

Clinical Collaborative-Based Special Learning Innovation for Students with Special Needs: Insights from Indonesia



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ABSTRACT: The purpose of this clinical collaborative-based special learning innovation is to assist students with special needs in improving their learning outcomes. Special Need Students (SNS) are those who have special characteristics and are at risk who need special services and attention. The investigation focuses on characteristics of individual conditions, collaborative clinical innovation design, and the results of collaborative clinical special learning innovations. This study employed the 4D-E research design (Modification of the 4D Design). The findings inform that (1) the characteristics of the individual conditions of Special Need Students (SNS) include lupus, people with cerebral edema and people with bipolar disorder, (2) special learning innovation designs, namely the formation of a Clinical Collaborator Team (CCT) that provides special services to Special Need Students (SNS) consisting of on a therapist, spiritual motivator, and lecturer in charge of Research Seminar courses, and (3) the results of the application of collaborative clinical-based special learning innovations can significantly improve Special Need Students (SNS) learning outcomes. The study recommends teachers identify the individual conditions of Special Need Students (SNS) in their learning processes.

KEYWORDS: clinical collaborative, special learning innovation, students with special needs

INTRODUCTION

Law of the Republic of Indonesia Number 20 of 2003 states that the state is obliged to provide special education for people with disabilities with various physical, emotional, mental, and social difficulties, as well as people with special talents and intelligence. Furthermore, the Law of the Republic of Indonesia No. 8 of 2016 concerning persons with disabilities, Article 10 Paragraph a: Persons with disabilities have the right to receive a quality education in educational units in all types, pathways, and levels of education inclusively and specially. This is following the Indonesian Ministry of Education Number 46 of 2017, Article 4: (2) Inclusive Education is Education for Students with Special Need Students (SNS) which is carried out together with other students (Almalky & Alwahbi, 2023).

Government Regulation No. 13 of 2020 clearly states that Adequate accommodation for Students with Disabilities helps strengthen the foundation for implementing inclusive education to make it more friendly for students with disabilities. This regulation strengthens the existence of previous regulations regarding the importance of obtaining learning rights for students (students) with disabilities (Madhesh, 2023). Moreover, the current minister of education emphasizes that we cannot achieve independent learning without inclusive schools. Inclusive education is the idea of an education system that can create an open environment, and include all people without exception, people with special needs (disabled).

In addition, Gül and Vuran (2015) in Turkey found that often inclusive research only involves educators, education staff and families (parents); but not involving those with special needs. Furthermore, Buli-Holmberg and Jeyaprabathaban (2016) conducted research in Norway, the results of their research showed that there were limitations in learning with special needs children because teachers were less competent in special learning (Afacan, 2023; Greenboim-Zimchoni, 2023).

The results of research conducted in Bosnia and Herzegovina explain that teachers and education personnel are less competent, and the government also does not provide education, training and socialization about special education (Slavica, 2010). Referring to the results of previous research show that the local government has not provided proper education for Special Need Students (SNS). The results of this study have inspired a research team for inclusive education in Indonesia so that inclusive education gets better attention by facilitating and providing friendly and welcoming services for students with disabilities at all levels of educational institutions (Contreras et al., 2023; Halpern-Manners et al., 2022; Yi & Ellis, 2023).

Special conditions possessed by children with disabilities should not be an obstacle for ABK to improve and channel their

Clinical Collaborative-Based Special Learning Innovation for Students with Special Needs: Insights from Indonesia

talents and potential in this 4.0 era. Therefore, educational institutions need to pay attention to the educational needs of special students, both in physical and non-physical forms. Physical education needs can be met by providing physical facilities that support learning activities, such as special walking paths for students with disabilities, special information boards for people with disabilities, and information centers. Meanwhile, non-physical facilities that can support learning activities are realized in the form of educational services, volunteer groups accompanying students with disabilities, the provision of special learning materials and media as needed, as well as curriculum adjustments, including curriculum adjustments (Nalbantoğlu & Bümen, 2024; Theander et al., 2016).

Based on this background, the purpose of this research is to assist students with Special Need Students (SNS) in special learning services in order to improve learning outcomes. Special Need Students (SNS) in this study are students who have special characteristics with physical, emotional, and mental difficulties. Special Need Students (SNS) in this study are students with chronic diseases so that they have learning difficulties who need special services and attention. There are three research focuses, namely the characteristics of individual conditions of Special Need Students (SNS), collaborative clinical innovation designs for Special Need Students (SNS), and collaborative clinical-based specific learning outcomes.

METHOD

This study employed the type of Research Design 4D-E (4D Design Modification). In this study the 4D-E design was specifically designed for collaborative clinical-based learning model research for Special Need Students (SNS). The stages of the research carried out are as follows. The first stage define is the stage of studying the findings of the characteristics of individual conditions and learning difficulties of Special Need Students (SNS) as the basis for needs analysis (Liu et al., 2023). In this step, researchers study the findings that are used as the basis for innovating special learning models. The next step in the design is the development of a learning innovation model based on the results of a needs analysis with the formation of a collaborative clinical-based Collaborator Team. After the model design, the development stage was developed, trials were carried out on Special Need Students (SNS) to find out whether this collaborative clinical innovation model was developed in accordance with the specific learning innovation objectives of Special Need Students (SNS). If this goal has not been achieved, it needs to be revised. The next stage is dissemination to the limited Special Need Students (SNS) group. The final stage of model development is an evaluation of the entire design and application of the 4D-E research (4D Design Modification). This innovation is intended for Special Need Students (SNS) who are taking the Seminar on Language Research, Indonesian Literature, and Teaching courses. The model developed with the specifications as in Figure 1.

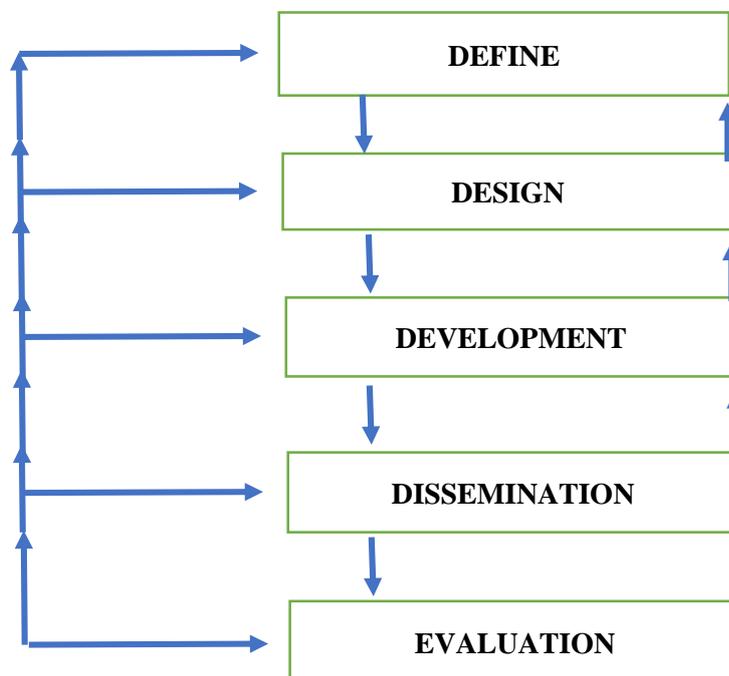


Figure 1. 4D-E Research Design (4D design modification)

FINDINGS AND DISCUSSION

This study aims to innovate a clinical collaborative-based special learning model for at-risk students with Special Need Students (SNS). There are three exposures to the research results, namely the results of the needs analysis based on the characteristics of the Special Need Students (SNS) condition, the design of the collaborative clinical model, and the results of the application of the collaborative clinical model (Barnett et al., 2010). Based on the results of the identification of individual condition characteristics of Special Need Students (SNS), it shows that there are (1) at-risk students with lupus with a condition of low immunity that affects

Clinical Collaborative-Based Special Learning Innovation for Students with Special Needs: Insights from Indonesia

the enthusiasm and activeness of students in learning (because Special Need Students (SNS) is in medical care and treatment) so that they have difficulty attending lectures. Motivation and enthusiasm for survival and optimism are needed so that Special Need Students (SNS) do not despair and can attend lectures well through special learning services. (2) Special Need Students (SNS) for people with swelling of the brain nerves. The characteristic condition of these students is that they fail to focus, often speak out of context, are not actively participating in lectures, are often hopeless, lack enthusiasm, and are under medical treatment and action. Special Need Students (SNS) requires special guidance and services to be able to follow and understand lectures well. (3) Special Need Students (SNS) of bipolar and is a slow learner (Smeplass, 2023). This type of Special Need Students (SNS) has unstable emotional conditions, changes mood quickly, lacks focus, and is slow to learn so that it affects learning outcomes. Based on the results of identification (in-depth interviews, documentary results, and observations) of Special Need Students (SNS) and needs analysis, collaborative clinical trials are needed outside of lecture hours.

Special Need Students (SNS) is a student who has special characteristics that are different from students in general. Desiningrum (2016) explains that children or students with special needs are children with special characteristics that are different from children in general without always showing mental, emotional, or physical abilities, even though these children are often called extraordinary children and disabled children (Aghabozorgi et al., 2023; Qi et al., 2023). The child is also often interpreted simply as a child who is slow or retarded or who is very difficult to do well in school as children in general.

Children with special needs are also understood from various contexts, namely biological, psychological, and socio-cultural. The biological basis of children with special needs can be related to genetic disorders. In the psychological context, children with special needs are more easily recognized from their attitudes and behavior, such as disorders in learning abilities for slow learners, emotional and interacting abilities in autistic children, speech disorders in autistic children and ADHD. Socio-cultural context, namely children with special needs as children with unusual abilities and behaviors that require special handling (Bamber et al., 2023; Pittas & Papanastasiou, 2023).

Based on this understanding, Special Need Students (SNS) have almost the same meaning as the understanding of children with special needs, only that the context refers to adult learners, no longer children. Context of adult learners refers to learners aged 16-24 years. Special Need Students (SNS) are defined as learners who have special characteristics that are understood from various contexts, namely biological, psychological, and socio-cultural contexts.

In pursuing education, Special Need Students (SNS) have the same opportunities as regular/general students. Therefore, higher education institutions are required to provide special education and special service education (Maketo et al., 2023; Qu & Cross, 2024; Samarakkody et al., 2023). This is regulated in the Regulation of the Minister of Research, Technology and Higher Education of the Republic of Indonesia Number 46 of 2017 concerning Special Education and Special Service Education in Higher Education. In the Ministerial Regulation it is explained that the provision of special education is intended for students who have: (1) level of difficulty in participating in the learning process due to physical, emotional, mental, social limitations, and/or, (2) potential intelligence and special talents.

Special education carried out in tertiary institutions is in the form of inclusive education. Inclusive education is education that is carried out for Special Need Students (SNS) with regular students. Universities can organize certain programs for students with special needs. University of Islam Malang is one of the universities that implements a special education program for Special Need Students (SNS). They learn with regular students without any discrimination (Prasetyoningsih et al., 2020). The university also pays special attention to Special Need Students (SNS) by developing innovative learning models to support learning activities.

One example is the application of a special learning innovation model to improve Special Need Students' (SNS) ability in the Research, Language, Indonesian Literature, and Teaching Seminar courses. The learning model developed is the Collaborative Clinical-Based Special Learning Model. The model has specifications, namely Special Need Students (SNS) in learning activities accompanied by three lecturers as a collaborator team. Collaborator 1 is the core lecturer for the Seminar on Language, Indonesian Literature, and Teaching. Collaborator 2 is a lecturer in the Indonesian Language, Literature, and Teaching Education Study Program. Collaborator 3 is a lecturer who has expertise in the spiritual and motivator fields. These three collaborators work together to guide and help reduce Special Need Students' (SNS) psychological or mental barriers and learning difficulties (AL-Qadri et al., 2021; Crawford et al., 2022; Mao et al., 2024).

This model was chosen to address Special Need Students' (SNS) problems in preparing research proposals and presenting them. Special Need Students (SNS) often encounter various problems in the preparation and presentation of research proposals according to the field of specialization, including, (1) difficulties in identifying problems and language, (2) difficulties in determining systematics according to the type of research, (3) difficulties in choosing, integrating theoretical foundations in proposals, and content (4) emergence of anxiety (unpreparedness) in presenting the proposal (ability to defend research proposals) (Zheng et al., 2023).

These obstacles can be seen from the results of the Special Need Students (SNS) pretest with lupus, cerebral edema, and bipolar slow learners (slow learner) which shows that Special Need Students (SNS) is a slow learner who feels nervous and has not been able to present speaking in academic forums, especially at Research Seminars. Special Need Students (SNS) lupus seems unable to revise the proposal after presenting his proposal because he is in control (control) at the hospital and often does not attend

Clinical Collaborative-Based Special Learning Innovation for Students with Special Needs: Insights from Indonesia

lectures due to health conditions. Similarly, Special Need Students (SNS) inhibits cerebral edema, often daydreaming, fails to focus, talks deviating from context.

Based on the results of the identification of the individual characteristics of Special Need Students (SNS) and the needs of at-risk students, the Development Team has established a Collaborator Team consisting of three lecturers who are willing to provide assistance, counseling, therapy, and spiritual motivators. There are three aspects developed in this model, namely (1) the number and involvement of collaborators, (2) clinical material, and (3) clinical place. The draft model developed by the Development Team was piloted to Special Need Students (SNS). The results of the trial show that it is necessary to revise the number and involvement of collaborators. Based on the results of this trial, it shows that Special Need Students (SNS) still does not have the confidence and anxiety in attending the Research Proposal Seminar lectures, especially when presenting research proposals in class forums.

Students are still often anxious in lecture activities, especially when presenting proposals that are not perfect. The initial collaborative clinical format was designed not to involve motivational and spiritual collaborators. The test results are then discussed together by the Product Development Team. The results of the discussion of the Model Development Team indicate that the clinical needs to be revised and refined. Revisions are made by the Development Team based on input from expert validators. Based on the input of the expert team (validator results), the number and involvement of the clinical team was improved. The final stage of this model is the application of collaborative clinical involvement in clinical practice into three people, namely course supervisors, lecturers with therapeutic expertise, and motivator-spiritual lecturers who handle Special Need Students (SNS). The steps for collaborative clinical implementation are as follows. Special Need Students (SNS) before attending lectures begin with a collaborative clinical or clinical can be done according to an agreement with Special Need Students (SNS) and collaborating lecturers.

This special learning innovation targets Special Need Students (SNS) of people with lupus, cerebral edema, and bipolar with slow learners. The specification of this collaborative clinical model is Collaborator 1 (Lecturer of Course Supervisor). The course supervisors are the subject lecturers who teach Special Need Students (SNS). Lecturers who support this course give special attention and guidance to Special Need Students (SNS) during lectures at the Seminar on Research in Indonesian Language, Literature, and Teaching. Collaborator 2 (Guidance Lecturer as well as Therapist). Therapist lecturers are study program lecturers who have expertise in the field of Special Need Students (SNS) therapy. Prior to attending lectures, Special Need Students (SNS) received clinical advice from a therapist. Therapy can be done on campus (Lecturer's Office) or at the therapist's house. Apart from Special Need Students (SNS), clinical trials are also conducted for Special Need Students' (SNS) parents. This clinic is carried out so that parents take care, look after, supervise, guide, and love Special Need Students (SNS). It is also continuously recommended that Special Need Students (SNS) perform medical examinations for a neurologist (for Special Need Students (SNS) for cerebral edema). For Special Need Students (SNS) lupus, in addition to medical treatment, clinical counseling (counseling) is also carried out by therapists. Collaborator 3 (Religious/Spiritual Motivator) is a motivator and spiritual lecturer who has expertise in the field of motivation and spirituality. Before or after attending Special Need Students' (SNS) lectures, they are given motivation and prayers so that Special Need Students (SNS) is mentally stable. Students are continuously motivated to always be optimistic in attending lectures and looking to the future.

The three teams of lecturers as collaborators work together to provide clinical services to Special Need Students (SNS). Clinical activities are carried out jointly and individually by Special Need Students (SNS), both on campus and at the therapist's house. This activity is expected to help students in various obstacles, including learning difficulties and slow learning caused by several factors. This is in accordance with the assertion of the Ministry of Research, Technology and Higher Education (2017) that students with learning difficulties and slow learners need special attention from lecturers. Through this attention, the teacher or lecturer can find out the level of difficulty experienced by students.

Special attention and appropriate assistance can also help students develop their potential optimally, students with learning difficulties and slow learners need self-control and self-regulation. When there is an adjustment problem, Special Need Students (SNS) can be assisted with direction, counseling, or mentoring. These regulations indicate that direction, counseling, or mentoring has an important role in supporting Special Need Students' (SNS) activities. Guidance, counseling, and mentoring are carried out through collaborative clinical activities involving course supervisors, therapists, and spiritual experts. This is in accordance with the research by Desiningrum (2016) which revealed that the intervention strategy for slow learner children is different from normal children. The general strategies used to intervene in children who experience slow learners are active and concrete instructions, advance organizational strategies, increased instructional efficiency, and motivational strategies. Based on needs analysis and collaborative clinical model design, the Collaborator Team shows the following results (Gray et al., 2023).

The results of the Special Need Students (SNS) pretest before the collaborative clinical application in the Language Research Seminar course, Indonesian Literature averaged a score of 55 (Less). To overcome the difficulties of Special Need Students (SNS) in the lectures of the Seminar on Language, Indonesian Literature, and Teaching, lecturers need to innovate a collaborative clinical learning model so that students actively participate in lectures and there is an increase in learning outcomes. This collaborative clinical model is implemented according to the lecturer's collaborative clinical schedule (clinical schedule is flexible). If Special Need Students (SNS) faces problems, the collaborating lecturers are ready to clinical Special Need Students (SNS). It can

Clinical Collaborative-Based Special Learning Innovation for Students with Special Needs: Insights from Indonesia

even be done clinically at the therapist's house, for example, Special Need Students (SNS) for cerebral edema if the therapy is carried out at the therapist's house accompanied by his parents. Collaborative clinical meetings are held 5-7 times.

By using the collaborative clinical model, the results showed there was a significant improvement, namely the learning outcomes of the Seminar on Language, Indonesian Literature, and Teaching Research got an average score of 75 (Good). The results of the application of the collaborative clinical model can be written as in the following table.

Table 1. Results of Collaborative Clinical Application

Assessment Aspect	Pretest	Posttest
1. Language	55	80
2. Contents	60	70
3. Systematic	55	75
4. Defending Ability	50	75

The results of the application of the special learning innovation model show that the application of the collaborative clinical model can overcome difficulties and improve Special Need Students' (SNS) learning outcomes at the Seminar on Language, Indonesian Literature, and Teaching Research. To improve clinical or therapeutic services to Special Need Students (SNS), collaborating lecturers are ready to clinically study students on campus or at home based on student needs. The problem faced by lecturers who support courses is that at the study program level there is no data recording and monitoring of the individual characteristics of Special Need Students (SNS). The team also had obstacles in conditioning Special Need Students (SNS) who was suffering from lupus. Apart from being in a collaborative clinic, this student with special needs is also still under the care and supervision of a doctor, so at the time of college, he often does not attend lectures (van der Marel et al., 2022).

CONCLUSION

This study suggests that the application of the Special Collaborative Clinical Learning Innovation Model is feasible to implement because it has advantages in overcoming the problems experienced by Special Need Students (SNS). The implementation of this model has been proven to be able to improve student learning outcomes and self-confidence in the Seminar on Research on Indonesian Language, Literature, and Teaching. The anxiety felt by students when making presentations began to decrease. The enthusiasm gained through therapist activities carried out with collaborators (coaching lecturers, therapists, and spiritual motivators) was considered effective. The development of this model is also able to overcome learning difficulties experienced by Special Need Students (SNS) (lupus, celebrity edema, bipolar with slow learners). Taking into account the results of the development of a clinical collaborative-based special learning innovation model that has the feasibility and advantages to help improve learning outcomes in the Research and Teaching Seminar course, it is suggested that this model can be applied to students with special needs who are taking research seminars in other study programs.

REFERENCES

- 1) Afacan, Y. (2023). Impacts of urban living lab (ULL) on learning to design inclusive, sustainable, and climate-resilient urban environments. *Land Use Policy*, 124, 106443. <https://doi.org/10.1016/j.landusepol.2022.106443>
- 2) Aghabozorgi, K., van der Jagt, A., Bell, S., & Brown, C. (2023). Assessing the impact of blue and green spaces on mental health of disabled children: A scoping review. *Health & Place*, 84, 103141. <https://doi.org/10.1016/j.healthplace.2023.103141>
- 3) <https://doi.org/10.1016/j.healthplace.2023.103141>
- 4) Almalky, H. A., & Alwahbi, A. A. (2023). Teachers' perceptions of their experience with inclusive education practices in Saudi Arabia. *Research in Developmental Disabilities*, 140, 104584. <https://doi.org/10.1016/j.ridd.2023.104584>
- 5) AL-Qadri, A. H., Zhao, W., Li, M., Al-khresheh, M. H., & Boudouaia, A. (2021). The prevalence of the academic learning difficulties: An observation tool. *Heliyon*, 7(10), e08164. <https://doi.org/10.1016/j.heliyon.2021.e08164>
- 6) Bamber, M. D., Mahony, H., & Spratling, R. (2023). Mothers of Children With Special Health Care Needs: Exploring Caregiver Burden, Quality of Life, and Resiliency. *Journal of Pediatric Health Care*, 37(6), 643–651. <https://doi.org/10.1016/j.pedhc.2023.06.003>
- 7) Barnett, T., Cross, M., Shahwan-Akl, L., & Jacob, E. (2010). The evaluation of a successful collaborative education model to expand student clinical placements. *Nurse Education in Practice*, 10(1), 17–21. <https://doi.org/10.1016/j.nepr.2009.01.018>
- 8) Contreras, M. I., Duryea, S., & Martínez A., C. (2023). The effect of the pandemic on the transition to tertiary education in Chile: A focus on students with disabilities. *International Journal of Educational Development*, 100, 102779. <https://doi.org/10.1016/j.ijedudev.2023.102779>
- 9) Crawford, C., Black, P., Melby, V., & Fitzpatrick, B. (2022). The academic journey of students with specific learning

- difficulties undertaking pre-registration nursing programmes in the UK: A retrospective cohort study. *Nurse Education Today*, 111, 105318. <https://doi.org/10.1016/j.nedt.2022.105318>
- 10) Gray, B., Grealish, L., Ranse, K., Terry, V., Armit, L., van de Mortel, T., & Del Fabbro, L. (2023). The assessment of undergraduate bachelor of nursing students in the collaborative clusters education model: A qualitative descriptive design. *Nurse Education in Practice*, 70, 103675. <https://doi.org/10.1016/j.nepr.2023.103675>
 - 11) Greenboim-Zimchoni, A. (2023). Orthodox Jewish adults with learning disabilities: Inclusive versus special education classroom experiences. *The Arts in Psychotherapy*, 84, 102025. <https://doi.org/10.1016/j.aip.2023.102025>
 - 12) Halpern-Manners, A., McLeod, J. D., Anderson, E. M., & Ekl, E. A. (2022). COVID-19 and changes in college student educational expectations and health by disability status. *SSM - Population Health*, 19, 101195. <https://doi.org/10.1016/j.ssmph.2022.101195>
 - 13) Liu, J., Cai, J., Guo, S., & Yang, X. (2023). Improving Chinese nursing undergraduates' nurse-patient clinical communication competence in English: A study based on a target situation needs analysis. *Heliyon*, 9(10), e20441. <https://doi.org/10.1016/j.heliyon.2023.e20441>
 - 14) Madhesh, A. (2023). Quality of life of higher education students with disabilities at Shaqra University. *Research in Developmental Disabilities*, 138, 104520. <https://doi.org/10.1016/j.ridd.2023.104520>
 - 15) Maketo, L., Issa, T., Issa, T., & Nau, S. Z. (2023). M-Learning adoption in higher education towards SDG4. *Future Generation Computer Systems*, 147, 304–315. <https://doi.org/10.1016/j.future.2023.05.010>
 - 16) Mao, P., Cai, Z., Wang, Z., Hao, X., Fan, X., & Sun, X. (2024). The effects of dynamic and static feedback under tasks with different difficulty levels in digital game-based learning. *The Internet and Higher Education*, 60, 100923. <https://doi.org/10.1016/j.iheduc.2023.100923>
 - 17) Nalbantoğlu, Ü. Y., & Bümen, N. T. (2024). Changes in the curriculum adaptation skills of teachers as a result of professional development support: A Turkish case study. *Teaching and Teacher Education*, 137, 104386. <https://doi.org/10.1016/j.tate.2023.104386>
 - 18) Pittas, E., & Papanastasiou, E. (2023). Effects of COVID-19 on the educational performance of children with special educational needs and disabilities: A systematic review according to children's/youth's and caregivers' perspectives. *Research in Developmental Disabilities*, 143, 104635. <https://doi.org/10.1016/j.ridd.2023.104635>
 - 19) Prasetyoningsih, L. S. A., Suhartoyo, E., & Ubaidillah, M. F. (2020). Exploring illocutionary acts employed by autistic children: The case of Indonesian children. *XLinguae*, 13(2), 245–257. <https://doi.org/10.18355/XL.2020.13.02.21>
 - 20) Qi, C., Wang, Y., Lai, J., & Jiao, Y. (2023). Hidden hurt: A qualitative study of the microaggressions experienced by disabled children in education in China. *Child Abuse & Neglect*, 141, 106200. <https://doi.org/10.1016/j.chiabu.2023.106200>
 - 21) Qu, X., & Cross, B. (2024). UDL for inclusive higher education—What makes group work effective for diverse international students in UK? *International Journal of Educational Research*, 123, 102277. <https://doi.org/10.1016/j.ijer.2023.102277>
 - 22) Samarakkody, A., Senanayake, A. C., Malalgoda, C., Amaratunga, D., Haigh, R., Liyanage, C., Hamza, M., Kaklauskas, A., & Shaw, R. (2023). Inclusivity in online and distance disaster education: A review of educators' views. *Progress in Disaster Science*, 20, 100298. <https://doi.org/10.1016/j.pdisas.2023.100298>
 - 23) Smeplass, E. (2023). Investigating adult learners' experiences from using slow reading as a pedagogical approach. *International Journal of Educational Research*, 122, 102252. <https://doi.org/10.1016/j.ijer.2023.102252>
 - 24) Theander, K., Wilde-Larsson, B., Carlsson, M., Florin, J., Gardulf, A., Johansson, E., Lindholm, C., Nordström, G., & Nilsson, J. (2016). Adjusting to future demands in healthcare: Curriculum changes and nursing students' self-reported professional competence. *Nurse Education Today*, 37, 178–183. <https://doi.org/10.1016/j.nedt.2015.11.012>
 - 25) van der Marel, I., Munneke, L., & de Bruijn, E. (2022). Supervising graduation projects in higher professional education – A literature review. *Educational Research Review*, 37, 100462. <https://doi.org/10.1016/j.edurev.2022.100462>
 - 26) Yi, Y. J., & Ellis, N. (2023). Associations between environmental factors and adaptive skills of people with intellectual and developmental disabilities in educational settings. *Social Sciences & Humanities Open*, 7(1), 100410. <https://doi.org/10.1016/j.ssaho.2023.100410>
 - 27) Zheng, X., Ismail, S. M., & Heydarnejad, T. (2023). Social media and psychology of language learning: The role of telegram-based instruction on academic buoyancy, academic emotion regulation, foreign language anxiety, and English achievement. *Heliyon*, 9(5), e15830. <https://doi.org/10.1016/j.heliyon.2023.e15830>



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