



## Teaching phonics to groups of middle school students with autism, intellectual disabilities and complex communication needs



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### ABSTRACT

For students who have severe and multiple disabilities including intellectual disability, complex communication needs, physical and/or sensory disabilities, and autism, there are many barriers to literacy acquisition. The purpose of this study was to teach letter-sound correspondence to small groups of students with significant intellectual disabilities and comorbid communication disorders using the ALL (Accessible Literacy Learning) curriculum. The eight participants in this study, who ranged in age from 11 to 16 years of age and had primary diagnoses of cerebral palsy, autism, Rett syndrome, Down syndrome, and intellectual disability, were placed into four groups for instruction in phonics. The instruction followed the scripted lessons of ALL Curriculum. There was moderate evidence of the functional relation between the use of the ALL Curriculum and participants' progress towards letter-sound correspondence. Each group of participants demonstrated an increased performance in the treatment phase. The results of the visual analysis were supported by the statistically significant differences yielded by the randomization test analysis. Implications are discussed in terms of the importance of literacy instruction for students with all abilities and needs.

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### What this paper adds

This study adds to the limited body of research on teaching letter-sound correspondence to students who have both severe disabilities and communication disorders. Students who cannot orally demonstrate knowledge of the sounds associated with orthographic representations present teachers with a unique challenge. Unfortunately, that often means that these students are not presented with opportunities to learn phonics. The results of this study, however, indicated that students with severe disabilities and communication disorders could make progress toward learning phonics through the use of a curriculum based on direct instruction. Additionally, this paper adds evidence that primary disability, such as autism, Down's syndrome and Rett syndrome, made little difference in participant performance on letter sound association based on the data patterns. This paper also adds evidence which suggests that like disability categories, IQ scores are not impediments to literacy skill acquisition, as participants with different IQ levels demonstrated similar data patterns. When instruction is direct and systematic, students from all disability categories can make progress.

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## 1. Introduction

Literacy is recognized as being a foundational skill for all aspects of adult life. Being literate in a literate society is more than a convenience; it is also a highly valued social role (Downing, 2005; Forts & Luckasson, 2011) effecting quality of life. However, students with intellectual disabilities and/or significant autism who also have complex communication needs (CCN) are often left out of literacy education because they present a unique challenge to teachers. These students are unable to orally produce sounds making traditional strategies for teaching phonics ineffective. Teachers are often working with curriculums designed for learners who can orally produce letter sounds, rehearse decoding and encoding, and orally read back words and sentences. When students are unable to participate in these expected ways, literacy instruction in general, and phonics instruction more specifically, may be bypassed altogether.

Little research has been conducted on explicit phonics instruction, specifically letter-sound correspondence, for students with severe disabilities (Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006; Finnegan, 2012; Joseph & Seery, 2004). However, the emerging research base has shown that students with more significant intellectual disabilities who are verbal and able to orally produce sounds can benefit from literacy instruction including phonics. For example, in studies conducted by Finnegan (2012), Allor, Champlin, Gifford, and Mathes (2010), as well as Fredrick, Davis, Alberto, and Waugh (2013) all participants who had intellectual disabilities as well as were able to orally produce sounds and words demonstrated improved performance in phonics. There is also emerging evidence that individuals with severe disabilities and complex communication needs can make progress in the acquisition of phonics (Light, McNaughton, Karg, & Weaver, 2009). However, there remains a need to expand research opportunities for phonics instruction to a wider range of children with disabilities, including those students who are unable to orally participate in traditional phonics instruction.

### 1.1. Role of reported IQ in phonics instruction

There are many barriers to literacy opportunities for students with severe intellectual disabilities who have IQ scores below 45. Examples of barriers are (a) an institutional belief that students with severe disabilities cannot learn literacy in general and phonics in particular (Finnegan, 2012), (b) the reliance on traditional means of teaching and assessing acquisition of phonics is through oral rehearsal and imitation of sounds (Browder et al., 2006), and (c) segregation of students with severe disabilities into separate classrooms where comprehensive literacy education is eschewed for functional activities (Kliewer, 1998; Zascavage & Keefe, 2004). Other challenges are based on an entrenched belief in a skill sequence in which for example students should be able to write their name and the letters of the alphabet, name the letters of the alphabet and retell a familiar story before being introduced to phonics instruction (Browder, Spooner, & Ahlgrim-Delzell, 2011). This “readiness model” may prevent educators from moving students into higher level skills if they are unable to master the lower level steps. Thus students are deemed incapable of literacy learning and excluded from further literacy opportunities (Agron, 2011; Downing, 2005; Keefe & Copeland, 2011; Kliewer et al., 2004).

One of the issues with existing research on phonics instruction with this population is the lack of information about the participants' characteristics, such as reported IQ levels. For example, in a longitudinal study conducted by Allor et al. (2010), participants with intellectual disabilities were divided into two groups. The treatment group received direct instruction in a comprehensive literacy program which included letter sound correspondence in small groups, while a control group received “typical special education instruction” (p. 447). Participants in the treatment group made statistically significant progress across all areas of literacy after two to three years of intervention. While IQ scores for the 59 participants in this study were reported to be between 40 and 69, no mean IQ was given, making it difficult to discern how many of the participants fell at the lower end. Additionally, all of the participants in this study were verbal and therefore able to orally produce letter sounds.

In a study conducted by Finnegan (2012), the mean IQ for 52 participants was 55. Seven of the participants were considered to have complex communication needs. In this study participants were placed into one of three groups with a control group and two differing treatment groups. The control group continued to receive the literacy instruction they had been previously receiving. The first treatment group received instruction in synthetic phonics where participants learned individual letter sounds and how to blend them to make words. Participants in the second treatment group received instruction with analogy phonics where they learned common consonants and spelling patterns using visual rimes. Results from this study indicated no significant differences in phonics acquisition between the two treatment groups. However, participants in both treatment groups outperformed participants in the control group suggesting that systematic instruction in phonics results in progress toward phonics acquisition.

While some studies provide aggregated data on participants' characteristics, others do not report any information. Thus, in another study on phonics acquisition conducted by Fredrick et al. (2013), participants were taught specific word-analysis skills and how to generalize such skills into decoding novel words. No IQ scores were reported for the participants aside from being considered to have moderate intellectual disabilities and all of the participants were reported to be able to orally produce sounds, rehearse decoding verbally and use verbal language. Additionally, these participants were already successfully participating in a reading program prior to intervention. Results of this study indicated that students with moderate intellectual disabilities required extensive opportunities for generalization of acquired phonics skills into the practice of decoding novel words.

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