

Development of application of self-help skills for children with intellectual disability in a wetland environment

Eviani Damastuti *, Imam Yuwono, Utomo, Siti Jaleha, Rona Wulandari , Dewi Rizka Adelia, Siti Nur Sabah

Universitas Lambung Mangkurat, Indonesia.

* Corresponding Author. E-mail: eviani.damastuti.plb@ulm.ac.id

ARTICLE INFO

Article History

Received:
13 July 2025;
Revised:
20 September 2025;
Accepted:
25 September 2025;
Available online:
30 September 2025.

Keywords

Children with
intellectual disability;
Self-help; Wetland

ABSTRACT

The limited ability to think in children with intellectual disabilities has an impact on their understanding of danger and personal safety. Children with intellectual disabilities need to be taught to recognize and help themselves from the dangers found in the surrounding environment. The purpose of this study was to develop an application of self-help skills for children with intellectual disabilities in a wetland environment. Using the Research and Development (R&D) method within the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), the study was conducted at State Special Needs School 3 in Banjarmasin. Data were collected through tests, interviews, and documentation, and analyzed both qualitatively and quantitatively. The resulting application features four main menus: self-help during floods, fires, electrical short circuits, and encounters with wild animals. Each menu includes instructional videos outlining hazards and safety procedures. The application significantly improved participants' understanding, with post-test scores (1.480) surpassing pre-test results (1.130). Further research is recommended to evaluate the effectiveness of the application in fostering independence among children with intellectual disabilities.

How to cite:

Damastuti et al. (2025). Development of application of self-help skills for children with intellectual disability in a wetland environment. *Jurnal Inovasi Teknologi Pendidikan*, 12(3), 317-329. <https://doi.org/10.21831/jitp.v12i3.88417>

INTRODUCTION

Children with intellectual disabilities have below-average intelligence, which affects intellectual functioning and adaptive behavior. Intellectual function is related to the child's ability to learn, think, and solve problems. Adaptive behavior problems are related to the ability to adjust to circumstances in society and the surrounding environment (del Barrio, 2004). The limited ability to think makes it difficult for children with intellectual disabilities to adjust to their environment. Educational services must be provided according to the needs of children with intellectual disabilities, so that their potential can develop optimally and achieve independence (Raharjo & Sudarto, 2016). The ability to live independently is recognized as a marker of maturity; however, for children with intellectual disabilities, the difficulty in completing daily tasks indicates an inability in this area (Bridges et al., 2020).

The process of children's interaction with the environment, and the nearest learning resources (where they live) can provide insight and experience (Rachman et al., 2022). Characteristics of Banjarmasin, South Kalimantan are wetlands, so learning is developed by referring to the local wisdom environment of the South Kalimantan region (Prastitasari et al., 2022). Wetlands are areas

of swamp, brackish, peatland, and water; permanent or temporary; with stagnant or flowing water; fresh, brackish, or salty; including marine waters whose depth is not more than six meters at low tide. In the wetland environment, there are various living things, such as animals and plants, that live in the wetland environment (Harahap, 2016). Self-help needs are needed for children with intellectual disabilities to overcome various problems that are very likely to be faced in everyday life, including in interacting with their surroundings (Raharjo & Sudarto, 2016). Self-help skills involve various aspects, including disaster preparedness and personal safety skills, which are the ability to save oneself from danger (Hasyim et al., 2023). The ability of children with intellectual disabilities in self-help is specifically studied through a special program of self-care. Self-care is a skill that children with special needs must have or even master in order to take care of themselves in their daily lives so that they do not always depend on others (Kusnawan et al., 2022). Self-care also includes regular habits that a person engages in and personal safety (Anggraini & Marlina, 2018).

It is important to understand appropriate support related to self-help in children with intellectual disabilities (King et al., 2017) as it will determine effective strategies to implement (Mumpuniarti et al., 2023) according to the needs of children with intellectual disabilities, so that their potential can develop optimally and achieve independence (Raharjo & Sudarto, 2016). Mastery of self-development skills can help children adapt to their surroundings (Sulistyaningrum et al., 2021). In the context of unique wetland environments with distinctive ecologies, there are potential hazards, including encounters with wild animals, drowning in rivers, electric shocks, and fires (Campbell, 2019). Therefore, independence for children with intellectual disabilities should not only focus on daily living skills, but also on the ability to recognise risks and take safe preventive measures (Downs et al., 2024). Intervention programmes need to internalise wetland-based safety education, which includes training in recognising dangerous zones and safety principles in wetland environments.

Various domains in the self-help program can be taught to children with intellectual disabilities, one of which is self-help skills. Self-help is the ability to overcome various problems in daily life, such as avoiding and controlling oneself from the dangers of water, fire, electricity, pets, and wild animals (Damastuti, 2023) and overcome various other problems that are very likely to be faced in everyday life, including in interacting with the surrounding environment (Raharjo & Sudarto, 2016). This is because one of the practical skills that children with intellectual disabilities find difficult to master is self-help (Damastuti, 2020). Life skills for children with intellectual disabilities can be taught by applying appropriate teaching strategies such as task analysis, instruction, and the use of assistive technology (Bouck et al., 2025). Assistive technology is an effective tool for individuals with intellectual disabilities to master daily living skills and reduce their dependence on others (Stierle et al., 2023). Assistive technology can be used to create support systems that enable children to master various daily living skills (self-help skills) (Lancioni et al., 2024).

Several studies are relevant to this research. First, Stierle et al., (2023) studied the use of task-based smartphone technology using cooking instruction videos on three adults with intellectual disabilities, which improved their daily living skills by 99%–100%. Second, Kang & Chang (2020) studied how the use of augmented reality games can improve skills in using ATMs in three students with intellectual disabilities. Unlike previous studies that focused on daily living skills, this study developed an application to train self-safety skills that are crucial for children with intellectual disabilities living in unique and challenging wetland areas. The advantage of this application is that it contains videos on how to safely access the wetland environment, including self-awareness and rescue related to the dangers of flooding, fire, electricity, and wild animals. In addition, the application is practical to carry anywhere, and the videos can be played repeatedly by children with intellectual disabilities, which is in line with the learning characteristics of children with intellectual disabilities, in order to increase awareness when accessing or interacting in swamp environments. Thus, this study aims to support the self-help skills of children with intellectual disabilities in wetland environments through the use of smartphone applications.

METHOD

The method used in this research is Research and Development (R&D), which is a method that aims to develop a new product or improve existing products (Barokati & Annas, 2013). The research implementation model is ADDIE, which is a systematic learning design model, developed or arranged programmatically with a systematic sequence of activities in an effort to solve learning problems related to learning resources that are in accordance with the needs and characteristics of students. The ADDIE model can be used for a variety of models, learning strategies, media, and teaching materials.

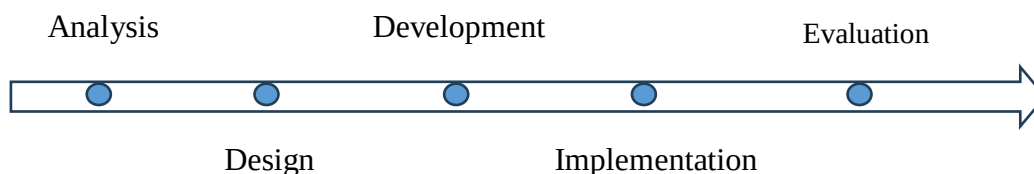


Figure 1. Research Stages

The analysis process was carried out through a preliminary study to determine the understanding of students with intellectual disabilities regarding self-help skills. The design process aimed to design a self-help skill development application for children with intellectual disabilities in a wetland environment based on the analysis results obtained. Development activities are conducted to create applications that have been designed. The implementation process is carried out by conducting application trials and directly involving students with intellectual disabilities to use the application. The subjects in this study consisted of two groups: students and teachers. Twenty junior and senior high school students with intellectual disabilities acted as application users, while the second group consisted of 16 teachers who were involved in assessing the application's practicality. Subjects were selected using purposive sampling with the following criteria: students known to have intellectual disabilities and actively attending Special Needs School 3 Banjarmasin at the junior and senior high school levels. The selection criteria for teachers included having experience teaching students with intellectual disabilities. The last stage, evaluation, aims to improve the results of the trial so that the application becomes feasible and can facilitate the needs of self-help skills for children with intellectual disabilities.

Table 1. Overview of Research Instruments

No.	Type	Objective	Data source	Usage stage	Form	Instrument
1	Pre-test & Post-test	To measure the level of understanding at the beginning and after implementation of the application for students with intellectual disabilities regarding self-help skills in wetland environments. The focus of the pre-test and post-test instruments was to determine knowledge about the dangers and how to save oneself from floods, fires,	Students with intellectual disabilities	Analysis and evaluation	Multiple choice	• What would you do if there were a flood near your house? • Why shouldn't we play in the water during a flood? • What should you do if there were a fire inside your house? • Why should we leave the house immediately during a fire?

No.	Type	Objective	Data source	Usage stage	Form	Instrument
		electrical short circuits, and the dangers of wild animals.				• What should you do if you find a stripped electrical cable? • How can you safely use electrical appliances? • What should you do if you see a snake in the swamp? • Why are scorpions considered dangerous? • Why are crocodiles considered very dangerous to humans? • What should you do if you find a centipede inside your house?
2	Application Practicality Questionnaire	Measures the practicality of the application from a teacher's perspective. Indicators include application appearance, installation, ease of use, language clarity, text readability, and video appeal and clarity.	Special Needs School Teacher	Evaluation	Question naire	• Is the SINORI app's interface attractive? • The menus in the SINORI app are easy to understand • Is the text displayed in the SINORI app easy to read? • Can the SINORI app be easily installed on your Android smartphone? • Can the SINORI app be accessed smoothly? • Is the language in the SINORI

No.	Type	Objective	Data source	Usage stage	Form	Instrument
						app clear? - Do the videos in the SINORI app play smoothly? - The videos in the app are engaging and easy to understand? - The SINORI app can help you develop self-help skills in wetland environments - Teaching self-help skills in wetland environments is more practical and easier using the SINORI app?

Quantitative data from the pre-test and post-test results were analyzed by comparing the differences in scores, average values, highest scores, and lowest scores between before and after using the application to see the improvement in the understanding of students with intellectual disabilities. Data from the practicality questionnaire filled out by the teacher were analyzed descriptively to conclude the level of practicality of the application.

RESULTS

Results

Analysis

A needs analysis of self-help applications in a wetland environment was conducted by asking children with intellectual disabilities to complete a self-help pre-test. The results obtained are as follows:

Table 2. Pre-Test Results

No.	Initial Name	Score Pre-Test
1	MW	60
2	M	70
3	A	60
4	Z	50
5	RT	60
6	EM	50
7	DSP	50
8	PN	50

No.	Initial Name	Score Pre-Test
9	MN	60
10	SPPH	30
11	R	70
12	J	70
13	B	70
14	SS	40
15	P	40
16	KA	50
17	Y	60
18	MHR	70
19	YY	50
20	SRS	40

Based on the results above, it is known that not all respondents have knowledge and understanding of how to help themselves. This is evidenced by the diverse pre-test scores, the lowest score is 30, and the highest score is 100, which can be achieved by two children with intellectual disabilities. This analysis is the basis for teaching self-help skills in wetland environments so that children with intellectual disabilities are able to recognize and help themselves when dealing with hazards in wetland environments.

Design

Following the pre-test results of self-help skills in children with intellectual disabilities, the research team conducted a focus group discussion to discuss the application design. There were 20 participants in the focus group discussion, consisting of students, special education teachers, and therapists for children with special needs.



Figure 2. Focus Group Discussion

The discussion resulted in the design and appearance of the self-help application with the following description:



Figure 3. Design Self-Help Application

Development

The design of the application is shown to experts to be developed into an application that can be used practically by potential users. The results of expert development resulted in different changes to the logo, menu display, and sub-menu display. The results of the application developed by the expert are as follows:

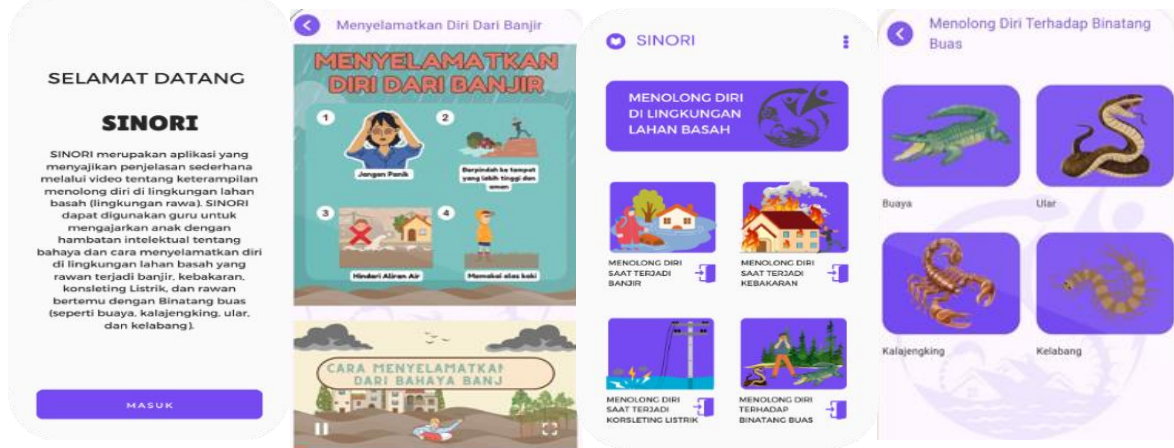


Figure 4. Display Menu

Implementation

After the application was developed by experts (teachers and therapists of Children with Special Needs) through Focus Group Discussions, the research team conducted an application trial at Special Needs School 3 Banjarmasin by inviting sixteen teachers at the junior and senior high school levels and twenty children with intellectual disabilities at the junior and senior high school levels who had filled in the pre-test questions at the previous stage. Implementation was carried out by socializing and testing the application to determine the practicality of the application and the understanding of children with intellectual disabilities as application users.



Figure 5. Test out Self-Help Apps

Evaluation

The last step was to evaluate by giving a post-test to twenty children with intellectual disabilities and asking teachers to fill out a questionnaire on the practicality of the application. The results of the post-test and the questionnaire are as follows:

Table 3. Comparison of Pre-Test and Post-Test Results

No.	Initial Name	Score Pre-Test	Score Post-Test
1	MW	60	80
2	M	70	90
3	A	60	90
4	WITH	50	50

No.	Initial Name	Score Pre-Test	Score Post-Test
5	RT	60	100
6	IN	50	50
7	DSP	50	80
8	PN	50	50
9	MN	60	70
10	SPPH	60	30
11	R	70	90
12	J	70	90
13	B	70	90
14	SS	40	80
15	P	40	50
16	THE	50	70
17	AND	60	80
18	MHR	70	100
19	YY	50	50
20	SRS	40	90
Total		1130	1480
Average		56.5	74
Highest		70	100
Lowest Score		40	50

Based on the table above, it can be seen that children with disabilities showed an increase in scores after the post-test was conducted. This is evidenced by the difference in total score, average, highest score, and lowest score, which are higher than the pre-test results. The application practicality questionnaire was distributed to 16 teachers during socialization activities and application trials. Socialization activities and application trials, the appearance of the application is attractive, the menu display in the application is easy to understand, the application can be easily installed on your Android smartphone, the clarity of the language in the application, the videos in the application are interesting and easy to understand and the application can help you improve your self-help skills in a wetland environment.

Discussion

South Kalimantan is a province with wetland areas. Wetlands are important for human life, including providing drinking water sources, habitat for various living things, controlling floods, erosion, pollution, global climate control, and others (Harahap, 2016). Wetland characteristics influence the social life and interaction of communities in South Kalimantan with the environment. Wetlands also support the lives of various animals, including wildlife such as snakes and crocodiles.

Some areas in wetland settlements are prone to flooding (Annisa et al., 2021). Flooding generally occurs in various locations in South Kalimantan almost every year (Sompa et al., 2021). A catastrophic event other than flooding that can occur in wetland areas is fire (Kamlun & Phua, 2024). Fires can be caused by various natural factors, such as lightning, and human factors due to negligence, including imperfect electrical installations and the use of unsafe electrical equipment.

People who live in wetland environments must be prepared for various types of disasters (Deasy et al., 2023). Preparedness is part of efforts to help and protect oneself and the surrounding environment because it has an important role and influences community actions when disasters occur. Disaster is a problem that results in ecological losses, casualties, damage to facilities and infrastructure caused by natural and unnatural factors, resulting in damage to buildings and loss of property (Ilmi et al., 2022). The existence of disasters poses a threat and disrupts social life for disaster victims. Preparedness can be done if a person knows a disaster (Mas'Ula et al., 2019). Knowledge and attitudes are the first indicators to measure community disaster preparedness.

Children with intellectual disabilities have low knowledge and self-help/preparedness skills (Kwon, 2009). Children with intellectual disabilities show a lack of preparedness when a disaster occurs, do not understand the importance of protecting themselves when indoors and outdoors, do not understand how to use safety equipment to help themselves, and do not understand the

importance of self-help skills (Yutikasari & Azizah, 2019). Most respondents demonstrated a lack of understanding in terms of independence. Of the 20 respondents, fifteen children with intellectual disabilities scored below 70, three children scored 70, and two children scored 100. The lowest pre-test score was 30, obtained by a child with an intellectual disability at the secondary school level. Independence in children with low intellectual disabilities is caused by low intelligence levels, resulting in children with intellectual disabilities lacking understanding and being unable to perform actions that can help themselves. Children with intellectual disabilities will depend on others, especially their parents, because they face challenges in terms of independence (Kusnawan et al., 2022). Ideally, children at the junior high and high school levels should be able to recognise various dangers and help themselves, such as floods, fires, wild animal hazards, and electrical short circuits.

Designing devices for children with intellectual disabilities is not easy due to the nature of the disability; designers of technology for children with intellectual disabilities should focus on the capabilities that enable the use of the device, not on the disability. The design of the self-help application also adapts the characteristics of the South Kalimantan wetlands and the possibility of disasters that can occur in the surrounding environment, so that there are four scopes of self-help presented in the application, namely the dangers of water, fire, electricity, pets, and wild animals. Therefore, at the design stage, there were 20 focus group discussion participants consisting of students, special education teachers, and therapists for children with special needs, discussing the design of self-help applications for children with intellectual disabilities.

Children with intellectual disabilities need to be prepared to have independence and be able to carry out daily life without the help of others, so it is necessary to learn about taking care of yourself, which is easily accepted and at the same time interesting (Eltantawy, 2023). Self-help is the ability to maintain safety and overcome danger. The ability of children with intellectual disabilities to recognize and help themselves from danger is obtained through a special program at school and is known as the Special Self-Build Program (Meesupmun et al., 2022). The existence of a special self-help program indicates that children with intellectual disabilities need teaching to improve their self-help skills. Learning for children with intellectual disabilities, such as self-help, must use concrete media or utilize modern technology in the form of applications on mobile phones (Sarcco et al., 2023). There are many children with special needs who have cellphones and use them in their daily activities; therefore, the design stage aims to design self-help applications that can be used every day to increase understanding of hazards/disasters and alertness in the event of a disaster in children with intellectual disabilities (Isrona et al., 2021). Designing self-help applications for children with intellectual disabilities can support self-help learning at school and at home. The results of the design stage are the design of the logo, the appearance of the main menu, the appearance of the contents of each sub menu, and the background of each application page.

At the development stage, the research team met with experts to realize the design that had been discussed during the focus group discussion. There are several changes agreed with the expert, namely the application logo that represents the contents of the menu, the application page background, the initial appearance, the menu display, the sub menu display, and the contents of each sub menu presented in the form of animated images and videos. The utilization of assistive technology for children with intellectual disabilities can increase functional independence, self-determined decision making, employment, educational opportunities, and others (Boot et al., 2017; Dekelver et al., 2015). The use of videos in self-help applications is tailored to the characteristics of children, combining audio, visual, motion, color, and three-dimensional elements as learning media is very appropriate in learning. Therefore, video media instruction is a widely used medium because video combines well the elements needed in self-help instruction, such as audio, visual, motion, color, and three-dimensional impression, so that it can attract the attention of children with intellectual barriers to learning are expected to focus on paying attention when the video is played (Aziz & Murtadlo, 2018).

At the implementation stage, socialization to teachers and children with intellectual disabilities is carried out first before children with intellectual disabilities try the application independently on their respective mobile phones. Self-help applications do not have many pages,

small application sizes, can be used offline, the content on each application page is not too much, and information videos with a short duration and using uncomplicated sentences can make it easier for children with intellectual disabilities to use the application independently. The last stage is evaluation to determine the understanding of children with intellectual disabilities through post-tests and filling out application practicality questionnaires filled out by teachers.

Individuals with intellectual disabilities are vulnerable to injury; they should be aware of potential hazards and develop skills to protect themselves from possible injury (Park, 2022). Based on the post-test results, the app development objective can be achieved as children with intellectual disabilities showed better understanding and post-test scores. The comparison between the overall pre-test and post-test scores was 1.160 and 1.510. The increased score of children with intellectual disabilities in the post-test shows that audio-visual media is very good at explaining a process and can explain a skill (Nurhuda et al., 2024). The lowest score in the pre-test was 30, while the lowest score in the post-test was 50. The existence of SINORI as a learning medium is also expected to increase the preparedness of children with intellectual disabilities to protect and help themselves.

The assessment of the practicality of the application was agreed by 16 teachers on several statement items, namely, the menu display in the SINORI application is easy to understand, the text displayed in the SINORI application is easy to read, and the video in the application is interesting and easy to understand. SINORI application as a learning media is a tool that can help the teaching and learning process and serves to clarify the meaning of the message conveyed, so that it can achieve learning objectives better and perfectly (Riyadi et al., 2020). Applications as learning media have the advantages of being practical, easy to use, and can be accessed anywhere. Another advantage of application-based learning media is that it facilitates learning because it can be used repeatedly and used in various places (Fitriyani et al., 2023). The convenience of smartphones has proven to open up new opportunities for children with special needs in adapting to society.

CONCLUSION

The development of the "SINORI" application, designed using the ADDIE model, has proven effective in improving the understanding and self-help skills of children with intellectual disabilities in wetland environments. This success is demonstrated not only by the significant increase in the total score from 1.130 in the pre-test to 1.480 in the post-test, but also by the practicality assessment by teachers, who found the application easy to use, engaging, and relevant to students' needs. This application successfully addresses the challenges of contextual learning by presenting visual materials in the form of videos about self-rescue from wetland-specific hazards, such as floods, fires, electrical short circuits, and wild animals.

As an educational technology innovation, SINORI makes a practical contribution by providing learning media that can be accessed repeatedly by children with intellectual disabilities. This application has the potential to foster children's independence and preparedness in facing potential risks in their surroundings, thereby minimizing dependence on others.

For future development, several further studies are recommended. First, a longitudinal study is needed to evaluate the long-term effectiveness of application use on persistent changes in independent behavior in real-life situations. Second, future research could explore adding interactive features such as gamification or simulations to enhance user engagement and knowledge retention. Third, it is recommended to adapt and test this application in other geographic contexts with different potential disasters (e.g., earthquakes or tsunamis) or in other populations of children with special needs.

REFERENCES

- Anggraini, I., & Marlina. (2018). Peningkatkan keterampilan bina diri melalui teknik shaping pada siswa tunagrahita ringan. *Jurnal Penelitian Pendidikan Kebutuhan Khusus*, 6(1), 186-191.
- Annisa, E., Fajar, M. D. A., Salwa, N. M., KZ, M. P., Cahyani, W. N., & Kornellia, E. (2021). Analisis kondisi individu dan lingkungannya di pemukiman lahan basah pada delapan

- kota/kabupaten berbeda. *Hasanuddin Journal of Public Health*, 2(3), 281–296. <https://doi.org/10.30597/hjph.v2i3.13716>
- Aziz, A., & Murtadlo (2018). Pengaruh video animasi terhadap kemampuan bina diri anak tunagrahita ringan pada pembelajaran bina diri di SLB Tunas Kasih Surabaya. *Jurnal Pendidikan Khusus*, 10(2), 1-21. <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-khusus/article/view/23731>
- Barokati, N., & Annas, F. (2013). Pengembangan pembelajaran berbasis blended learning pada mata kuliah pemrograman komputer (studi kasus: UNISDA Lamongan). *Sisfo*, 4(5), 352–359. <https://doi.org/10.24089/J.SISFO.2013.09.006>
- Boot, F. H., Dinsmore, J., Khasnabis, C., & MacLachlan, M. (2017). Intellectual disability and assistive technology: Opening the GATE Wider. *Frontiers in Public Health*, 22(5), 1-4. <https://doi.org/10.3389/fpubh.2017.00010>
- Bouck, E. C., Norwine, L., Jakubow, L., Long, H. M., & Nuse, J. (2025). Bon appétit: Acquiring food preparation skills via virtual simulation. *Education and Training in Autism and Developmental Disabilities*, 60(1), 86–99. <https://doi.org/10.1177/215416472506000107>
- Bridges, S. A., Robinson, O. P., Stewart, E. W., Kwon, D., & Mutua, K. (2020). Augmented reality: Teaching daily living skills to adults with intellectual disabilities. *Journal of Special Education Technology*, 35(1), 3–14. <https://doi.org/10.1177/0162643419836411>
- Campbell, D. (2019). Wetlands. In *Encyclopedia of the World's Biomes: Volumes 1-5* (Vols. 1–5, pp. V4-99-V4-113). Elsevier. <https://doi.org/10.1016/B978-0-12-409548-9.11810-X>
- Damastuti, E. (2020). *Pendidikan anak dengan hambatan intelektual*. Program Studi Pendidikan Luar Biasa FKIP Universitas Lambung Mangkurat.
- Damastuti, E. (2023). *Pengembangan program khusus bina diri anak dengan hambatan intelektual*. Komojoyo Press.
- Deasy, A., Puji, H. K., & Nugroho, P. H. P. (2023). Disaster-resilient villages: strengthening community capacity in flood disasters managing in wetland areas. *Disaster Advances*, 16(4), 1–7. <https://doi.org/10.25303/1604da01007>
- Dekelver, J., Kultsova, M., Shabalina, O., Borblik, J., Pidoprighora, A., & Romanenko, R. (2015). Design of mobile applications for people with intellectual disabilities. *Communications in Computer and Information Science*, 535, 823–836. https://doi.org/10.1007/978-3-319-23766-4_65
- del Barrio, V. (2004). Diagnostic and statistical manual of mental disorders. *Encyclopedia of Applied Psychology*, 607-614. <https://doi.org/10.1016/B0-12-657410-3/00457-8>
- Downs, J., Keeley, J., Skoss, R., Mills, J., Nevill, T., Schippers, A., Lindly, O., & Thompson, S. (2024). Perspectives on the essential skills of healthcare decision making in children and adolescents with intellectual disability. *International Journal for Equity in Health*, 23(119), 1-9. <https://doi.org/10.1186/s12939-024-02204-5>
- Eltantawy, M. M. (2023). The effectiveness of a training program based on selfmanagement skills in developing independent behavior and safety and security skills of children with intellectual disability. *Journal of Intellectual Disability - Diagnosis and Treatment*, 11(2), 97–108. <https://doi.org/10.6000/2292-2598.2023.11.02.4>
- Fitriyani, A., Lubis, H., & Achmad, A. (2023). Media Pembelajaran bina diri anak tunagrahita SDLB Negeri Bekasi Jaya berbasis Android. *JSI (Jurnal Sistem Informasi)*, 10(1), 47-58. <https://doi.org/10.35968/jsi.v10i1.986>

- Harahap, F. R. (2016). Pengelolaan lahan basah terkait semakin maraknya kebakaran dengan pendekatan adaptasi yang didasarkan pada konvensi Ramsar. *Society*, 4(2), 38–47. <https://doi.org/10.33019/society.v4i2.28>
- Hasyim, A. N., Cahyaningtyas, D. P., Iriansyah, Y., Azahra, D. N., Kolayniskov, N., & Lusiana, R. (2023). Pengembangan personal safety skill anak tunagrahita di SLB Nur Husnina melalui training attention, comprehension and creativity. *Journal of Community Dedication*, 3(4), 309–315. <https://adisampublisher.org/index.php/pkm/article/view/539>
- Ilmi, B., Nasrudin, N., Kumalawati, R., & Riadi, S. (2022). Penanganan banjir pada permukiman padat penduduk Sepanjang Sub DAS Martapura Kabupaten Banjar Provinsi Kalimantan Selatan. *Jurnal Geografika (Geografi Lingkungan Lahan Basah)*, 3(2), 92–101. <https://doi.org/10.20527/jgp.v3i2.6917>
- Isrona, L., Mardhotillah, F., Husna, N., Fauzan, M., Mujahidah, I., Helery, R., Yetti, H., & Indah, R. (2021). “Monster VIPs”: disaster preparedness training for children with intellectual disabilities. In L. Comfort, S. Saravanan, I. W. Sengara, & F. null (Eds.), *E3S Web of Conferences* (Vol. 331). EDP Sciences. <https://doi.org/10.1051/e3sconf/202133104008>
- Kamlun, K. U., & Phua, M.-H. (2024). Anthropogenic influences on deforestation of a peat swamp forest in Northern Borneo using remote sensing and GIS. *Forest Systems*, 33(1), 1–7. <https://doi.org/10.5424/fs/2024331-20585>
- Kang, Y. S., & Chang, Y. J. (2020). Using an augmented reality game to teach three junior high school students with intellectual disabilities to improve ATM use. *Journal of Applied Research in Intellectual Disabilities*, 33(3), 409–419. <https://doi.org/10.1111/jar.12683>
- King, E., Okodogbe, T., Burke, E., McCarron, M., McCallion, P., & O'Donovan, M. A. (2017). Activities of daily living and transition to community living for adults with intellectual disabilities. *Scandinavian Journal of Occupational Therapy*, 24(5), 357–365. <https://doi.org/10.1080/11038128.2016.1227369>
- Kusnawan, A., Muslimah, S. R., & Amalia, A. (2022). Latihan bina diri pada siswa tunagrahita dalam meningkatkan kemandirian. *CONS-IEDU*, 2(1), 7–15. <https://jurnal.iuqibogor.ac.id/index.php/cons-iedu/article/view/371>
- Kwon, J. (2009). Diagnostic evaluation and rehabilitation in children with intellectual disabilities. *Journal of the Korean Medical Association*, 52(6), 601–610. <https://doi.org/10.5124/jkma.2009.52.6.601>
- Lancioni, G. E., Singh, N. N., O'Reilly, M. F., & Sigafoos, J. (2024). Possible assistive technology solutions for people with moderate to severe/profound intellectual and multiple disabilities: considerations on their function and long-term role. *International Journal of Developmental Disabilities*, 0(0), 1–7. <https://doi.org/10.1080/20473869.2024.2303532>
- Mas'Ula, N., Siartha, I. P., & Citra, I. P. A. (2019). Kesiapsiagaan masyarakat terhadap bencana banjir di Desa Pancasari Kecamatan Sukasada Kabupaten Buleleng. *Jurnal Pendidikan Geografi Undiksha*, 7(3), 103–112. <https://doi.org/https://doi.org/10.23887/jjpg.v7i3.21508>
- Meesupmun, S., Mitranun, C., & Sriwanyong, S. (2022). Health-and-safety-promotion program development for children with intellectual disabilities in inclusive classroom. *Kasetsart Journal of Social Sciences*, 43(4), 805–814. <https://doi.org/10.34044/j.kjss.2022.43.4.02>
- Mumpuniarti, Phytanza, D. T. P., Praptiningrum, N., & Sukinah. (2023). Teacher's understanding of domestic activity daily living for children with intellectual disabilities. *Pegem Egitim ve Ogretim Dergisi*, 13(2), 215–222. <https://doi.org/10.47750/pegegog.13.02.26>
- Nurhuda, G. A., Sunarjo, L., Fatmasari, D., & Ayun, Q. (2024). Aprils mophie model improves toothbrushing skills of intellectual disabilities children: Is it effective. *JKG: Jurnal Kesehatan Gigi*, 11(1) 33–40. <https://doi.org/10.31983/jkg.v11i1.10218>

- Park, E. Y. (2022). Meta-analysis on the safety skill training of individuals with intellectual disabilities. *International Journal of Disability, Development and Education*, 69(4), 1457–1471. <https://doi.org/10.1080/1034912X.2020.1761540>
- Prastitasari, H., Annisa, M., Sari, R., Prasetyo, A. R., Jannah, F., & Habibi, H. (2022). Pelatihan pengembangan perangkat pembelajaran berbasis pendekatan kontekstual lahan basah bagi guru SD Negeri Pemurus 2 Kabupaten Banjar Kalimantan Selatan. *Elementary School Journal PGSD FIP UNIMED*, 11(3), 266-274. <https://doi.org/10.24114/esjpgsd.v11i3.26938>
- Rachman, A., Sari, D. D., & Widya Rini, T. P. (2022). Pengembangan pop up book ekosistem lahan basah untuk siswa sekolah dasar. *ELSE (Elementary School Education Journal) : Jurnal Pendidikan dan Pembelajaran Sekolah Dasar*, 6(1), 227-242. <https://doi.org/10.30651/else.v6i1.12175>
- Raharjo, R. C., & Sudarto, Z. (2016). Model pembelajaran langsung terhadap kemampuan bina diri siswa tunagrahita ringan. *Jurnal Pendidikan Khusus*, 8(1), 1–10. <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-khusus/article/view/15949>
- Riyadi, S., Dwi Sari, R., Veriza, E., Wahyuni, S. (2020). Perbedaan perilaku menyikat gigi sebelum dan sesudah penyuluhan dengan metode video untuk meningkatkan pembelajaran bina diri anak tunagrahita SLB N 1 Kota Jambi Tahun 2019. *Jurnal Bahana Kesehatan Masyarakat (Bahana of Journal Public Health)*, 4(2), 74-79. <https://doi.org/10.35910/jbkm.v4i2.287>
- Sarcco, P. A. L., Zegarra, P. F. D., & Sulla-Torres, J. A. (2023). Mobile app for the learning of children with intellectual disabilities. In H. Cardona-Reyes & M. A. Ortiz-Esparza (Eds.), *CEUR Workshop Proceedings* (Vol. 3693, pp. 130–140). CEUR-WS. <https://ceur-ws.org/Vol-3693/paper3.pdf>
- Sompa, A. T., Setyasyuti, Y., Daryanto, Y., Damara, A. P. A., Kariada, I. G., Ilhamuddin, Yuliana, L., Ulfah, M., Jannah, R., & Andriani, R. (2021). Sosialisasi tangguh bencana banjir Di Desa Sungai Tabuk, Kecamatan Simpang Empat, Kabupaten Banjar, Provinsi Kalimantan Selatan. *Journal Empowerment and Community Service*, 1(1), 31-35. <https://doi.org/10.53622/jecsr.v1i01.66>
- Stierle, J., Ryan, J. B., Katsiyannis, A., Mims, P., Carlson, A., & Allen, A. (2023). Using smart phone technology to improve daily living skills for individuals with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 36(5), 1169–1178. <https://doi.org/10.1111/jar.13139>
- Sulistyaningrum, N. D., Mumpuniarti, M., & Nurkhamid, N. (2021). Development of activity of daily living modules based on behavioral approaches for moderate intellectual disability. *Jurnal Prima Edukasia*, 9(1), 1-15. <https://doi.org/10.21831/jpe.v9i1.32857>
- Yutikasari, D. U., & Azizah, N. (2019). Safety skills of students with mild intellectual disability. *Advances in Social Science, Education and Humanities Research*, 296, pp. 68-72. <https://doi.org/10.2991/icsie-18.2019.13>