



UNIVERSITI
TEKNOLOGI
MARA

Cawangan Negeri Sembilan

ACADEMY OF LANGUAGE STUDIES

Edition: 16/2025

APB REMBAU E-BULLETIN



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AI in Special Education: Opportunities and Challenges for Autism and ADHD

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Artificial Intelligence (AI) is rapidly transforming the education and its impact on special education is particularly promising. For children with Autism Spectrum Disorder (ASD) and Attention-Deficit/Hyperactivity Disorder (ADHD), AI can provide personalized support that addresses their unique learning needs, communication styles and behavioral challenges. While AI offers significant opportunities, its integration also brings challenges that educators, parents, and policymakers must carefully consider.

There are the opportunities and challenges that might be faced by the children when they used the AI. Here are some opportunities and challenges for special need children:

- i. **personalized learning pathways** - AI-powered platforms can adapt to each student's pace, strengths, and weaknesses. For children with autism or ADHD, this means receiving lessons tailored to their attention span, learning style, and social-emotional needs.
- ii. **early diagnosis and intervention** - AI systems can analyze the behavioral

data, speech patterns, or classroom interactions to help in the early detection of autism and ADHD,



enabling timely interventions and better long-term outcomes.

- iii. **assistive technologies** - tools such as AI-driven communication apps, speech recognition, and virtual assistants support children with limited verbal communication, enhancing their ability to express themselves and interact with their friends.
- iv. **behavior monitoring and feedback** - AI also can track the attention levels, detect signs of stress, and provide real-time feedback to teachers or caregivers. This supports classroom management and ensures timely interventions when a child becomes disengaged or overstimulated.



The special needs children also will face some challenges, as following:

- i. **ethical and privacy concerns** - collecting the sensitive behavioral and medical data raises questions about student privacy, data security, and consent, especially when working with vulnerable children.
- ii. **over-reliance on technology** - while AI can be a powerful tool, it should not replace human interaction, empathy, and personalized care, which are essential for children with special needs.
- iii. **bias and accuracy** - AI models are only as good as the data they are trained on. If datasets lack diversity, they may misinterpret behaviors in children with autism or ADHD, leading to inaccurate assessments.
- iv. **accessibility and equity** - advanced AI tools may not be equally accessible to all schools due to cost, infrastructure, or lack of training among educators and potentially widening the gap between privileged and underserved students.
- v. **teacher and parent readiness** - effective integration of AI requires educators and parents to be trained and comfortable with using these technologies. Without proper support, the tools may go underutilized.

As conclusion, AI has the potential to change the special education by offering personalized, inclusive, and supportive learning experiences for children with autism and ADHD. However, successful adoption requires balancing in technological innovation with ethical safeguards, proper training, and human-centered approaches. By addressing the challenges thoughtfully, AI can become a powerful ally in creating equitable educational opportunities for neurodiverse learners.