

# AI-Powered Differentiation for Special Education Teachers



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Meerim Kamchybekova, M.Ed.

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Patrick Marcotte, M.A.

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**CONTACT** [w. community.lessi.ai](https://www.community.lessi.ai)  
[e. info@lessi.ai](mailto:info@lessi.ai)

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## Differentiation and AI in Special Education

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Meeting the diverse needs of students requires significant planning, adaptation, and resources. Differentiation—as defined by Tomlinson (2001)—involves modifying content, processes, products, and learning environments based on students’ readiness, interests, and learning needs. However, resource and time constraints can make differentiation overwhelming or nearly impossible. This paper explores ways AI can simplify differentiation to be more efficient and impactful. Grounded in research on effective educational practices, we outline actionable strategies to support special educators today.



## *The Importance of Differentiation in Special Education*

Research emphasizes how differentiated instruction enhances student engagement, promotes equity, and improves learning outcomes.

### **Key Differentiation Strategies**

	<b>Description</b>	<b>Examples</b>
<b>Adjusting Content</b>	Break teaching and learning into smaller chunks to build success and momentum.	Reflow lessons to align with best practices in instructional design, like “I do, we do, you do.”
<b>Structuring Processes</b>	Scaffold instruction to encourage success on tasks and with peers.	Map the tool skills, components, and broader skill sets to clear learning objectives.
<b>Modifying Assignments</b>	Provide alternate assignment formats to align with individual strengths and preferences.	Allow students to choose between presentations, essays, or creative projects.
<b>Adapting Environments</b>	Redesign environments to encourage collaboration and active participation.	Arrange desks and stations to minimize the distance between students and learning.

### **How Choice Can Enhance Engagement**

Providing students with choices in their learning can significantly enhance their engagement and participation. Offering choices to learners helps prevent distress, enhances engagement, and ensures that participation reflects genuine willingness rather than coercion (Linnehan et al., 2023). Educators can foster more ethical and effective learning environments by efficiently offering multiple alternatives for a given set of instructional objectives.

### **Understanding the Learner’s Current Skills**

Another crucial step in effective differentiation is starting where the learner is. Using a more constructional approach emphasizes identifying and building upon the learner’s existing skill sets rather than focusing on deficits (Goldiamond, 2002; Layng, 2019). By assessing a student’s current skills and abilities and teaching new skills on top of that foundation, educators can create more effective, engaging, and personalized learning.

# 30 AI-Powered Tools for Differentiation

AI offers transformative potential for special education, automating routine tasks and providing real-time, data-driven insights. Practical applications on the market include:

<b>Adaptive Learning</b>	Amira, Ello, Microsoft Reading Coach, and Khanmigo use AI to adjust lesson difficulty based on student progress.
<b>Content Generators</b>	Curipod, ChatGPT, School AI, Magic School, and Lessi AI assist with the creation of learning content for differentiated activities.
<b>Accessibility Tools</b>	Read&Write, Otter.ai, Signapse, Speechify, and Zerodivide provide text-to-speech, speech-to-text, and translation features.
<b>Grading Assistance</b>	Gradescope, Writable, Class Companion, Kiddom, and CoGrader automatically grade and provide feedback on student work.
<b>Behavioral Support</b>	Classcraft, GoGuardian, EdSights, Woebot Health, and Mainstay help support social, emotional, and behavioral differentiation.
<b>Assessment Tools</b>	Formative, Quizizz, Kahoot, Edpuzzle, and Pressto help inform instructional adjustments with AI-supported quizzes.

## 5 High-Impact Skillsets for Effective AI Integration in Special Education

- Using general-purpose tools like ChatGPT
- Selecting documents to guide responses
- Analyzing existing lessons and materials
- Sequencing instruction to increase success
- Building lessons from goals and IEPs



## 5 Keys to Successful AI Implementation



# Ethical Considerations

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- **Equity:** Ensure all students have access to technology and reliable internet.
- **Privacy & Safety:** Ensure compliance with FERPA, COPPA, NDPA, and local laws.
- **Bias Mitigation:** Regularly review AI-generated outputs to ensure fairness.
- **Teacher Support:** Provide ongoing coaching to support all educators.

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