

# Ability: Designing an AI Teaching Assistant for Inclusive Education

**Audience:** Teachers of children with special educational needs (SEN) in mainstream classrooms; secondary audience: school directors

**Format:** AI-powered platform prototype with an integrated educational AI agent (Figma interactive prototype)

**Status:** Validated concept, working prototype, pilot design complete — pre-launch

**Team:** A collaborative project — data research, document analysis, solution design (my role), and communication split across four team members

**Grounded in:** OECD (TALIS 2018, 2024), UNICEF Romania, European Agency for Special Needs and Inclusive Education, Ministry of Education (Romania) reports, and Romania's Law 198/2023

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## The Challenge

More students with special educational needs are being integrated into mainstream classrooms every year — but the teacher is usually the only person actually responsible for making that inclusion real. The needs analysis behind this project pulled real statistics rather than relying on assumption:

- **37% of teachers globally** report that adapting lessons for SEN students is a "quite a lot" or "a lot" of stress (OECD, TALIS 2024)
- **33% of teachers** work in schools where instruction is hindered by a lack of staff with SEN-specific competencies (OECD, 2024)
- In Romania, the school counselor-to-student ratio averages **1 to 740** (Ministry of Education, 2024)
- Romania allocates just **4.5% of government spending on education** — one of the lowest rates in the region (OECD, 2025)
- Only **40% of teachers** feel confident adapting assessments for SEN students, meaning inclusion often means physical presence without real academic progress (OECD, 2024; UNICEF, 2024)

The reframe that shaped this entire project: **this is not a teacher goodwill problem**. Teachers aren't failing to include SEN students because they don't care — they're being asked to deliver authentic inclusion without the team, time, or tools that would make it achievable. A new Romanian law (198/2023) increases per-student funding by 75% for integrated SEN students and establishes a four-tier support system — but funding and legal structure alone don't solve

the day-to-day problem of a teacher facing three different diagnoses in one classroom with one hour of specialist support per week.

## The Stakeholders

Unlike a single-learner training program, Ability had to design for an entire support ecosystem around one child: the classroom teacher (primary user, usually adapting materials alone in the evening), the SEN student, the itinerant support teacher (often present for as little as one hour per week), the family, and the school director (accountable for inclusion but administratively overloaded — 93% of Romanian school directors report feeling overwhelmed by bureaucracy, per OECD 2025).

## Design Approach

A SWOT analysis grounded the design in realistic constraints rather than idealized assumptions. On the strengths side: legal access already exists, AI can genuinely reduce differentiation time, and teachers already show interest in practical tools. On the weaknesses side: teachers get little practical training, classes are large, and materials for SEN integration are scarce. Threats included real risks — resistance to AI in education, the danger of AI being perceived as replacing the teacher rather than supporting them, and the possibility that integration remains formal without genuine multidisciplinary intervention.

Three functional pillars address the needs analysis directly:

1. **Planning & Instructional Adaptation** — differentiated activities, curriculum adaptations, and personalized materials generated from a student profile and lesson objective
2. **Assessment & Progress Monitoring** — alternative, equitable assessment methods and individualized progress goals
3. **Collaboration & Coordination** — recommendations for involving family, support teachers, and school counselors

A deliberate design principle threads through all three: **the tool doesn't automate the teacher's professional judgment, it gives them a starting point.** The teacher retains the decision of what to actually use in the classroom.

## Sample Output — What the Tool Actually Generates

Rather than describe the concept abstractly, the project produced a fully worked example: an adapted curriculum for a real student profile (2nd grade, IQ ~80, difficulty with reading comprehension, multi-step calculations, and narrative retelling, with just one hour of support-teacher time per week). This is what Ability would generate for that teacher:

- **For reading comprehension:** a "one sentence = one question" technique — the text is revealed one sentence at a time, each followed by an immediate comprehension check, rather than the student reading a full passage and losing the thread
- **For multi-step math problems:** a "three boxes" method (*What do we have?* → *What happens?* → *What's left?*) that isolates each operation visually instead of presenting a string of operations that overwhelms working memory — applied concretely to an actual textbook problem, rewritten from a long word problem into a sequence of single-operation steps
- **For retelling a story:** sequential picture cards replacing free retelling, which demands abstraction and vocabulary the student doesn't yet have
- **For dictation:** a syllable-clapping technique paired with drawn guide-lines per word, preventing dropped letters and reversed spelling
- **A concrete plan for the one hour of weekly support-teacher time:** 15 minutes prepping materials, 30 minutes drilling the core techniques with the student, 15 minutes handing the classroom teacher 3–4 ready-made adapted worksheets for the rest of the week

This level of specificity — down to a fully adapted lesson plan for a real textbook story ("Thumbelina," from the actual textbook publisher used in Romanian classrooms) — is what separates Ability from a generic "AI lesson planner." It's built around the exact bottleneck the needs analysis identified: not a lack of ideas, but a lack of time to turn ideas into usable, differentiated material for a specific child.

## Responsible AI Use

The project's own working notes include an explicit GDPR safeguard: never enter a real student's name or identifying information into an AI tool — use generic labels ("Student A") instead. This is a small detail, but it's evidence of building privacy-conscious practice into the tool's use from the design stage, not as an afterthought.

## Rollout Design

The plan is explicitly graduated: pilot in a small number of schools, short training sessions for participating teachers, monitored usage, and scaling based on results and feedback — reducing rollout risk rather than proposing a full launch immediately.

## Outcome & Reflection

Ability is currently a validated, early-stage prototype — the concept has been tested through an interactive Figma prototype and a stakeholder-facing pitch to school directors, grounded in a rigorous, multi-source needs analysis (OECD, UNICEF, European Agency, Romanian Ministry of Education, and peer-reviewed research), but it has not yet been piloted with real teachers and students. I'm naming that status explicitly: the architecture, the instructional logic, and even a

fully worked example of the tool's output are built and demonstrable, but outcome data doesn't exist yet because the pilot hasn't run.

As a collaborative project — data research, document analysis, solution design, and communication split across four team members, with solution design as my specific contribution — this also reflects an ability to design under shared ownership while keeping the underlying instructional logic coherent.

If piloted, the clearest next step is exactly what the rollout design already anticipates: a small pilot cohort, short teacher training, and a monitored feedback cycle before any wider claim about impact.