


Chapter 4

Creating Neuro-Inclusive Learning Environments: Integrating Generative AI and Outcome-Led Selection of Teaching Methods

Tori Jesse

 <https://orcid.org/0000-0002-7259-0877>

Boise State University, USA

ABSTRACT

In this chapter, the author discusses communication differences among neurodivergent learners and practical guidance for educators to support those differences within a neuro-inclusive learning environment, through careful selection of teaching methods based on desired learning outcomes and the use of generative artificial intelligence (AI) applications such as ChatGPT. Rather than instructing neurodivergent learners to communicate like their neurotypical peers, educators can foster inclusion by teaching that communication needs support individual strengths and that differences enhance collective understanding. The goal is for learners to communicate effectively rather than similarly, changing the paradigm from treating differences as deficits to be corrected to a model of collective responsibility to support and learn from each other. As neurodivergent individuals may have strong preferences towards written or oral communication, the ideas presented in this chapter are meant to be flexible, for educators to use their expertise and discretion to adapt to the needs of their learners.

INTRODUCTION

Communication differences are a common struggle among neurodivergent learners, particularly those with autism. Tending to favor clear, direct communication with examples, autistic learners frequently find themselves in a frustrating juxtaposition of having too much ambiguous language yet not enough concrete details. As perpetually asking for clarification can be impractical and garner undesired attention in group settings, autistic learners may find themselves either overwhelmed and feeling stuck or working

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in earnest according to their interpretation, which could be quite different than intended by the educator. Both of these outcomes lead to feelings of frustration and isolation, which can erode perception of self. A combination of outcome-led selection of teaching methods and the use of generative artificial intelligence (AI) can close the communication gap while fostering independence and facilitating the development of communication skills.

Howard and Sedgewick explored the communication preferences and experiences of autistic adults, expanding the body of research on autistic communication that has been focused on skill and style (2021). Within the context of understanding modality preference, Howard and Sedgewick delved into the reasons behind those preferences. Explanations for the aversion to phone conversations included the lack of non-verbal cues such as body language and the unplanned, fast-paced nature of calls (Howard & Sedgewick, 2021). Participants also mentioned the pressure to mask and the resulting emotional toll, describing doing so as “performing neurotypicality to put others at ease” (Howard & Sedgewick, 2021). Together these findings indicate an acute social awareness, desire to connect with others, and consciousness of communication differences. Although participants were adults, findings were independent of age (Howard & Sedgewick, 2021). Analyzing personal accounts of autistic children ages 9-14, Sturrock et al. found that participants considered their divergence as an identity, facilitating creation and maintenance of relationships (Sturrock et al., 2021). Autistic children demonstrated an awareness of their communication differences with “the impact of language and communication differences on social relationships” emerging as a theme (Sturrock et al., 2021). Further, Sturrock et al. coupled their findings of strong associations between language and communication difficulties and negative emotions (2021) with Allen & Bourhis’s findings (1996) that heightened emotions reduce communicative competency to reveal “a bidirectional interaction between communication breakdown and emotional responses” (Sturrock et al., 2021), indicating a potential for a negative spiral. Given the awareness of communication differences’ impact on social relationships in autistic children and the consistent communication preferences observed in autistic adults, stemming from attentiveness to precision in an effort to connect and be understood, it is reasonable to conclude that the communication preferences of autistic adults are influenced by their childhood perceptions, which tend to endure over time. How might those preferences change if their early experiences were supportive of communication needs and differences were valued?

Outcome-led Selection of Teaching Methods

Rather than adhering to any particular teaching method, educators can balance direct instruction with constructivism to create a practice of guided exploration. Even the most exuberant constructivists will admit to experiences with projects that could have been more impactful if all learners understood relevant content before starting. Similarly, staunch instructivists may concede uncertainty that learners develop the initiative or creativity to solve problems independently. Both methods, and all those in between, could have a place in an inclusive learning environment by allowing the desired learning outcomes to lead the selection of teaching methods.

When planning lessons and assignments and considering the most appropriate teaching method, educators can ask themselves a guiding question: Is it important that all learners come to the same conclusion? If the answer is yes, more scaffolding is needed to ensure all learners achieve the desired outcome. Otherwise, by using less scaffolding, educators can encourage creativity and exploration. The degree of scaffolding should reflect the level of freedom of interpretation afforded to learners. Similarly, grading in constructivist learning should support individuality and the taking of risks.

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