities that help the realization of inclusive and friendly education are still considered very inadequate and need to be developed. In addition, inclusive education programs are still considered less integrative in online learning. This happens because before the COVID-19 pandemic occurred, online learning was not in much demand and education was still generally focused more on face-to-face or *in-person* learning.

This research focused on students' perceptions of the availability and use of friendly learning media for students with special needs, especially visually impaired and deaf students at Universitas Airlangga. This innovative learning is applied to compulsory courses that also apply to students with special needs, especially visually impaired and deaf students at Universitas Airlangga.

Several studies discussing the development of learning innovation efforts in Indonesia for special needs students, especially though with visual and hearing impairments, have been conducted in various educational institutions. Pradnyanita and Hanindharputri (2020) developed a learning model of deaf students at Sekolah Tinggi Desain Bali using Video Tutorial Interpreter that aimed to be used for studying materials in courses that require practice. Rohaeti, et al (2021) proposed a Learning Management System (LMS) based Team Teaching Model (TTM) by IKIP Siliwangi that succeeded in supporting visually impaired students in studying Scientific Writing Strategies. Fatimah *et al.* (2021) developed an android application that was effectively used by teachers in teaching visually impaired students called Digital Mathematics Learning Companion (DMLC). The application can help visually impaired students by using voice and "tap the screen" features to run the application.

It can be seen from the studies explained above that research that explores new learning media for students with special needs, especially with visual and hearing impairment is limited. To achieve the aim of this research, the researcher created two research questions as follows: (1) What are the perceptions of students about friendly learning media and materials for students with special needs at Universitas Airlangga? (2) What support systems are needed relating to learning media and materials for students with special needs?

Both of these issues are very important to discuss. This is because the students' perceptions of learning media at Universitas Airlangga can be used as a reference for the researcher to see whether the learning media available at Universitas Airlangga is sufficient and effective enough to support the learning of students with special needs at Universitas Airlangga. By understanding the support system needed by students with special needs, the researcher can learn what support systems need to be considered to be improved and developed at Universitas Airlangga. In addition, the results of this study are expected to contribute to the development of inclusive education implementation in university environments as well as in Indonesia.

METHOD

Since this research was aimed to develop an innovative learning media for students with special needs, especially students with visual and hearing impairment, the approach used in this study was a qualitative approach. Denzin and Lincoln (2018) stated that qualitative research includes interpretive and naturalistic approaches in which a phenomenon is studied and interpreted by looking at its nature and focusing on how society interprets the phenomenon. In line with this statement, Aspers and Corte (2019) argued that qualitative approaches can be used to explore knowledge by conducting an in-depth study of the phenomenon and making a new difference.

Therefore, this approach can be applied to answer the research questions in this study. This research answered the research questions to know students' perceptions of friendly learning media and materials for students with special needs and explore the support system required by students with special needs in their learning process. In this case, the focus of the study was to find out the availability and use of learning media and materials for students with visual and hearing impairments. The data was collected through questionnaires distributed to all students in various study programs and faculties in Universitas Airlangga. A total of 80 participants responded and filled out a survey where the data was then analyzed and interpreted based on the research questions in the study.

Learning media is defined as the innovation of methods used in the delivery of materials so that learners' learning interest increases (Kartono et al., 2020). Examples of learning media used in this digital era are Zoom Conference, YouTube (Murtiningsih 2020), Learning Management System platforms, online applications (Fitria *et al.* 2017), e-books, and tutorial videos. Kosasih (2021) defines learning materials as tools used by teachers and students in learning in order to improve understanding of the material and the experience of student practice. Learning materials can be in the forms of books, scientific and popular articles, videos, photos, interactions with native speakers (in language learning), tasks, flashcards, discussion materials, and news stories (Kosasih 2021) used for the fulfillment of course learning achievements.

Participants who filled out a questionnaire about students' perceptions of friendly learning media for students with special needs were students of Universitas Airlangga from various faculties and study programs (Figure 2 and Figure 3). To find out about the identity of the participants, the participants were asked to provide information related to the origin of the faculty, study program, and whether they are students with special needs or not through questionnaires that have been disseminated. The figures below contain information about the identities of the participants.

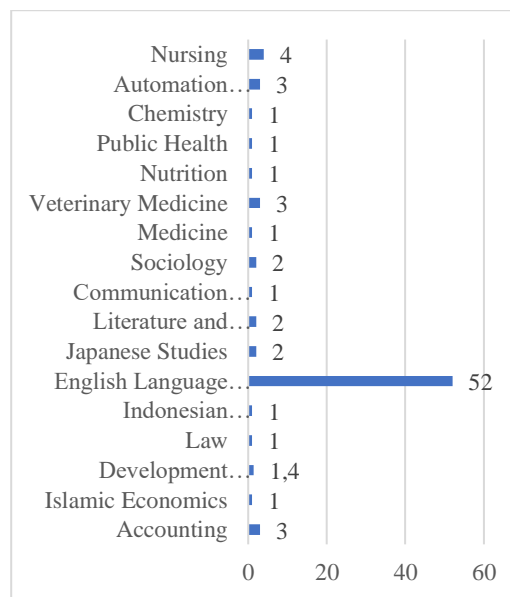**Figure 2.** Information of Participants Based on the Faculties

Figure 3. Information of Participants' Study Programs

The participants in this survey were 80 students, three of whom were students with special students: two of them were students with visual impairment and the other was a student with

autism. These three students with special needs were studying in two different faculties, one student was from the Faculty of Economics and Business and studied Development Economics, while the other two were students of the Faculty of Humanities studying Japanese Studies. Furthermore, the 77 other participants said they did not have a physical deficiency or mental disorder to identify as individuals with special needs.

To collect the data, the researcher used questionnaires as the research instrument. In this study, questionnaires were used to collect data on the perception of the students, both regular students and students with special needs, regarding learning media and support systems at Universitas Airlangga. The questionnaire used in the survey on learning media at Universitas Airlangga consists of several sections that contain information on the identity of participants, students' perceptions of the availability of friendly learning media and materials for students with special needs at Universitas Airlangga, students' perceptions of the need for the addition of friendly learning media and materials for students with special needs at Universitas Airlangga, and the students' perceptions regarding the policies at Universitas Airlangga. Questionnaires were created using Google Form and use Likert scale answers, long answers, and checkbox features. Thus, it can be concluded that this questionnaire is a mixed questionnaire. For the data collection, questionnaires were distributed to all students at Universitas Airlangga.

RESULTS AND DISCUSSION
Students' Perceptions of Friendly Materials for Students with Special Needs at Universitas Airlangga

To study the students' perceptions of friendly materials for students with special needs at Universitas Airlangga, statements and questions related to this were included in the questionnaire. In general, the section of the questionnaire that discusses this matter consists of two parts, namely those that discuss students' perceptions on the availability and the need for additional friendly materials for students with special needs at Universitas Airlangga. Through these statements and questions, the researcher managed to collect data which is explained below.

Learning media and materials available at Universitas Airlangga could be considered good enough to support learning for students with special needs and regular students. This was conveyed by most of the students who filled out the questionnaire. However, a lot of participants also did not agree with the statement. Table 1 displayed the number of participants who agreed and disagreed with the statements that lead to the students' perceptions of the availability of friendly learning media and materials for students with special needs at Universitas Airlangga.

The first statement discussed the ease of students with special needs in accessing learning media and materials at Universitas Airlangga. From 80 participants, 14 strongly agreed and 35 agreed with the statement. Then, there were 27 participants who disagreed and there were only four participants who answered 'strongly disagree'. After discussing the accessibility of learning media and materials, participants were given a statement about the ease of learning media and materials at Universitas Airlangga to be understood by students with special needs. There were 28 participants who disagreed and three participants who strongly disagreed with the statement. Then, 39 participants agreed and 10 participants strongly agreed. Furthermore, a statement related to whether the use of learning media and materials available at Universitas Airlangga was able to provide a good learning experience for students with special needs. The opinions of

80 participants spread across the range of assessments ranging from strongly agree to strongly disagree with a total of 12 people strongly agreeing, while two participants expressed strong disagreement about it. Then, 39 voted to agree, and 27 others disagreed.

Table 1. Students' Perceptions on the Availability of Friendly Materials
for Students with Special Needs

No.	Statements	Answers			
		Strongly Agree	Agree	Disagree	Strongly Disagree
1	Learning media and materials at Universitas Airlangga can be accessed easily by students with special needs.	14	35	27	4
2	Learning media and materials at Universitas Airlangga can be easily understood by students with special needs.	10	39	28	3
3	By using the learning media and materials at Universitas Airlangga, students with special needs get a good learning experience.	12	39	27	2
4	By using learning media and materials at Universitas Airlangga, students with special needs have good academic grades.	11	38	28	3
5	By using learning media and materials at Universitas Airlangga, students with special needs can achieve the goals specified at each course.	10	37	29	4

In the fourth statement, the participants were asked to give their opinions regarding the use of learning media and materials at Universitas Airlangga as to whether they could help students with special needs in achieving good academic grades. Eleven people voted that they strongly agreed and three participants agreed, while three participants strongly disagreed. The largest number of participants, 38 people, chose to agree with the statement given. Of the remaining 80 people, 28 people disagreed. Finally, the participants were given a statement about whether the use of learning media and materials at Universitas Airlangga, can help students with special needs achieve the goals specified. The results showed that there were 10 participants who strongly agreed, 37 participants who agreed, 29 participants who disagreed, and four participants who strongly disagreed with the statement. Thus, of the overall statements given, very few chose the option to strongly disagree, but the majority of participants expressed agreement regarding the overall statement.

Thus, although most students in this study assume that the learning media and materials at Universitas Airlangga were enough to support the learning of students with special needs, the addition of friendly learning media and materials for students with special needs was urgently required to be improved. Table 2, Table 3, Table 4, and Table 5 below showed the perceptions of the need for the addition of friendly learning media and materials for students with special needs at Universitas Airlangga.

Table 2. Students' Perceptions of Additional Support for Students with Special Needs

No.	Statement	Answer			
		Strongly Agree	Agree	Disagree	Strongly Disagree
1	The availability of friendly learning media and materials for students with special needs at Universitas Airlangga is still lacking.	20	34	21	5
2	The addition of friendly materials for students with special needs is required to enhance their learning experience.	45	20	9	6
3	The addition of friendly materials for students with special needs is required to improve their understanding of the materials being taught.	47	20	9	5
4	The addition of friendly materials for students with special needs is required to increase their academic grades.	47	21	7	5
5	The addition of friendly materials for students with special needs is required to increase their opportunity in achieving the goals of the courses.	48	18	8	6

The majority of Universitas Airlangga students who filled out questionaires argued that friendly learning media and materials for students with special needs were very minimal. Then, they stated that the addition of learning media and materials could have a positive impact on the learning of students with special needs. Table 2 provides five statements regarding students' perceptions on the need to increase the quantity of friendly learning media and materials for students with special needs with choices: strongly agree, agree, disagree, or strongly disagree. The first statement given was related to the lack of availability of friendly learning media and materials for students with special needs. Five people disagreed, 21 disagreed, 34 agreed, and 20 strongly agreed.

The second to fifth statements asked whether the need for the addition of friendly learning media and materials for students with special needs were able to improve several areas, namely: 1) their learning experience, 2) their understanding of the material taught, 3) their academic grade, 4) their opportunity to achieve course learning goals. The majority of the participants strongly agreed that the addition of friendly learning media and materials for students with special needs was needed.

In addition to expressing their opinions regarding the addition of friendly learning media and materials for students with special needs, participants were also asked to express their opinions on the criteria for friendly learning media and materials for students with special needs. In collecting this information, the researcher used *the long answer* feature and provided information that, in this section, participants were allowed to write on more than one criterion.

Table 3. Students' Perceptions of the Criteria for Friendly Learning Media
and Materials for Students with Special Needs

No.	Criteria for Learning media and materials	Total
1	Learning media and materials have features such as braille, sign	30

No.	Criteria for Learning media and materials	Total
	language, subtitles, and/or closed captions.	
2	Learning media and materials in the form of video and/or audio are effective for students with special needs and regular students	25
3	Learning media and materials can be accessed by students with special needs and regular students repeatedly.	15
4	Learning media and materials are easily understood by students with special needs and regular students	9
5	Learning media and materials are effective to be used in the learning process.	6
6	Learning media and materials can meet the needs of students with special needs and regular students	3
7	Learning media and materials in the form of printed books and/or e-books are effective for students with special needs and regular students.	3
8	Learning media and materials can help achieve the learning indicators and goals.	2
9	Learning media and materials are interactive.	2
10	Learning media and materials in the form of PowerPoints, that are attractive, are effective for students with special needs and regular students	2
11	Learning media and materials have a good learning plan	1
		98

The results of the questionnaire showed that there were 98 suggestions submitted. After they were analyzed, the researcher found 12 criteria suggested by the participants. First, 30 participants expected the learning media and materials to have features such as braille, sign language, *subtitles*, and/or *closed captions*. In research by Fatimah, et al (2021), it was shown that the use of braille in an app successfully improved the learning of visually impaired students. Then, 25 participants expressed how learning media and materials can be in the form of video and/or audio. There were 15 participants that stated they must be accessible to students with special needs and regular students. Furthermore, 9 participants stated they more easily understood by students with special needs and regular students. How learning media and materials should be effectively used in the learning process was proposed by six participants. Next, learning media and materials can meet the needs of students with special needs and regular students and this criterion is suggested by three participants. Three participants stated that learning media and materials in the form of printed books and/or e-books were effective for students with special needs and regular students. Two participants expected that learning media and materials can help students to achieve learning indicators and goals. The other two participants mentioned how learning media and materials must be interactive. Proposed by two participants, was that learning media and materials in the form of PowerPoint are visually attractive and effective for students with special needs and regular students. Lastly, a participant proposed that the learning media and materials have a good learning plan. All the criteria proposed showed that the participants' concerns were so that learning media and materials could be used effectively by students with special needs in terms of the deliverance process of the materials, accessibility, and for improvements of their understanding of the material.

In the questionnaire, the researcher also asked about the learning media and materials features that need to be added to Universitas Airlangga's e-learning platform, namely https://hebat.e-learning.unair.ac.id/ to support the learning of students with special needs and regular

students. Below is the number of participants who approved the addition of friendly learning media and materials for students with special needs.

The majority of participants suggested some features displayed on the questionnaire to be added on https://hebat.e-learning.unair.ac.id/ for accessibility to all students including students with special needs. This was shown through the data listed in table 3. To retrieve this data, participants could choose more than one of the available options. From the table, it can be stated that 55 students suggested adding learning media and materials using audio to support the learning of students with special needs. Then, 58 students chose the addition of learning media and materials using video on Universitas Airlangga's e-learning platform. In addition, 68 students chose the addition of learning media and materials using closed caption/subtitles and sign language to support the learning of students with special needs.

Table 4. Suggested Additional Learning Media and Materials Needed

No.	Types of Learning media and materials	Total
1	Using video	58
2	Using audio	55
3	Using CC / Subtitles	68
4	Using Sign Language	68

The researcher also explored participants' opinions on other learning media and materials that could be added in https://hebat.e-learning.unair.ac.id/. The results of the questionnaire showed that some features and types of learning media and materials were expected to be added to Universitas Airlangga's e-learning platform. The question in table 5 was not a mandatory question so the suggestions were not obtained from all of the 80 participants. Each suggestion by participants was classified into 11 types. The type of learning media and materials that were most widely recommended was in the form of text-to-speech features. Then, additional features expected by students were: (1) using audio and video speed features, (2) using the image scan feature, (3) using the colorblind feature, (4) using the learning chapter mind map, (5) using illustrations, (6) using a structured step by step method, (7) using braille, (8) using the auto-play video feature, (9) provision of additional voice-command features, and (10) attaching guidelines on using e-learning for students with special needs.

It can be concluded from the above explanation that although the learning media and materials available in Universitas Airlangga today can be considered sufficient to help the learning process for both regular students and students with special needs, all participants expected development in the learning media and materials. So far, the learning media, materials, and features suggested by participants such as in table 4 are very rarely used, and most of them have not been applied comprehensibly in the learning system at Universitas Airlangga. For example, learning by using video has been used and become the new norm at Universitas Airlangga, especially since the pandemic of COVID-19 virus. In addition to learning management system (LMS), Universitas Airlangga has a MOOC platform. It stands for *Massive Open Online Courses* and it is used to facilitate asynchronous teaching and learning processes for both lecturers and students (Amalia, 2019). However, the number of courses that use this medium with friendly features for students with special needs is very small. For students with special needs, the availability of learning media and materials that can be accessed at any time and can be used and learned repeatedly are needed.

Table 5. Other Suggested Additional Learning Media and Materials Needed

No.	Types of Additional Learning Media and Materials	Total
1	Using the text-to-speech feature	6
2	Using audio and video speed features	1
3	Using voice command	2
4	Using the image scan feature	1
5	Using color blind features	1
6	Using the learning chapter mind map	1
7	Attaching the guidelines of using e-learning	2
8	Using illustrations	1
9	Using a structured step by step method	1
10	Using braille	1
11	Using auto-play video feature	1
		18

The availability of asynchronous learning with certain features for students with special needs was also proposed by participants in this study. The use of learning media and materials that have been suggested in Table 5 by the participants above can better reach the learning support for students with special needs in the learning process. In a more detailed explanation, learning media and materials in the form of audio with features such as text-to-speech, voice command, audio speed can help students with special needs, especially those with visual impairments. This has been proven in research by Rohaeti *et al.* (2021) and Fatimah *et al.* (2021). Both of these studies used similar features in developing learning models for visually impaired students. Then, the use of video which is coupled with a sign language translator and video speed will greatly help accelerate the achievement of learning goals for students with hearing impairment. In research by Pradnyanita and Hanindharputri (2020), the use of video in the learning of deaf students has proven effective because video can be used repeatedly and made easily accessible for students with special needs. Finally, it can be concluded that the addition of friendly learning media and materials with a wide selection of features is expected by students to be added onto the https://hebat.e-learning.unair.ac.id/.

Since the participants in this study elaborated high expectations on the improvement of https://hebat.e-learning.unair.ac.id/ to be adjusted for the needs of students with special needs, existing policies needed to be reviewed for the development of innovative learning that is beneficial for students with special needs. One of the statements discussed the policies regulating students' learning and assessment activities in general including students with special needs at Universitas Airlangga. This is typically announced in each course or class taken by students. The following described students' perceptions of the policies that have existed at Universitas Airlangga and relate to students with special needs.

Table 6. Students' Perceptions of the Policy for Students with Special Needs

No.	Statement	Answer			
		Strongly Agree	Agree	Disagree	Strongly Disagree
1	The policies of the offline learning process at Universitas Airlangga	4	39	32	5

No.	Statement	Answer			
		Strongly Agree	Agree	Disagree	Strongly Disagree
	have been adjusted according to the needs of students with special needs.				
2	The policies of the online learning process at Universitas Airlangga have been adjusted according to the needs of students with special needs.	8	32	34	6

The results of the questionnaire showed a balance in the number of students who agreed and disagreed with the statements regarding policies that accommodated students with special needs. Policies regarding offline and online learning activities have been considered conducive enough for the learning of students with special needs. On the other hand, some students consider the existing policies to not yet be in accordance with the needs of students with special needs. From the numbers listed in table 6, it can be seen that four students stated that they strongly agreed with the statement which said that the policy regarding the offline learning process at Universitas Airlangga had been adjusted for the needs of students with special needs. Moreover, 39 students agreed with the policy. But there were also 32 students who expressed disagreement that the policy regarding the offline learning process at Universitas Airlangga had been adjusted for the needs of students with special needs. The remaining five participants expressed strong disagreement with the statement.

In the second statement, eight students strongly agreed that the policy regarding the online learning process at Universitas Airlangga had been adjusted for the needs of students with special needs. Then, students agreed to the same statement. However, there were 34 students who disagreed. In fact, six students strongly disagreed with this statement. Among the students who answered in disagreement on both statements, one of them was a student with special needs. One of the students with special needs also replied 'strongly disagree' with the two statements regarding offline and online policies. This phenomenon needs to be a consideration by the decision-makers to also prioritize students with special needs in the policies regulating the learning system.

With the high number of participants who responded 'agree and disagree' about the existing policies, it can be concluded that adjustments to existing policies with the needs of students with special needs in the learning process at Universitas Airlangga were required. The lack of availability and use of friendly learning media and materials for students with special needs at Universitas Airlangga can be one of the factors of why a lot of participants disagreed with the statement that said the policies at Universitas Airlangga have met the needs of students with special needs. Therefore, policies related to the learning process at Universitas Airlangga are expected to be adjusted for not only the needs of regular students, but also of students with disabilities or with special needs. The existence of policies that are in accordance with the needs of students with special needs will have a positive impact on the learning goals set by students with special needs.

Types of Support Systems Needed Related to Learning Media and Materials for Students with Special Needs

A support system is one of the important elements for assisting the learning process of students with special needs. In this study, the researcher tried to explore students' perceptions regarding the support system needed for learning to achieve Graduate Profile's Outcomes (*Capaian Profil*

Lulusan or CPL) and to help students with special needs reach the required Course's Learning Outcomes (*Capaian Pembelajaran Mata Kuliah* or CPMK) expectations.

The results of the questionnaire showed various types of support systems needed for both regular students and students with special needs. This can be seen in table 7 where participants were given the opportunity to provide advice on policies that need to be applied. After analyzing the data, there were 14 types of support systems out of a total of 88 suggested points. The participants, a total of 17 students, gave suggestions on the importance of the availability of adequate learning media and materials. This was also the most frequently seen advice in the study. Furthermore, 16 participants offered advice in regards to the procurement of facilities and infrastructure in the campus environment with facilities friendly for students with special needs. The third position proposed by 10 participants was on the availability of lecturers who have the ability to teach students with special needs.

The suggestions were categorized in several explanations: (1) the availability of adequate learning media and materials, (2) facilities and infrastructure in the campus environment friendly for students with special needs, (3) lecturers who have the skills to teach students with special needs, (4) the understanding from lecturers and administrative staffs, (5) ease and variety in accessing friendly learning materials for students with special needs, (6) adjustments to the policies of learning systems and exams for students with special needs, (7) academically periodical and continuous academic assistance, (8) program facilities and/or activities that support the relationship between students with special needs and regular students, (9) systematic and accessible psychological support especially for students with special needs, (10) appreciation of students with special needs, (11) negative stigma regarding students with special needs, (12) providing appropriate graduation targets for students with special needs, 13) volunteers from lecturers and peers related to disability support, and)14) the holding of learning or tutorials online specifically for students with special needs.

Table 7. Essential Support Systems for Students with Special Needs

No.	Types of Support System	Total
1	The availability of adequate learning media and materials	17
2	Facilities and infrastructure in the campus environment friendly for students with special needs	16
3	Teaching lecturers who have the skills to teach students with special needs	10
4	Understanding from lecturers and administrative staffs	8
5	Ease and variety in accessing friendly learning for students with special needs	8
6	Adjustments to the study and exam system policy for students with special needs	8
7	The academic assistance for students with special needs is periodical and continuous	6
8	Facilitation of programs and/or activities that support the relationship between students with special needs and regular students	5
9	Psychological support that is systematic and accessible, especially for students with special needs	4
10	Appreciation for students with special needs	2
11	Minimizing negative stigma regarding students with special needs	1
12	Providing appropriate graduation targets for students with special needs	1
13	Volunteers from lecturers and peers related to disability support	1

No.	Types of Support System	Total
14	Holding online learning or tutorials for students with special needs	1
		88

Through the discussion above, we can conclude that the many types of support systems mentioned by participants as a way to offer learning support for students with special needs showed that the need to improve and upgrade the availability and use of appropriate learning media and materials and others for students with special needs at Universitas Airlannga still requires attention and development. Various aspects that have been mentioned in table 7 were expected to be considered by the stakeholders in the future to help create and implement policies at Universitas Airlangga and universities in general. The support systems delivered by participants through questionnaires were expected to support and motivate students with special needs during their studies at Universitas Airlangga.

CONCLUSION

Indonesia is one of the countries where the education system implements inclusive education. Inclusive education in Indonesia is applied at all levels of education: elementary, junior high, high school, and college. Even so, at the university level, specifically related to Universitas Airlangga in this study, there remains a limited number of friendly learning media and materials for students with special needs. From this research, it can be concluded that there are many aspects that need to be improved in the learning system at Universitas Airlangga, especially related to how learning media and materials are provided, how policies relate to and support all students, and the support systems available to assist the learning of students with special needs. The perceptions and suggestions that were conveyed by the 80 participants can be taken under consideration for Universitas Airlangga to increase the media capacity and learning materials for the implementation of inclusive education at Universitas Airlangga. Through change, adjustments, open dialogue, and listening to all stakeholder input, the impact on the learning for students with special needs can change lives for the better. Inclusive education should always be strived for. It should not just be a goal, but part of everyday thinking and actions for individual students and society. When one achieves, all are lifted which underpins the message that higher education gives the meaning of education to all. Furthermore, the results of this study can also be used as a recommendation for other universities.

REFERENCES

Achyar. 2018. "Permasalahan Pendidikan Inklusif di Indonesia." https://p4tktkplb.kemdikbud.go.id/permasalahan-pendidikan-inklusif-di-indonesia/.

Amalia, Y. S. 2019. Dasar-dasar Pengenalan tentang Massive Open Online Course (MOOC). Surabaya: Airlangga University Press.

Aspers, P. & U. Corte. 2019. "What is Qualitative in Qualitative Research." *Qualitative Sociology* 42 (2): 139–160. DOI: https://doi.org/10.1007/s11133-019-9413-7.

Badan Pusat Statistik. 2020. *Statistik Pendidikan 2020*. Badan Pusat Statistik. https://www.bps.go.id/publication/2020/11/27/347c85541c34e7dae54395a3/statistik-pendidikan-2020.html.

———. 2021. *Statistik Pendidikan 2021*. Badan Pusat Statistik. https://www.bps.go.id/publication/2021/11/26/d077e67ada9a93c99131bcde/statistik-pendidikan-2021.html.

Bajaj, G. 2019. "Revisiting Visual Impairment." In *Disability, Inclusion, and Inclusive Education*, edited by S. Chennat Springer. DOI: https://doi.org/10.1007/978-981-15-0524-9_7.

Denzin, N. K. & Y. S. Lincoln. 2018. "1. Introduction: The Discipline and Practice of Qualitative Research." In *The SAGE Handbook of Qualitative Research*, edited by N. K. Denzin & Y. S. Lincoln. SAGE Publications, Inc.

Fatimah, C., D. Parinata, A. Efendy, & Y. Santika. 2021. "Digital Mathematics Learning Companion (DMLC): Aplikasi Android Guru Pendamping Khusus Matematika Bagi Penyandang Tunanetra Berbasis Suara." *Jurnal Ilmiah Matematika Realistik* 2 (1): 40–46. DOI: https://doi.org/10.33365/ji-mr.v2i1.1068.

Fitria, H. Kurniawan & M. A. E. Ya. 2017. "Model Analisis Sistem Aplikasi Media Ajar Online sebagai Strategi Penguatan Daya Saing Sumber Daya Manusia. *E-Proceedings KNS&I STIKOM Bali*. DOI: http://knsi.stikom-bali.ac.id/index.php/eproceedings/article/view/10.

Kartono, G., Mesra, & A. C. K. Azis. 2020. "Pengembangan Media Ajar Grafis Komputer Materi WPAP dalam Bentuk *E-Book* dan Video Tutorial bagi Mahasiswa Seni Rupa." *Gorga: Jurnal Seni Rupa* 1: 127–132. DOI: https://doi.org/10.24114/gr.v9i1.18191.

Kosasih, E. 2021. *Pengembangan Bahan Ajar*. Jakarta: Bumi Aksara. https://books.google.co.id/books?id=UZ9OEAAAQBAJ&printsec=frontcover&hl=id#v=onepage&q&f=false.

Murtiningsih. 2020. "Penyuluhan Kesehatan Pola Hidup Sehat secara Daring Menggunakan Zoom dan Youtube sebagai Media Ajar pada Masa Pandemi COVID-19." *Jurnal Pengabdian Nasional (JPN) Indonesia* 1 (2): 37–40. DOI: https://doi.org/10.35870/jpni.v1i2.13.

Pradnyanita, A. A. S. I. & M. A. Hanindharputri. 2020. "Perancang Video Tutotial Interpreter untuk Mahasiswa Berkebutuhan Khusus (Tuna Rungu) di Sekolah Tinggi Desain Bali." *Jurnal Strategi Desain & Inovasi Sosial* 1 (2): 147–156. DOI: http://dx.doi.org/10.37312/jsdis.v1i2.2331.

Rohaeti, E. E., R. Amelia, N. Rukanda, D. S. Fauziya, I. Siliwang, J. Cimahi, & I. Barat. 2021. "Team Teaching Model (TTM) Berbasis Learning Management System (LMS) pada Mahasiswa Disabilitas Netra." *Jurnal Ilmiah P2M STKIP Siliwangi* 8 (1), 15–22. DOI: https://doi.org/10.33365/ji-mr.v2i1.1068.

Singh, S. 2019. "Revisiting Inclusion of Children with Hearing Impairment: Issues and Possibilities." In *Disability, Inclusive, and Inclusive Education*, edited by S. Chennat. Springer.

Smith, D. G. 2020. *Diversity's Promise for Higher Education: Making it Work*. Baltimore: Johns Hopkins University Press. https://eric.ed.gov/?id=ED607977.

Suarsana, I. M., I. G. W. Sudatha, G. A. Mahayukti, I. W. E. A. Suandana, & I. G. P. Suharta. 2021. "Implementation of Cognitive Theory in Developing Measurement Learning Multimedia for Deaf Students." *Jurnal Pendidikan dan Pengajaran* 54 (3): 425–2433.. DOI: https://doi.org/10.23887/jpp.v54i3.38700.

Unicef. (2017). *Inclusive Education: Including children with disabilities in quality learning: what needs to be done?* https://www.unicef.org/eca/sites/unicef.org.eca/files/IE_summary_accessible_220917_brief.pdf.

United Nations. (n.d.). *Committee on the Rights of Persons with Disabilities.* United Nations Human Rights Office of the High Commissioner. https://www.ohchr.org/en/hrbodies/crpd/pages/conventionrightspersonswithdisabilities.aspx#:~:text=Persons%20with%20disabilities%20include%20those,an%20equal%20basis%20with%20others.

Wati, L. A., Gunarhadi, & Asrowi. 2021. "The Effectiveness of the Career Guidance Module to Improve Career Maturity for Children with Special Needs in Inclusive Vocational High Schools." *Jurnal Pendidikan dan Pengajaran* 54 (1): 106–115. https://doi.org/10.23887/jpp.v54i1.

Yulian, R. & U. Ruhama. 2021. "Academic Technology Experience and Preference on Online Learning in Higher Education Institutions: Students' Perspectives." *Jurnal Pendidikan dan Pengajaran* 54 (3): 508–519. DOI: https://doi.org/10.23887/jpp.v54i3.38322.