

Rumah Ramah Apps: Supporting English Learning for Low Vision Students in Higher Education

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ABSTRACT

This research aims to elaborate the use Rumah Ramah Apps by English teachers for low vision student in supporting English learning. The data was obtained through in-depth interviews with five lecturers who and a low vision student who implemented rumahramah.id Apps in English language teaching and learning. The research method adopted in this research is Research and Development (R&D). The findings of the study revealed that (1) Developing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar focused on activities ranging from signing in to the Rumah Ramah page to comprehending the use of features on the instructor dashboard and course dashboard to the process of entering learning material, which focuses on general and content drip settings. (2) Implementing English language learning services through the 'Rumah Ramah' Apps for 'Low Vision' students at Universitas Muhammadiyah Makassar focused on the way to access Rumah Ramah Apps and utilize of Rumah Ramah Apps for low vision student. As a result, Rumah Ramah is extremely practicable for usage as an English learning media in assisting lecturers in designing material for low vision students.

Key words: Rumah Ramah Apps; Low Vision Students; Higher Education

INTRODUCTION

Education is the foundation in the process of forming the nation's next generation. Education, especially in Indonesia, receives special attention as outlined in Law Number 20 of 2003 concerning the Nationality of the Education System which provides full guarantees for Children with Special Needs to obtain quality education. The placement of students with special needs in the realm of general education and special education is now known as inclusive education. According to

Azmi (2017), in the teaching aspect, most students are taught a curriculum that is equivalent to non-disabled students. Inclusivity is influenced by many factors, ranging from specific student characteristics, preparation and teaching skills, to the amount of administrative support available (Causton & Theoharis, 2013).

Learning English in the education system is widely known at every level of education, including at university level. English language skills are considered one of the competencies in college education. Mastering English is expected to support academic activities such as finding sources, writing papers or presentations (Farani and Ariyanti, 2011). However, delivering English material in class can be a challenge for college when students have special needs, including students with low vision. Low Vision is a condition of visual impairment where the student has limitations related to the inability or limited ability to receive information through the sense of sight. This type of student has several problems in receiving the material provided by the teacher. Placing students with special needs in regular classes is called inclusive education. They have different needs compared to sighted students. They must get a different teaching and learning process. Certain teaching strategies that are appropriate for students without visual difficulties may not be appropriate for Low Vision students. They cannot see the teacher's expression when he explains the material in class (Wiyanah, 2017). According to Carney, et.al (2001:7), the majority of Low Vision students have low vision. These students should be encouraged to use their remaining vision, if necessary, using necessary optical aids and adjustments.

Basically, Low Vision students pose difficulties in learning foreign languages because human vision functions as the main stimulus for learning languages (Agesa, 2014; Arslantas, 2017). Without vision, the student relies on the remaining senses of hearing and motor-kinesthetic feedback in learning. Therefore, the lecturers must design a specific assistive technology learning innovation to support low vision students in inclusive classes. In this case, the technological learning innovation that will be implemented is in the form of developing English language learning through the 'Friendly House' application for low vision students at the Muhammadiyah University of Makassar. The aims of this study are:

1. Developing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Muhammadiyah University Makassar.
2. Implementing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Muhammadiyah University Makassar.

LITERATURE REVIEW

Previous Related Study

Some researchers had conducted studies concerning the practice of using technology assistive for visual impairment students in learning, such as: Hermawan et al. (2023) in their study 'The Implementation of Talkback Application in the Learning for Blind Students', found that the implementation of Talkback application for blind students gives many positive impacts as it help the students during the learning process. Furthermore, Nur'aisah et al. (2022) conducted their

study 'The Development of Screen Reader NVDA based Learning Technology to Visual Impairment students. Their study found that NVDA application has several advantages, including being able to read text, being able to read PDFs, being able to change the voice using English, Indonesian, Arabic or other languages according to the needs of blind students and the speed of the voice can also be adjusted to whether it is fast or slow. TEPTUN as a means to bridge lecturers with the material needed by blind students in looking for references in the learning process, especially final assignments or theses in the form of journals and teaching materials developed and owned by lecturers.

In line with this, Utami et al. (2022) also conducted the study 'Planning and Making 'Smart Shoes' Assistive Technology for Visual Impairment Students at Muhammadiyah University of Lampung' and emphasized that the Smart Shoes in the future could be used as an alternative to mobility aids for the visual impairment students and provide accessible services for them. In addition, Hamid, et al (2022) in their study 'Portraits of Assistive Technology in English Learning for Visual Impaired Students in Higher Education' identified that most of technology assistive used by the students in learning English is JAWS and nevertheless the students in writing used both JAWS and MELDICT. Besides, assistive technology gives positive impact to the visual impairment students' learning outcome.

Special/Inclusive Education

Education is essentially an activity that is consciously, deliberately, and full of responsibility carried out by adults towards children so that interaction arises between the two so that the child reaches the desired maturity and continues continuously (Ahmadi and Unbiyati, 2003: 70). Education in this case means aiming at the formation of national character. Character development strategies through the education process in schools, families and communities become one unit that supports each other.

Education is a human right that is protected and guaranteed by the state. Law Number 20 of 2003 Article 5 paragraph 1 explains that every citizen has the same right to obtain quality education. Furthermore, paragraph 2 states that citizens who have physical, emotional, mental, intellectual and/or social disabilities have the right to receive special education. In its implementation, every individual gets the same rights in education, both normal individuals and individuals with disabilities.

Based on the 1945 Constitution, article 31 paragraph 1 concerning the National Education System, it can be concluded that the state provides full guarantees for children with special needs to obtain quality education services. Children with special needs are children with special characteristics that are different from children in general without always showing mental, emotional or physical disabilities.

According to article 15 of Law No. 20 of 2003 concerning the national education system, the type of education for children with special needs is

special education. Article 32 paragraph 1 of Law No. 20 of 2003 provides the limitation that special education is education for students who have a level of difficulty in following the learning process due to physical, emotional, mental and social disorders and/or have special intelligence and talent potential.

This law refers to the development of Indonesian education which cannot be separated from the terms special education or inclusive education. Inclusive education emerged in 1990 at the World Conference on Education for All. Inclusive education is an education service system that requires children with special needs to study in nearby schools in regular classes with friends their age (Sapon-Shevin in O'neil, 1994).

The implementation of inclusive education is expected to provide educational services to a variety of children in regular classes and requires learning programs that are tailored to the needs and abilities of each child. Therefore, there are several points that are implemented:

a. Inclusive learning planning

Learning plans are prepared based on the results of student assessments. Assessment is a process of collecting information about student development using tools. Appropriate techniques for making educational decisions regarding appropriate placement and programs for the student (Kuswatan, 2013: 80). Lecturers cannot make plans without assessment results, in line with Sunaryo (2009) that learning plans must be made based on assessments.

b. Implementation of inclusive learning

The implementation of inclusive learning applies a pullout class system, as long as students with special needs can take part in learning in regular classes, then these students learn together with other regular students.

c. Evaluation of inclusive learning

Inclusive learning evaluation activities carried out are through UTS, UAS and other assignments. Through this evaluation activity, student learning outcomes can be obtained, whether they have reached predetermined indicators or standards or not (Triani, 2016:48)

Low Vision

A person is declared Low Vision if after making various efforts to improve his visual abilities, his visual acuity does not exceed 20/200 or after making various efforts to improve his visual abilities it turns out that his vision does not exceed 20 degrees (Hallahan & Kaufman, 2006). Kirk and Galagher (1962) define low vision as those whose visual acuity is between 20/70 to 20/200 after receiving correction, they are called short sighted or low vision, while Luckasson in

Nasichin (2002) defines low vision as those who are classified as people with Low Vision. but still have some residual vision and with the help of special aids, they can read “sight letters.”

Low vision can occur at any age level, from babies to the elderly. There are several diseases that cause low vision, namely cataracts, glaucoma, macular degeneration, diabetic retinopathy, retinitis pigmentosa, progressive myopia, optic nerve atrophy, and amblyopia. Apart from that, it is also caused by congenital abnormalities such as abulbi, congenital glaucoma, corneal leukoma, and anterior segment dysgene (Department of Social Affairs of the Republic of Indonesia 2009, 49). Various studies also show that visual impairment and blindness can result in a decrease in quality of life which can be seen from a person's reduced ability to do work, fill free time and carry out daily activities (Asroruddin 2014, 2).

Rumah Ramah

Rumah Ramah learning application was developed to support innovative learning models specifically for students with disabilities which can provide opportunities for students with special needs to be able to construct knowledge and actively participate in the learning process by minimizing learning obstacles. *Rumah Ramah* application specifications consist of learning steps, support systems, and include the development process and assessment of the learning applications being developed. Apart from that, this learning application is supported by the curriculum and RPS.

Functions and Benefits

The development of *Rumah Ramah* learning application for low vision students is designed to make it easier for students with special needs to participate in the learning process so that this becomes part of an innovative learning model, students with special needs can continue to be active. In its implementation, the benefits of developing digital learning products for low vision children are explained as follows:

The development of the *Rumah Ramah* application for learning for students with special needs shows that higher education meets legal requirements to provide the best academic services to students to achieve their rights to study. In addition, students can benefit from developing *Rumah Ramah* application because of their motivation or enthusiasm. With this application, normal and low vision students will be taught equally without any differences.

Superiority

The advantage of *Rumah Ramah* application is that a good system or atmosphere can be built in the learning process. Students with special needs will also experience

ease in the learning process with various features that can create enthusiasm for learning.

Implementation Process

An account on the Rumah Ramah application will be created based on the courses taught. The features in the Rumah Ramah application will provide various information in the form of enrolled courses, reviews, my quiz, announcements, questions and answers and certificates

The blueprint for *Rumah Ramah* application is as follows:



The instructional design of the Friendly Home application for low vision students will be developed through a series of processes contained in the image adopted from Branch (2009), Dick and Carey (2015), and Van den Akker, J., Gravemeijer, K., McKenney, S., & Nieveen (2006)



Figure 2. Instructional design plan

METHOD

Design and Sample

This study applied Research and Development (R&D) method as research design. This method by Borg & Gall (1983) used by the researchers in education field as a method in developing and validating their educational products. This method has

been tremendously applied by education practitioners and pedagogues in designing their models of educational products (Gay, 1991). This study was included in the type of development research, namely research that aims to develop educational products and inform the decision-making process during product development in order to improve that product and the developer's ability to create similar products in the future. In this study, the products to be developed was an inclusive English learning service through 'Rumah Ramah' application low vision students. This research is also a qualitative-descriptive type of research, using development research methods.

Instrument and Procedure

In accordance with the aims of this study, namely the development of English language learning services through the 'Rumah Ramah' application for 'Low Vision' students and the implementation of English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar, hence this study carried out using Research and Development methods. In this method, it is done a study of current inclusive learning practices, especially for English language courses in Universitas Muhammadiyah Makassar, and then based on the results of this study a language inclusive learning model was formulated English for low vision students in higher education.

Data Analysis

The data of this data was obtained through in-depth interviews with five lecturers who and a low vision student who implemented rumahramah.id application in English language teaching and learning. Based on this data and information, inclusive learning models and learning media are then developed to support the implementation of this learning model.

RESULT AND DISCUSSION

1. Developing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar.

This section presents and discusses research findings relating to answer the research question number one which results from the fieldwork after going through the analysis process. To describe the Developing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar. In determining the Rumah Ramah Apps in this study, the data had been collected and obtained through interviews. The development of Rumah Ramah Apps is managed directly by the English Language Education study program at Universitas Muhammadiyah Makassar. Rumah Ramah Apps itself is flexible to use for normal students and students with special needs (Rofil et al 2023). The development of Rumah Ramah Apps focuses on application-based learning sites with supporting features for students with disabilities (Jayakody et al 2016).

This relates to the results of interviews conducted with lecturers regarding the development of learning services through Rumah Ramah Apps in terms of several aspects such as the login process, features on the tutor dashboard, course dashboard features and filling in materials.

(1)

I : What is the process for logging in to the Rumah Ramah Apps?

L2 : Tutors log in to the page <https://rumahramah.id/dashboard/> by entering their username and password

(2)

I : What supporting features are available on the tutor dashboard at Rumah Ramah Apps?

L5 : The tutor dashboard is equipped with several features such as profile, enrolled course, Wishlist, reviews, my quiz attempts, purchase history, my course, announcements, withdrawals, quiz attempts, questions and answers, certificates, assignments, settings, and reset password

(3)

I : What supporting features are available on the dashboard course at Rumah Ramah Apps?

L3 : Filling in course materials and information can be done on the page <https://rumahramah.id/wp-admin/> for tutors who want to log in. On the dashboard there is Tutor Pro LMS which includes title, author, tags, lessons, students, price, and dates. Apart from that, there are posts features for creating and publishing information. There is also a zoom meeting that can be used to connect virtual meetings and webinars. Tutors can also add image media and documents such as PDF.

(4)

I : What is the process for filling out materials on Rumah Ramah Apps?

L1&L4: When filling out the course by the Tutor, it contains the title and objectives of the course. Then, the tutor must pay attention to the course settings which consist of general settings and content drip settings. This is used to determine the level of difficulty of teaching material and course scheduling.

Based on the interview results above, the development of the Rumah Ramah Apps involved several processes starting with logging in to the Rumah Ramah page, understanding the use of features on the tutor dashboard and course dashboard to the process of entering teaching material which focuses on general and content drip settings

2. Implementing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar.

This section is meant to answer the second research question resulting from the study following the analysis procedure. To discuss the implementation of English language learning services for 'Low Vision' students at Universitas Muhammadiyah

Makassar using the 'Rumah Ramah' Apps. In this study, data on the use of Rumah Ramah Apps was gathered and gained through interviews. The following are data from interviews with English teachers (L1, L2, L3, L4, and L5) about how to access Rumah Ramah Apps and set up Rumah Ramah Apps for low vision students (LVs).

The results of interviews obtained by researchers related to the way to access of Rumah Ramah Apps in English language learning service for English teachers (L1, L2, L3, L4, and L5).

(5)

I : How do you access the Rumah Ramah Apps?

- L1 : During the implementation of the Rumah Ramah Apps, the admin will create an account for each lecturer who joins the development team
- L2 : We have access to the administrator's account. We incorporate teaching materials, quizzes, and so on.
- L3 : When the admin grants access to Rumah Ramah Apps, we organize the data for access and instructional materials for low vision student.
- L4 : The administration granted us complete access to handle our intercultural communication teaching materials, which must be customized for children with impaired vision.
- L5 : After adding us as tutors, the admin will create an account for us so that we may access Rumah Ramah Apps.

The excerpt (3) above mentioned the process for accessing Rumah Ramah begins with the setting up of an account for professors who intend on entering courses delivered into the Rumah Ramah Apps. In this case, the lecturer serves as a tutor. After receiving access, lecturers are granted permission to investigate instructional materials, quizzes, and other features that will be featured in the Rumah Ramah Apps. Lecturers modify accessible in the Rumah Ramah Apps to accommodate the needs of low vision pupils.

While, the results of interviews obtained by researchers related to the way to access of Rumah Ramah Apps in English language learning service for low vision student (LVs).

(5)

I : How do you access the Rumah Ramah Apps?

LVs : The lecturer sent a link via WhatsApp, and I clicked it to check in to the Rumah Ramah Apps using my username and password.

The excerpt (4) above revealed that low vision students were given a link to access Rumah Ramah Apps simply by entering the username and password that had previously been created by low vision students

Furthermore, the results of interviews obtained by researchers related to how to set up Rumah Ramah Apps for low vision student (L1, L2, L3, L4, and L5).

(5)

I : How does Rumah Ramah Apps for low vision students work?

L1&L3 : Make accessibility mode settings to meet the needs of low vision student.

L4 : Visually impaired mode settings in accessibility mode

L2&L5: Adapting to the needs of low vision students by validating the clarity of features that meet their needs, such as dark contrast, readable writing, and so on.

According to excerpt (5) above, the way to adjust the appearance of the Rumah Ramah Apps for low vision students is to change the accessibility mode to visual impaired mode and then attempt in several of the existing features including color to other assistive features suitable for the needs of low vision students (Babu & Singh 2013)

CONCLUSION

Based on the results of research and discussion, it can be concluded that is (1) Developing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar several processes starting with logging in to the Rumah Ramah page, understanding the use of features on the tutor dashboard and course dashboard to the process of entering teaching material which focuses on general and content drip settings. (2) Implementing English language learning services through the 'Rumah Ramah' application for 'Low Vision' students at Universitas Muhammadiyah Makassar focused on how to access Rumah Ramah Apps and set up Rumah Ramah Apps for low vision student.

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REFERENCES

- Agesa, L. (2014). Challenges faced by learners with visual impairments in inclusive setting in Trans-Nzoia County. *Journal of Education and Practice*, Vol. 5, No. 29. PP. 185-192.
- Ahmadi, H. Abu dan Nur Uhbiyati. (2003). *Ilmu Pendidikan*. Jakarta: PT. Rineka Cipta.
- Asroruddin, Muhammad. (2014). *Dampak Gangguan Penglihatan dan Penyakit Mata Terhadap Kualitas Hidup Terkait Penglihatan Pada Populasi Gangguan Penglihatan Berat dan Buta di Indonesia; Subpenelitian Studi Validasi Data Kebutaan Hasil Riskedas 2013 dan Identifikasi Etiologinya*. Jakarta: Universitas Indonesia.
- Arslantaş, T. K. (2017). Foreign language education of visually impaired individuals: A review of pervasive studies. *IHEAD: Ihlara Journal of Educational Research*, Vol. 2, No. 2. PP. 95-104.
- Azmi N. (2017). Development of an Android-based Learning Media Application for Visually Impaired Students. *Indonesian Journal of Informatics Education*,

- Vol. 1, No. 1. Retrieved from <https://jurnal.uns.ac.id/ijie/article/view/11796/pdf>.
- Babu, Rakesh., Singh Rahul. (2013). Enhancing Learning Management Systems Utility for Blind Students: A Task-oriented, User-Centered, Multi-Method Evaluation Technique. *Journal of Information Technology Education: Research*. 12
- Borg, W.R. & Gall, M.D. (1983). *Educational research: An introduction*. New York: Longman.
- Carney, S. (2001). *Teaching Students with Visual Impairments A Guide for the Support Team*. Saskatchewan. Department of Learning. Special Education Unit. Retrieved from <http://www.education.gov.sk.ca/vision>
- Departemen Sosial Republik Indonesia. (2009). *Pedoman Pelayanan dan Rehabilitasi Sosial Penyandang Cacat Netra Low Vision dalam Panti*. Jakarta: Departemen Sosial.
- Farani, R. & Aryanti, W. (2011). Instructional Design for Students with Visual Impairments in English Learning. *Journal of English and Education*, Vol. 5, No. 2. PP. 67-79. Retrieved from <https://journal.uui.ac.id/JEE/article/view/5617/5039>
- Gay, L.R. (1991). *Educational evaluation and measurement: Competencies for analysis and application* (2nd ed.). New York: Macmillan Publishing Company.
- Hallahan, D. P & Kauffman, J. M. (2006). *Exceptional children: Introduction to special education* (International Edition, 10th ed). Boston: Allyn & Bacon.
- Hamid, S. M., Setiawan, S., & Anam, S. (2022). Portraits of Assistive Technology in English Learning for Visual Impaired Students in Higher Education. *Journal of Higher Education Theory and Practice*, 22(15). <https://doi.org/10.33423/jhetp.v22i15.5574>
- Hermawan, A., Yaum, L.A., & Megaswarie, R. N. (2023). Penerapan Aplikasi TalkBack dalam Pelaksanaan Pembelajaran Siswa Tunanetra. *Jurnal Pendidikan Inklusi*: vol. 1, no. 1. [file:///C:/Users/Toshiba/Downloads/2208-Article%20Text-6725-1-10-20230811%20\(1\).pdf](file:///C:/Users/Toshiba/Downloads/2208-Article%20Text-6725-1-10-20230811%20(1).pdf)
- Jayakody, A., Lokullyana, S., Sampath, A.A.T., Silva, G.T.S., Rajanthika, S.A.L., Seneviratne, H.M.T.B. (2016). Mobile Application for Vision Impaired People to Facilitate to Learn the English Language. *International Journal of Computer Application*. 138(12)
- Kirk, S. A., & Gallagher, J. J. (1962). *Education Exceptional Children*. Boston: Houghton Mifflin.
- Nasichin. (2002). *Kebijakan Direktorat tentang Layanan Pendidikan Inklusif bagi Anak Berkebutuhan Khusus*. Bandung: Direktorat PLB.
- Nur'asiah, E., Halawati, F. & Destiyanti, I, C. (2022). Pengembangan Teknologi Pembelajaran Tunanetra (Teptun) Berbasis Screen Reader NVDA pada Mahasiswa Tunanetra. *Jurnal Pendidikan dan Konseling*; vol. 4, no. 5. <https://journal.universitaspahlawan.ac.id/index.php/jpdk/article/view/7224/441>
- Rofil, Lily El Ferawati., Sarwono, Dian Ayuria., Suprayogi, Muhammad Nanang., Hamzah, Azizah., Tandra, Timotius Ariel. (2023). The Use of a Learning Management System (LMS) and Information Processing Behaviours of

- Special-Need Students in Higher Educational Environment. E3S Web of Conference. <https://doi.org/10.1051/c3sconf/202342602048>
- Sunaryo. (2009). Manajemen Pendidikan Inklusif (Konsep, kebijakan, dan Impelentasi dalam Perspektif Pendidikan Luar Biasa. Jurnal DIA Administrasi Publik.
http://file.upi.edu/Direktori/FIP/JUR_PEND_LUAR_BIASA/195607221985031-SUNARYO/jurnal_Inklusi.Pdf
- Theoharis, G. & Causton, J. (2014). Students With Disabilities: A School- and Systemwide Approach. Research Gate. DOI: 10.1080/00405841.2014.885808. Retrieved from https://www.researchgate.net/publication/271944613_Leading_Inclusive_Reform_for_Students_With_Disabilities_A_School-_and_Systemwide_Approach
- Triani, Nani. (2016). Pendidikan Anak Berkebutuhan Khusus Lamban Belajar (Slow Learner). Jakarta Timur: PT. Luxima Metro Media.
- Utami, R.T., Novitasari, R., Devita, D., & Handoyo, A. W. (2022). Perencanaan Pembuatan Teknologi Asistif Smart Shoes untuk Mahasiswa Tunanetra di Universitas Muhammadiyah Lampung. Jurnal Ortopedagogia; vo. 8, no. 1. <http://journal2.um.ac.id/index.php/jo/article/view/25233>
- Wiyannah, S. (2017). The Visually Impaired Students' Learning English Applying Total Physical Response (TPR). ELTICS Article. PP. 1-9. rEtrieved from file:///C:/Users/Toshiba/Downloads/rifkipbi,+SRI+WIYANAH.pdf