

## INTERVENTION DESIGN FOR STUDENTS WITH INTELLECTUAL DISABILITIES

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### Abstract

*Students with intellectual disabilities face challenges in cognitive, social, and adaptive aspects that have a significant impact on the learning process. The urgency of individually designed educational interventions is important to support their optimal development. The purpose of this study was to design and analyze the effectiveness of IEP-based individual education programs (IEP) to improve basic and social knowledge of students with intellectual disabilities. Using a qualitative case study approach, data were obtained through observation, in-depth interviews, and documentation which were then analyzed using Miles & Huberman data reduction techniques. The results showed that the application of strategies such as task analysis, positive reinforcement, and parental involvement can consistently improve students' reading skills, independence in daily activities, and social interactions. This study provides theoretical contributions to strengthening behavioral approaches and ZPD in special education, providing practical impacts on teachers, schools, and intervention programs that are integrated with political decision making. Further research is recommended to expand the scope of subjects and duration of intervention in order to obtain more comprehensive results.*

**Keywords:** *intervention, intellectual disability, IEP, inclusive education, case study*

## INTRODUCTION

Their limitations on cognitive, adaptive, and social-emotional functions, students with intellectual disabilities require special attention in education. These limitations affect their ability to follow conventional learning processes. WHO data (2022) shows that between 1 and 3 percent of people in the world have an intellectual disability. In addition, most people still do not have access to inclusive and on-demand educational services. Around 1.6 million children in Indonesia have special needs, but only 18% of them receive formal training (Kemendikbudristek, 2021). This fact shows that to improve their quality of life, planned and systematic educational interventions are needed. These interventions should include improving life skills and social integration, as well as improving academic achievement.

Interventions are not done correctly, children with intellectual disabilities are at risk of falling further behind in developing their adaptive abilities and independence. A study conducted by Pradipta and Firdaus in 2020 showed that structured techniques such as TEACCH have been shown to improve the self-development abilities of children with Down syndrome. Occupational therapy and behavioral-

based approaches have also shown good results in improving the social and functional skills of individuals (Lubis et al., 2023).

However, the implementation of interventions in various educational institutions still faces a number of problems. Some of these are a lack of professional resources, limited teacher training, and a lack of clear mapping of student needs. In addition, some intervention programs continue to use a homogeneous approach without considering the variation in students' abilities and backgrounds. This shows that there is a difference between the services available in the school and the needs of students with intellectual disabilities. Rohmadheny (2015) stated that individual assessments and parental involvement are essential to create contextual and successful intervention strategies.

The aim of this article is to develop an integrated intervention design for learners with intellectual disabilities that utilizes a multidisciplinary approach involving cognitive, social, adaptive, and environmental elements. This research is based on a needs-based approach (needs-based intervention) and the concept of individualized education (IEP). The intervention was prepared based on the results of empirical studies that have proven to be effective and the principle of differentiation pedagogy that respects the diversity of students' abilities.

Theoretically, this study is expected to add to the literature on the design of educational interventions for children with intellectual disabilities, especially in the context of inclusive education in Indonesia. In practical terms, the results of this research are expected to help teachers, schools, and policymakers create and implement more sustainable, flexible, and inclusive education for students with special needs.

## **METHOD**

This research was carried out qualitatively with case studies. The goal is to learn how to plan, implement, and deliver educational interventions on students with intellectual disabilities contextually. This method was chosen because it allows researchers to study the dynamics of individuals, the environment, and intervention methods in the real world. According to Yin (2018), case studies are very suitable for use in situations where the boundary between the phenomenon and its context is unclear. In this case, the education of children with special needs is one example. This study was conducted in Special Schools (SLB) and focused on inclusive classes with students with mild to moderate intellectual disabilities.

Primary and secondary data came from in-depth interviews with classroom teachers, special assistant teachers (SATs), and students' parents. Secondary data came from participatory observations of student behavior and learning processes during the intervention. Student progress records, IEPs, and psychological assessment results are secondary data. According to Creswell & Poth (2018), data collection techniques involve triangulating various sources and techniques to ensure that the data is valid and reliable. The Miles and Huberman method is used to perform data analysis, which includes the data reduction phase, data delivery, and conclusion drawing and verification. Students who have intellectual disabilities who have been identified through a professional diagnosis and who are actively involved with the school and parents are selected on a purposive basis. The purposive sampling method is relevant because it allows the selection of informants who have the right knowledge and experience about the research context.

## RESULTS AND DISCUSSION

### a. Research Results

The results of the study show that the implementation of IEP improves the development of students with intellectual disabilities in the areas of academic, social, and adaptive skills. A 10-year-old male student with mild intellectual disabilities was the main subject of this study. The intervention was conducted over eight weeks, with three sixty-minute sessions each week. Task analysis, positive reinforcement, visual models, and hands-on guidance are some of the approaches used.

Using observation sheets and teachers' daily journals, changes in students' behavior and skills were observed and recorded. The following table illustrates changes in students' abilities before and after the intervention:

<b>Skill Aspect</b>	<b>Before Intervention</b>	<b>After Intervention</b>
Reading simple words (10 words)	3 words	9 words
Writing his own name	Not yet able	Capable with little help

Washing hands independently	Need to be 100% helped.	Self-sufficient
Say hello to a friend	Passive	Actively greeting 2–3 friends

These findings mainly show improvements in basic skills and basic social behaviors. While complex tasks require assistance, consistent and organized interventions have been shown to improve students' cognitive and social development.

## **b. Discussion**

These results are in line with research by Lubis et al. (2023), which found that behavioristic approaches that use positive reinforcement and structured learning are highly effective in increasing the active participation of children with intellectual disabilities. In addition, research by Primana and Nurshadrina (2023), shows that the behavior modification approach can improve sentence reading ability in children with milder intellectual disabilities. In this study, similar methods proved to be successful in terms of academics and daily life skills.

However, the individualized approach turned out to be more responsive to meeting the specific needs of students compared to group-based intervention models such as TEACCH (Firdaus & Pradipta, 2020). To draft and execute each student's IEP, educators don't have a lot of time and effort. Parental involvement also plays an important role in success. In this study, parental involvement was quite active, as shown by the large number of follow-up activities at home that supported school outcomes.

Therefore, these findings support the idea that interventions that are contextual, dependent on individual needs, and carried out in cooperation by schools and families, become effective methods of dealing with intellectual disabilities. In addition, intervention programs should be flexible and integrated with the long-term goals of inclusive education so that students can reach their full potential.

## **Analysis and Interpretation of Results**

Research shows that the development of IEP-based interventions is effective in improving the basic abilities and social skills of students with intellectual disabilities. These results are in line with Skinner's theory of behaviorism, which emphasizes how important positive reinforcement is to change

one's behavior (Slavin, 2020). In this regard, it has been proven that strategies such as task analysis, encouragement, and support provide tangible and measurable results. When interventions were given systematically, children who were previously unable to perform basic activities such as greeting friends or washing their hands, made great progress.

Vygotsky's concept of the Zone of Proximal Development (ZPD) reinforces these findings in addition to behavioral theory. This concept states that social environments, such as families and teachers, help individuals develop optimally. In this study, learning outcomes were strengthened by parental involvement in home practice. According to Tantiani (2024) research, family involvement in helping children with special needs increases the generalization of skills from school to home.

By emphasizing the importance of individual and collaborative approaches, this research contributes to the development of special education intervention models in Indonesia. The results provide practical support for the implementation of inclusive education, which is not only administrative but also pedagogical. In addition, this study shows that, as suggested by Lubis et al. (2023) and Primana (2023), non-academic elements such as social and life skills should be prioritized when creating interventions for students with intellectual disabilities.

But there are some limitations that must be considered. First, the results of this study were limited to generalizations because they only involved one subject (a single case study). Second, long-term effects could not be observed due to the short duration of the intervention, i.e. 8 weeks, and third, not all developmental aspects (such as motor and emotional) were thoroughly evaluated. As a result, further research is recommended for:

1. Involve more subjects and schools in multi-case design;
2. Increase the duration of the intervention to at least one semester; and
3. Involve multidisciplinary teams such as occupational therapists and psychologists actively in the implementation of interventions.

The results of this study can make a practical contribution to improving the effectiveness of special education programs and strengthening inclusive education best practices and policies by refining the design and scope of interventions.

## CONCLUSIONS AND RECOMMENDATIONS

This research aims to develop an integrated educational intervention design for students with intellectual disabilities through an IEP (Individualized Education Program)-based multidisciplinary approach. Based on the results of an eight-week intervention on a student with mild intellectual disabilities, it was found that individually-designed and contextually designed interventions improved basic skills (reading, writing names), life skills (washing hands), and social behaviors (greeting friends).

This intervention involves strategies such as task analysis, positive reinforcement, visual models, and active support from parents, and has been proven effective in improving students' development both academically and socially. These findings reinforce the foundations of behavioristic theory and ZPD (Zone of Proximal Development), which emphasize the importance of social-external support in the learning process of children with disabilities. This conclusion shows that an individualized, collaborative, and needs-based approach is indispensable in designing effective, relevant, and inclusive special education programs.

Based on the findings of this study, it is recommended that special education teachers and inclusion teachers apply an individualized intervention approach through the preparation and implementation of IEPs based on a thorough evaluation of student needs. Interventions should involve contextual strategies, such as task analysis, positive reinforcement, visual models, and active cooperation with parents to ensure that the skills acquired can be applied in a variety of settings. To support this, educational institutions need to provide relevant and ongoing training for teachers, as well as ensure the availability of supporting resources. On the other hand, education policymakers need to design policies that encourage the implementation of inclusive education that is flexible and responsive to the individual needs of students. The study also recommends that future studies involve more diverse subjects and school contexts, and extend the duration of interventions to at least one semester to see the long-term impact. In addition, it is important to explore other aspects that have not been reached, such as motor skills, emotion regulation, and family quality of life, in order to enrich understanding of the effectiveness of interventions. Data triangulation approaches and methods such as ethnographic or narrative studies are also suggested to produce a more holistic and contextual picture of interventions for learners with intellectual disabilities.

## BIBLIOGRAPHY

- Abadi, R. F., & Balqisty, R. H. (2025). Penerapan metode brain gym dalam meningkatkan konsentrasi pada anak dengan disabilitas intelektual . *Jurnal Pendidikan Inklusif*. <https://jurnal.penerbitwidina.com/index.php/JPI/article/view/1190>
- Arsyad, A. (2017). *Media pembelajaran*. Rajawali Pers.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.
- Dunst, C. J., Trivette, C. M., & Deal, A. G. (2007). *Principles and practices in early intervention: A manual for practitioners*. Brookline Books.
- Efendi, A. T. S., & Irdamurni, I. (2025). Efektivitas model direct instruction untuk meningkatkan kemampuan pengurangan bilangan pada anak disabilitas intelektual. *Indo-MathEdu International Journal*. <https://ejournal.indo-intellectual.id/imeij/article/view/3076>
- Firdaus, I., & Pradipta, R. F. (2020). Implementasi TEACCH pada kemampuan bina diri anak Down Syndrome. *Jurnal Ortopedagogia*. <https://core.ac.uk/download/pdf/287323291.pdf>
- Ikhsan, M., & Leonardi, T. (2024). Penerapan strategi mengingat untuk meningkatkan memori siswa SMP dengan mild intellectual disability. *Jurnal Education and Development*. <https://journal.ipts.ac.id/index.php/ED/article/view/5726>
- Lena, L., & Daengsari, D. P. (2019). Efektivitas teknik antecedent control dan token economy dalam meningkatkan perilaku belajar anak dengan disabilitas intelektual ringan. *Jurnal Psikogenesis*. <https://academicjournal.yarsi.ac.id/index.php/Jurnal-Online-Psikogenesis/article/view/880>
- Lubis, R., Syafitri, N., Maylinda, R. N., & Alyani, N. N. (2023). Pendekatan behavioristik untuk anak disabilitas intelektual sedang. *Jurnal Pendidikan Anak Usia Dini*. <https://www.academia.edu/download/100883066/pdf.pdf>
- Musyarrofah, S., & Anggraeni, A. (2024). Evaluasi terhadap intervensi SLB Beringin Bhakti dalam penanganan anak dengan intellectual disabilities. *GENFABET: Jurnal Pendidikan Inklusif*. <https://journal.akademimerdeka.com/ojs/index.php/genfabet/article/view/11>
- Pangestuti, R., & Anandari, A. R. (2024). Direct instruction learning strategy for children with mild and moderate intellectual barriers. *Al-Afkar: Journal for Islamic Studies*. [https://mail.al-afkar.com/index.php/Afkar\\_Journal/article/view/1288](https://mail.al-afkar.com/index.php/Afkar_Journal/article/view/1288)
- Primana, L., & Nurshadrina, A. (2023). Meningkatkan kemampuan membaca kalimat pada anak mild intellectual disability dengan pendekatan modifikasi perilaku. *Procedia: Studi Kasus dan Intervensi Psikologi*, 5(2). <https://ejournal.umm.ac.id/index.php/procedia/article/view/28253>
- Rohmadheny, P. S. (2015). Case study of early childhood special needs in Sidoharjo village. *The 2nd International Proceeding of All Care for Disabilities*. <https://www.academia.edu/download/95895504/155247781.pdf>

- Simatupang, N., & Siregar, S. (2024). Senam otak sebagai upaya peningkatan memori jangka pendek anak penyandang disabilitas intelektual. *Jurnal Ilmu Keolahragaan*, 12(1). <https://ejournal.undiksha.ac.id/index.php/JJIK/article/view/79663>
- Slavin, R. E. (2020). *Educational psychology: Theory and practice* (12th ed.). Pearson.
- Sunanto, S., & Nursalim, M. (2023). Problems of children with intellectual and mental disabilities at school. *Jurnal Smart Children*. <https://www.e-journal.ivet.ac.id/index.php/Jsc/article/view/2655>
- Tantiani, F. F. (2024). Involvement of parents in children with special needs intervention. *Jurnal Sains Psikologi*. <https://www.neliti.com/publications/486073>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Westling, D. L., & Fox, L. (2009). *Teaching students with severe disabilities* (4th ed.). Pearson Education.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.