Cheryl Burris
EDIT 891-2
11 May 2026

Theoretical Framework

STATUS: Draft. Closes BS-2 (Agency Architecture) when integrated into the theoretical framework chapter. Review before integrating and confirm placement within the broader framework spine.

Scaffold-for-Deficit versus Self-Authorship: Competing Design Orientations

The most significant failure of this design does not occur when the planner malfunctions or remains unused. Instead, failure arises when the planner operates as intended, achieves measurable behavioral change, but in an undesirable direction. A planner that users consistently engage with, whose features function as designed, yet diminish rather than enhance regulatory capacity over time, exemplifies a design that supplants the very process it intends to support. This outcome is not coincidental; rather, it highlights the fundamental design issue that necessitates distinguishing between scaffold-for-deficit and self-authorship orientations.

Designers operating at the intersection of neurodivergence and academic planning may adopt one of two distinct approaches. The scaffold-for-deficit orientation conceptualizes the user's regulatory system as possessing functional gaps and provides external structures to address these deficiencies. Success in this model is measured by task completion, adherence to deadlines, and consistent behavioral outcomes. Conversely, the self-authorship orientation assumes that users are capable of independently setting and pursuing goals, and thus offers support that fosters, rather than supplants, this capacity. Success is evaluated by the user's increasing ability to plan, adapt, and self-regulate without external assistance. These

orientations represent fundamentally different frameworks, resulting in divergent features, success metrics, and potential failure modes.

Shogren et al. (2015) ground the concept of self-authorship in causal agency theory, which defines goal authorship as the ability to independently identify, initiate, and evaluate goal-directed actions, thereby fostering self-determination. Designs that complete the user's planning, regardless of their accuracy or helpfulness, do not cultivate causal agency. Meyer, Rose, and Gordon (2014) extend this perspective through Universal Design for Learning (UDL), contending that universal design should facilitate the development of internalized, flexible self-regulation rather than merely addressing deficits. The intended outcome is a learner who ultimately no longer requires scaffolding, as opposed to one who remains perpetually dependent on it. Zimmerman (2002) articulates a similar progression in behavioral terms through the Forethought-Performance-Self-Reflection cycle. When this cycle is practiced consistently with diminishing external prompts, self-regulated learning becomes increasingly automatic. Scaffolding is warranted only if it is designed for eventual removal; otherwise, it serves as a substitute rather than genuine support.

The tension between these orientations does not constitute a logical contradiction but rather presents a design challenge. Neurodivergent learners require external structures to address authentic regulatory gaps, while also needing interventions that develop, rather than supplant, regulatory capacity. Design-Based Research (DBR) does not necessitate resolving this tension prior to the evaluation phase. Instead, DBR requires that the tension be theoretically substantiated and inform design decisions that can be empirically tested through iterative cycles. The current phase of this research maintains both orientations as a design hypothesis: appropriately bounded and well-designed scaffolds will support, rather than permanently replace, the regulatory processes they appear to substitute. The subsequent phase will provide the mechanism for empirically testing this hypothesis.

calmMode as an Active Example of the Tension

The calmMode additive-only constraint (Design Decision 21) illustrates this tension in the current implementation. At the beginning of each session, users report their cognitive load (ADHD) or sensory load (ASD), and the planner adjusts the interface mode accordingly. The calmMode toggle allows users to request increased quieting beyond the initial setting, but it does not permit reducing quieting below the check-in baseline. Users who selected Scattered during On-Boarding cannot disable Calm Mode mid-session; likewise, if an ASD sensory load check-in sets the interface to calm, it cannot be reverted to standard mode without repeating On-Boarding. This constitutes a scaffold-for-deficit decision, prioritizing the system's assessment of the user's regulatory state over the user's subsequent judgment regarding interface needs. The rationale is defensible: the check-in establishes the minimum protective response required for the session, and permitting users to override it downward would reduce the check-in from a functional tool to a performative ritual. Le Cunff et al. (2024) and Raymaker et al. (2020) both endorse a floor constraint. When users are in a compromised regulatory state, the planner provides protection rather than deferring to user preference.

The tension with self-authorship is similarly evident. Cognitive and sensory states may fluctuate during a session. A user who was genuinely Scattered at On-Boarding may achieve a Focused state before the session concludes, yet the interface remains unchanged. This constraint inhibits users from authoring their own interface conditions within a session. Whether users perceive this as protective or restrictive is not addressed in the current research phase. However, decisions made at this stage will inform questions to be explored in subsequent phases.

This decision establishes, and the theoretical framework must explicitly acknowledge, that every scaffold providing protection also imposes constraints. The distinction between a scaffold and a substitute is not merely a design assertion; it is an empirical question.

References

Le Cunff, A.-L., Giampietro, V., & Dommett, E. (2024). Neurodiversity and cognitive load in online learning: A focus group study. *PloS One*, *19*(4), e0301932. https://doi.org/10.1371/journal.pone.0301932

Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal design for learning: Theory and practice.* CAST Professional.

Raymaker, D. M., Teo, A. R., Steckler, N. A., Lentz, B., Scharer, M., Delos Santos, A., Kapp, S. K., Hunter, M., Joyce, A., & Nicolaidis, C. (2020). “Having all of your internal resources exhausted beyond measure and being left with no clean-up crew”: Defining autistic burnout. *Autism in Adulthood, 2*(2), 132–143. https://doi.org/10.1089/aut.2019.0079

Shogren, K. A., Wehmeyer, M. L., Palmer, S. B., Forber-Pratt, A. J., Little, T. J., & Lopez, S. (2015). Causal agency theory: Reconceptualizing a functional model of self-determination. *Education and Training in Autism and Developmental Disabilities, 50*(3), 251–263. https://doi.org/10.1177/215416471505000302

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice, 41*(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2