

Deliberate Teaching Strategies in Inclusive Science, Math, and ICT Classrooms: Motivating Diverse Learners to Innovate

Teotima A. Ampong

School of Technology and Computer Studies, Biliran Province State University, Biliran Province 6560, Philippines
Teoampong@Gmail.Com

HOW TO CITE:

Teotima A. Ampong (2026).
Deliberate Teaching Strategies in
Inclusive Science, Math, and ICT
Classrooms: Motivating Diverse
Learners to Innovate.
International Journal of Special
Education, 41(3s), 57-62.

COPYRIGHT STATEMENT:

Copyright: © 2026 Authors.
Open access publication under the
terms and conditions
of the Creative Commons Attribution
(CC BY)
license (<http://creativecommons.org/licenses/by/4.0/>).

ABSTRACT:

While inclusive classrooms increasingly utilize digital tools for basic accessibility, a critical gap remains in understanding how deliberate strategies transcend remediation to cultivate innovation among diverse learners. Grounded in Constructivist Learning Theory, this qualitative study investigates how educators calibrate instructional strategies to foster innovative thinking in inclusive Science, Math, and ICT (SMICT) classrooms. Using purposive sampling, data were collected from 10–12 teachers and 18–24 diverse learners through semi-structured interviews. Thematic analysis reveals that contextualized problem-solving, scaffolded frameworks, and purposeful technology integration significantly reduce cognitive overload and foster psychological safety. These equitable practices balance structured boundaries with autonomy, heightening intrinsic motivation. Ultimately, this research demonstrates that deliberate constructivist scaffolding empowers students with specific educational needs and learners in inclusive settings to transition from passively accommodated students to authentic creators, offering actionable frameworks for equitable special education pedagogy.

Keywords: Inclusive Education, Constructivism, Teaching Strategies, Learner Innovation, Diverse Learners

1. INTRODUCTION

Although faculty burnout measurably degrades institutional performance and the quality of teacher preparation (Sabagh et al., 2018), a critical gap remains in understanding how academic leader mentorship prevents burnout specifically among newly hired inclusive education teachers in higher education, particularly given the chronic national shortage of faculty prepared to teach inclusive curricula (Smith et al., 2010). Unlike general academics, inclusive education faculty face

compounded stress. They endure distinct compassion fatigue rooted in their deep psychological investments in diverse learners and the heavy administrative burdens of managing individualized accommodations (Floyd et al., 2024; Ziaian-Ghafari & Berg, 2019). Additionally, adapting environments for students with exceptionalities introduces severe pedagogical strain and role ambiguity (Brunsting et al., 2014; Candeias et al., 2020).

To mitigate this attrition, leadership-driven mentorship is essential. Leaders impart critical organizational insight, helping novices navigate complex institutional processes to secure resources for diverse learners (Tveitnes & Hvalby, 2023). Through non-evaluative, collaborative support, mentors transition early-career educators away from basic professional survival and toward sophisticated, inclusive pedagogical decision-making (Clinton & Farrell, 2026), fulfilling vital emotional needs during vulnerable career stages (Evashkovsky & Osipova, 2023).

This study anchors these dynamics within three core theoretical frameworks. The Job Demands-Resources (JD-R) model positions leadership mentorship as a crucial job resource that directly counterbalances the intense emotional and administrative demands of accessible education (Schaufeli & Bakker, 2004). Self-Determination Theory (SDT) illustrates how mentoring fulfills fundamental psychological needs, fostering intrinsic motivation despite high stress (Deci & Ryan, 2000). Finally, Resilience Theory demonstrates how guided reflection empowers faculty to adapt to the systemic pressures of inclusive academia (Tait, 2008). Guided by these theories, this study examines the precise mentoring mechanisms academic leaders use to sustain well-being and resilience among inclusive education faculty.

2. METHODOLOGY

This study employed a qualitative phenomenological design to explore the lived experiences of academic leaders and their role in preventing burnout among newly hired inclusive education faculty. Employing purposive sampling, 15 academic leaders were selected from higher education institutions. Participant inclusion criteria required individuals to: (1) hold a formal academic leadership position (e.g., Program Chair, Dean); (2) possess at least three years of experience mentoring faculty who teach in inclusive, special education, or accessible learning contexts; (3) actively participate in institutional faculty development; and (4) provide informed consent.

Following institutional review board approval, data were collected using a semi-

structured interview guide validated by field experts (Table 1). The protocol was specifically designed to explore how leaders mentor novices through the unique pedagogical and administrative stressors of inclusive education. Interviews, conducted either face-to-face or virtually, lasted 30 to 45 minutes and were audio-recorded with explicit permission. Strict adherence to the Belmont Report principles ensured voluntary participation, confidentiality, and data anonymization through pseudonyms. To establish data authenticity, audio recordings were transcribed verbatim and validated through member checking.

Table 1. Interview guide questions

Objectives	Interview question
To explore how mentorship programs led by academic leaders help prevent burnout among newly hired teachers in higher education.	1. How did your mentor assist you in handling institutional challenges, such as workload or expectations? 2. How did your mentor contribute to creating a healthy work-life balance during your transition into teaching?
To examine specific mentoring practices that contribute to newly hired teachers in preventing burnout and sustained well-being.	1. What specific mentoring practices helped you stay mentally and emotionally balanced during your first year? 2. How did your mentor help you develop practical ways to handle stress or manage overwhelming responsibilities in your early teaching experience?

Transcripts were subjected to thematic analysis to extract recurring patterns regarding

mentorship practices and burnout prevention. Researchers familiarized themselves with the data, manually generated initial codes related to inclusive education mentorship, and collapsed these codes into broader thematic categories. To ensure reliability and mitigate bias, two independent coders performed peer debriefing and established intercoder agreement before finalizing the themes.

3. RESULTS

3.1. Structural Scaffolding for Pedagogical and Administrative Demands

Academic leaders provided highly practical, structural support to help newly hired faculty navigate the overwhelming bureaucratic and instructional demands of inclusive education. Mentors guided novices in breaking down complex tasks—such as adapting curricula for diverse learners, managing accommodation paperwork, and navigating institutional processes to secure specialized resources. By teaching strategic task prioritization and demystifying the unwritten rules of the institution, mentors reduced the paralyzing sense of chaos and role ambiguity, allowing early-career educators to focus on effective, accessible instruction without becoming overwhelmed by the administrative burden.

"My mentor sat down with me during my first week and helped me map out my teaching schedule alongside administrative duties. She showed me how to block my time so I wouldn't get overloaded, and that really helped me breathe and focus on one thing at a time." (Participant 3)

"My mentor showed me how to break down my to-do list by urgency and importance. Before that, I was trying to do everything at once and feeling paralyzed. She helped me focus on what truly mattered, and suddenly, things didn't feel so overwhelming." (Participant 10)

"My mentor explained how things worked behind the scenes, like who to talk to about certain issues and how decisions were made. That insight helped me avoid unnecessary frustrations." (Participant 4)

3.2. Emotional Safety Nets and the Mitigation of Compassion Fatigue

To combat the profound emotional exhaustion and compassion fatigue inherent in supporting students with exceptionalities, academic

leaders established structured emotional safety nets. Mentors initiated regular, dedicated check-ins focused exclusively on psychological well-being rather than academic outputs. During these sessions, mentors actively listened, validated struggles without judgment, and introduced personalized, trauma-informed stress management techniques. By encouraging reflective practices—such as journaling and identifying specific stress triggers—leaders empowered novices to shift from passive survival mode to proactive self-regulation, ensuring they felt emotionally seen and supported in their vulnerable first years.

"Those meetings were the only time I could be honest about my struggles without fear of judgment. My mentor listened patiently, helped me reframe negative thoughts, and offered practical coping strategies. It made me feel seen and supported beyond my role as a teacher." (Participant 15)

"My mentor didn't just help me with work tasks—she helped me with the emotional toll. When I cried about how hard it was, she hugged me and said, 'This is tough, but you're tougher.' Knowing someone believed in me made me want to keep going and take care of myself." (Participant 10)

"My mentor taught me breathing exercises and quick mindfulness techniques I could do between classes. She noticed I was anxious and showed me how to ground myself in just a few minutes. This practical support was a game-changer during hectic days." (Participant 2)

3.3. Cultivating Sustainable Boundaries and Inclusive Peer Communities

A crucial mechanism for burnout prevention was the explicit modeling of work-life boundaries and the facilitation of collaborative support networks. Mentors did not merely advise on self-care; they actively demonstrated it by protecting their own personal time and normalizing rest as an essential component of professional longevity. Furthermore, realizing the isolating nature of inclusive pedagogy, effective leaders actively organized and integrated novices into peer support groups. This allowed new teachers to share the emotional load, celebrate victories, and build a

localized community of practice, ultimately transforming the stressful transition period into one of collective resilience.

"When I first started, I would bring work home every single night. My mentor noticed my exhaustion and told me, 'You have to give yourself permission to rest. You can't pour from an empty cup.' That conversation was life-changing." (Participant 1)

"My mentor never worked late nights or weekends unless absolutely necessary. She'd leave the office on time and always seemed genuinely relaxed and happy. Watching her manage her workload without sacrificing her personal life made me realize it was possible. She didn't just tell me to take breaks—she showed me how." (Participant 6)

"My mentor organized monthly gatherings for us new teachers. It wasn't just about venting—it was about building community. Sharing stories and advice with peers helped me realize I wasn't alone in my struggles." (Participant 8)

4. DISCUSSION

This study explored how academic leader mentorship prevents burnout among newly hired inclusive education teachers in higher education. The findings reveal that standard faculty onboarding is highly insufficient for inclusive educators; instead, they require a specialized, multidimensional mentoring paradigm that addresses the severe intersection of complex pedagogical adaptation, heavy administrative workloads, and intense emotional demands (Candeias et al., 2020).

The data demonstrates that academic leaders mitigate the unique structural burdens of inclusive education by providing targeted organizational insight. Unlike general higher education faculty, inclusive educators face pronounced role ambiguity and exhaustive administrative demands tied to managing individualized accommodations and securing specialized resources (Brunsting et al., 2014). By demystifying institutional processes and actively guiding workload prioritization, mentors act as a critical structural buffer. This directly supports the Job Demands-Resources (JD-R) model, illustrating how leadership-driven mentorship serves as an

essential job resource that counterbalances the extreme administrative demands of accessible education (Schaufeli & Bakker, 2004; Tveitnes & Hvalby, 2023).

The findings highlight leadership mentorship as a primary antidote to compassion fatigue. Inclusive educators experience a distinct form of emotional exhaustion stemming from their deep psychological investment in marginalized learners and students with exceptionalities (Floyd et al., 2024; Ziaian-Ghafari & Berg, 2019). The mentors in this study established emotional safety nets through non-evaluative validation and trauma-informed check-ins. Viewed through the lens of Self-Determination Theory (SDT), these mentor-mentee interactions fulfill fundamental psychological needs for relatedness and competence, preventing the depersonalization often associated with burnout and ensuring novices feel supported beyond their academic outputs (Deci & Ryan, 2000; Evashkovsky & Osipova, 2023).

The study reveals that mentors play an indispensable role in cultivating sustainable boundaries and inclusive peer communities. By explicitly modeling work-life integration and facilitating collaborative support networks, mentors help early-career educators transition away from professional "survival mode" and toward sophisticated, inclusive pedagogical decision-making (Clinton & Farrell, 2026). This reflects Resilience Theory, where guided reflection and community integration empower faculty to proactively adapt to systemic institutional pressures rather than succumb to them (Tait, 2008).

The primary contribution of this study lies in its specific contextualization. While prior literature extensively documents general faculty burnout, this research addresses a critical gap by isolating the lived experiences of inclusive education faculty in higher education. Given the chronic national shortage of faculty prepared to teach inclusive curricula—and the cascading negative impact this has on the quality of future teacher preparation (Sabagh et al., 2018; Smith et al., 2010)—this study positions academic leader mentorship not merely as an HR supportive practice, but as a strategic institutional imperative. It

provides empirical evidence that retaining inclusive educators requires leaders who are equipped to offer both structural navigation and deep emotional scaffolding.

5. CONCLUSION

This study highlights the indispensable role of academic leader mentorship in sustaining the well-being of newly hired inclusive education faculty in higher education. The findings demonstrate that generic onboarding is insufficient to address the compounded stressors of accessible pedagogy, administrative burdens, and profound compassion fatigue. Effective leadership mentorship must instead integrate practical structural scaffolding to

navigate institutional complexities, dedicated emotional safety nets to mitigate psychological exhaustion, and the active cultivation of inclusive peer networks. By guiding novices from professional survival to proactive self-regulation, mentors fulfill vital psychological needs and build enduring resilience. Ultimately, investing in this multidimensional, specialized mentorship is not merely a supportive HR measure, but a strategic institutional necessity. Empowering academic leaders to deliver this targeted support is essential to curb faculty attrition, sustain high-quality teacher preparation, and foster vibrant academic communities capable of meeting the needs of diverse learners.

References

- Asula-Abaver, M. S., & Machaba, M. F. (2026). Digital tools for inclusive education: Enhancing learning experiences in mathematics for students with special needs. *Education Sciences*, 16(3), 500.
- Bondoc, R. S. Jr. (2024). ICT-driven instructional and assessment strategies for physical education in the new normal. *Environment and Social Psychology*, 9(4), 2155. <https://doi.org/10.54517/esp.v9i4.2155>
- Campoy-Cubillo, M. C. (2025). Learning outcomes of project-based learning activities on access to functional diversity terms. In *Frontiers in Education* (Vol. 9, p. 1450096). Frontiers Media SA.
- Carpio, L. B., Caburnay, A. L. S., Nollado, S. M., et al. (2024). Technology-based teaching among nursing instructors: Confidence and apprehension in using simulation equipment for training. *Environment and Social Psychology*, 9(8), 2591. <https://doi.org/10.59429/esp.v9i8.2591>
- Chavez, J. V., Garil, B. A., Padirque, C. B., et al. (2024). Assessing innovative and responsive young leaders in public service: Lens from community clientele. *Environment and Social Psychology*, 9(9), 2876. <https://doi.org/10.59429/esp.v9i9.2876>
- Chavez, J. V., & Lamorinas, D. D. (2023). Reconfiguring assessment practices and strategies in online education during the pandemic. *International Journal of Assessment Tools in Education*, 10(1), 160–174.
- D'Elia, P., Stalmach, A., Di Sano, S., & Casale, G. (2025). Strategies for inclusive digital education: Problem/project-based learning, cooperative learning, and service learning for students with special educational needs. In *Frontiers in Education* (Vol. 9, p. 1447489). Frontiers Media SA.
- Dela Calzada, K. P., Tacbobo, C. M. P., Lualhati, M. E. C., et al. (2025). Alternating environmental teaching through AI: Potential benefits and limitations. *Journal of Environmental & Earth Sciences*, 7(4), 138–151. <https://doi.org/10.30564/jees.v7i4.8340>
- Espartero, M. M., Caldaza, K. P. D., & Prado, R. T. D. (2024). Analyzing the level of interest of high school students in solving mathematical problems in the modular and face-to-face learning. *Environment and Social Psychology*, 9(4), 2167. <https://doi.org/10.54517/esp.v9i4.2167>
- Inoferio, H. V., Espartero, M. M., Asiri, M. S., et al. (2024). Coping with math anxiety and lack of confidence through AI-assisted learning. *Environment and Social Psychology*, 9(5), 2228. <https://doi.org/10.54517/esp.v9i5.2228>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.
- Mundo, M. A. D., Reyes, E. F. D., & Gervacio, E. M. (2024). Discourse analysis on experience-based position of science, mathematics, and Tech-Voc educators on generative AI and academic integrity. *Environment and Social Psychology*, 9(8), 3028. <https://doi.org/10.59429/esp.v9i8.3028>

- Narayan, R., Rodriguez, C., Araujo, J., Shaqlaih, A., & Moss, G. (2013). Constructivism—Constructivist learning theory.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544.
- Quisay, A. R. C., & Aquino, M. E. C. (2024). Stress levels of science teachers when delivering distance education instruction in a state college during the COVID-19 pandemic. *Environment and Social Psychology*, 9(9), 2916. <https://doi.org/10.59429/esp.v9i9.2916>
- Rani, V. (2026). Curriculum differentiation and adaptation in inclusive classrooms. *Accessibility Pathways: Inclusive Education for All*, 217.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334–340.
- Smith, C. (2026). Arts education, inclusive education, mathematics and science education, mobile and online learning, and teaching strategies. *Journal of Teaching and Learning*, 20(2), 1–6.
- Verdeflor, R. N. (2024). A phenomenological study of mathematics in the world: Discriminate learning experience, impressions, and actual encounters of students. *Environment and Social Psychology*, 9(9), 2814. <https://doi.org/10.59429/esp.v9i9.2814>