

Inverting the Priority Stack

Rights-Based AI Tutoring for Special Education Through Structural Design

THE CONVENTIONAL PRIORITY STACK

1st	District: pays, therefore first; the system's center of gravity
2nd	Teacher: valued mainly as the operator who keeps the district's data flowing
3rd	Parent: an address to which notices are sent
Last	Student: a data subject whose interaction is raw material for the compliance machine

SELWYN (2022); WILLIAMSON AND HOGAN (2021)

The standing critique of educational technology built for institutional buyers rather than for learners. When the entity that pays is the entity the system is built to satisfy, everyone else gets arranged around that center of gravity.

THE HARMS OF DATAFICATION

JARKE AND BREITER (2019)

Teachers report that pressure to produce data can be detrimental to building secure relationships with children. Behavior tracking platforms reconfigure teacher-parent-child relationships around the data flow rather than around the child.

MASCHERONI (2018)

The datafied child becomes an object of routine monitoring normalized across institutional and family life. A condition the critical literature on childhood datafication has tracked for the better part of a decade. *Current Sociology*, 68(6), 798-813.

KUMAR ET AL. (2019)

The teacher becomes a surveillant consumer of the platform rather than its pedagogical authority. Authority routed away from the person with the most context about the child. *Surveillance and Society*, 17(1/2), 145-152.

PART II

Inversion as Design Commitment

Student first. Parent as participant. Teacher as authority. District by byproduct.

STRUCTURE VERSUS BOLT-ON

The central distinction: what happens to the right under pressure.

BOLT-ON RIGHT

A setting. Can be changed, defaulted off, buried, or quietly dropped in the next release when it becomes inconvenient. Privacy stated in a policy document. Human oversight listed in documentation. Feature the operating institution can configure away.

STRUCTURAL RIGHT

A property of the build. Removing it would require rebuilding the system, not flipping a toggle. Privacy enforced by never assembling the data the policy promises to protect. Cavoukian (2009), Privacy by Design. Hull (2021), the remedy must be structural.

PASQUALOTTO AND MARRAS (2026)

Oversight stated in documentation deteriorates into language when not enforced by the architecture. Adoption is legitimate only when aligned with professional control, governance clarity, and ethical accountability. *Frontiers in Child and Adolescent Psychiatry*, 5.

THE STUDENT, FIRST

SOCRATIC INSTRUCTION

No answers handed over. Questioning, analogy, counterexample, and scaffolded hints calibrated to the student's current understanding. Holds the student in the zone of proximal development. Difficulty adjusts from non-invasive behavioral signals: time on task, error rate, response latency.

INVISIBLE ACCOMMODATION

Accommodations activate without any visible marker. An accommodated session is indistinguishable from a standard one. Toutain (2019): students decline accommodations because of stigma; that effect intensifies in adolescence. Making the accommodation invisible removes the social cost of legally mandated support.

META-ANALYTIC EVIDENCE

Kulik and Fletcher (2016): 50 controlled evaluations, median gain ~0.67 SD, 50th to 75th percentile. Ma et al. (2014): 107 effect sizes, 14,000+ learners, intelligent tutoring statistically indistinguishable from one-to-one human tutoring.

PARENT AS PARTICIPANT. TEACHER AS AUTHORITY.

THE PARENT

IDEA 2004 § 1414(d) names the parent as a participant. The inverted stack builds the parent a portal grounded in that standing: the parent sets the frequency, daily, weekly, or summarized. Preliminary consultation with twenty-five families: every family chose daily updates once the choice was actually offered.

Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446, 118 Stat. 2647, 20 U.S.C. § 1414(d).

THE TEACHER

The AI operates as a suggestion layer, not a decision layer. The teacher receives full context on every recommendation and retains authority to override any classification. Belitz et al. (2022): adaptive systems are not equally effective for all groups; a wrong inference can propagate at a speed no individual teacher could match.

Anti-displacement clause: any institution that reduces teaching, aide, or special education staff as a result of efficiency gains from the platform loses access to it.

The district is served last and served well, by a record that is the byproduct of real teaching.

The conventional stack: systems built to produce records produce worse learning than systems built to teach, and worse records too, since the best record is the residue of real instruction.

The inverted stack: the audit trail TITL generates, accommodation delivery logging, suggestion tracking, and teacher intervention records, constitutes a compliance posture that exceeds current documentation standards.

Inversion is a design argument, not a moral concession. The conventional stack is not merely unjust. It is inefficient at the thing it claims to optimize. Putting the student first is the design that serves the district best.

SOURCES Gilly, T. (2026), Inverting the Priority Stack, sec. V.

LIMITATIONS

TITL is at design stage. Every claim about outcomes is an argument about architecture, not a report of measured effect. Efficacy of the inverted stack in practice is an empirical question that a controlled deployment will have to answer.

Evidence that adaptive AI tutoring produces strong gains comes from general education settings. Transfer to students with documented learning needs is a hypothesis, not an established extrapolation.

Differential adaptation across heterogeneous neurodivergent profiles is the platform's least settled commitment. It should be presented as a theoretically motivated design to be tested rather than a validated finding. A platform that overclaims has no need to.

SOURCES Gilly, T. (2026), Inverting the Priority Stack, sec. VII (Limitations).

Educational technology for special education is built upside down. The system should be built for the child it exists to serve.

Whether the platform teaches as well as the architecture intends is a question for deployment. Whether the architecture is pointed at the right person is a question of design, and on that question the inverted stack gives an answer the field has been avoiding.

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