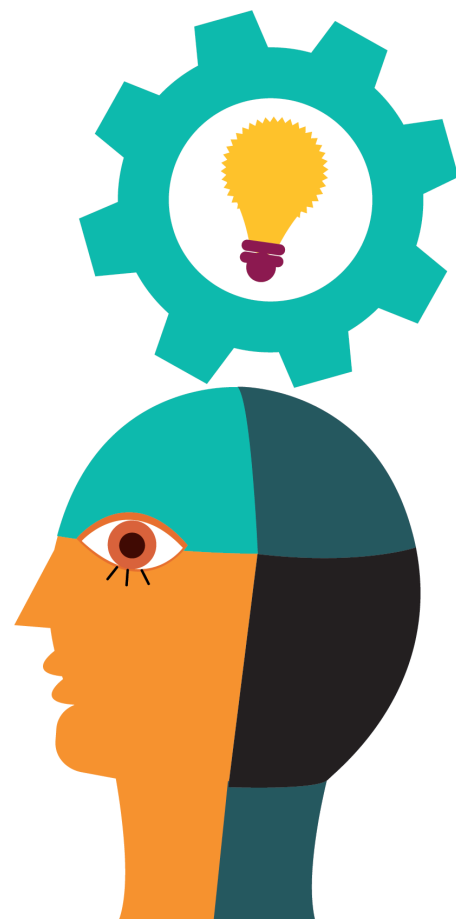


THE Inclusive Educator JOURNAL

Volume 2, Number 1



FEBRUARY 2017

Book Review

The End of Average: How We Succeed in a World That Values Sameness, by Todd Rose

Chris Mattatall and Jeffrey MacCormack

Communication and Literacy for Students with Complex Communication Needs

Kathy Howery

Task Analysis for Effective Differentiated Instruction: An Old Concept in a New Context

Alison McInnes



The Alberta Teachers' Association

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FROM THE EDITORS

Nancy Grigg and Kelly Huck

Welcome to the second issue of *The Inclusive Educator Journal*, a publication of the Council for Inclusive Education of the Alberta Teachers' Association. The journal strives to offer diverse views on important issues, showcase new ideas and practices, and encourage reflection. This year, we are pleased to present a range of viewpoints on challenging issues related to students with complex needs. We hope that you find these articles informative, inspiring and important to your practice.

Kathy Howery's article, "Communication and Literacy for Students with Complex Communication Needs," offers a comprehensive and thought-provoking discussion of students with complex communication needs. She reminds us that attention must be paid to "children with complex communication needs who can hear what is spoken, but their unruly bodies cannot coordinate breath, sound and movement to produce intelligible speech." It is an inspiring call to action for educators and parents; we must strive to advocate for these often-ignored students, so they can become competent communicators and active learners who truly have an autonomous voice in the world.

In "Task Analysis for Effective Differentiated Instruction: An Old Concept in a New Context," Alison McInnes introduces the task analysis approach, which can be used to assist teachers in planning appropriate differentiation, instructional supports and assessment in the inclusive classroom. This approach helps teachers break down tasks into specific steps and to pinpoint areas where the student struggles with the learning material. It is a particularly helpful approach for higher incidence special needs students in upper elementary

and middle school grades where a high number of complex task demands are placed on students.

June Downing encourages us to think about how to provide appropriate and effective instruction while challenging students to attain higher goals regardless of their disability. "Severe Disabilities (Education and Individuals with Severe Disabilities: Promising Practices)" addresses how educators can support students with severe disabilities and the benefits of inclusion both for students with severe disabilities and for their peers in the classroom.

In "Creating and Implementing Personalized Transition Plans for Students with Autism," Kimberly Dawson brings her unique perspective to the discussion of the many challenges that teachers confront when facilitating transitions for students with autism spectrum disorders. In this thought-provoking read, readers are asked to reflect on our current practices and to consider suggestions for practical applications to inclusive settings.

Related to the discussions of diverse students, Chris Mattatall and Jeffrey MacCormack review *The End of Average: How We Succeed in a World That Values Sameness*. Todd Rose, director of the Mind, Brain, and Education program at the Harvard Graduate School of Education, has written a provocative book that has captured a wide audience. The review is equally thought provoking.

We have certainly enjoyed our role of compiling articles for readers of *The Inclusive Educator Journal* and would like to express our gratitude to the authors, reviewers and ATA production staff for their role in creating the issue.

We encourage you to submit an article for our next issue in 2017, which will focus a critical eye on the relationship between education and neuroscience.

Communication and Literacy for Students with Complex Communication Needs

Kathy Howery, University of Alberta

INTRODUCTION

Most of us take the ability to speak for granted. To speak is to have a voice and to be understood by others through the use of our voice. From childhood, speech is our primary means of communication. We talk, whisper secrets, and shout and cheer at the top of our lungs to make our voices heard. We use our voice to share stories across space and across generations. If we couldn't speak or use our hands, how would we communicate? How would we prove that we could learn, that we have an opinion and that we matter (Ellis and Ellis 2013)?

We educators assume that students come to us with the ability to talk—to express themselves through speech. Spoken language is integral to almost every life experience, particularly to schooling as “the basic purpose of school is achieved through communication” (Cazden 2001, 2). Speech and language (communication) skills allow children to express their wants and needs, and interact socially with adults and peers (Locke 1998). Speech and language provide the foundation for conceptual development and advanced language and literacy skills (Light and Drager 2007).

But consider children with complex communication needs who can hear what is spoken, but their unruly bodies cannot coordinate breath, sound and movement to produce intelligible speech. In order to share their thoughts and opinions with the world, these children must learn to express themselves through augmented means.

WHAT IS AUGMENTATIVE AND ALTERNATIVE COMMUNICATION?

Augmentative and alternative communication (AAC) includes all forms of communication (other than oral speech) that are used to express thoughts, needs, wants and ideas (ASHA nd). Although people in the field of education commonly understand AAC as a tool or a device, the American Speech-Language-Hearing Association's (ASHA) definition is much broader in scope:

AAC refers to an area of research, clinical and educational practice. AAC involves attempts to study and when necessary compensate for temporary or permanent impairments, activity limitations, and participation restrictions of persons with severe disorders of speech-language production and/or comprehension, including spoken and written modes of communication. (ASHA 2005)

People who use speech as a primary mode of communication also use forms of AAC daily. We jot notes to someone when it is not appropriate to speak out loud. We draw pictures to further explain concepts. We use gestures and nonverbal communication to support (or perhaps refute) messages we share with our speaking voices. The difference is that those with severe speech impairments or complex communication needs (CCN) may find the use of AAC systems and supports critical to achieve their daily communication needs.

A distinction is commonly made in the field of AAC between aided and unaided communication (Johnston et al 2012; Loncke 2014). Aided communication refers to the use of materials,

equipment and devices that are external to the communicator's body; for example, notebooks and pencils, communication displays that use pictographic or orthographic (letters and words) symbols, and electronic or computer-based speech generating devices that speak the composed selected messages out loud. Unaided communication does not involve any additional materials; for example, natural speech, gestures and manual signs or signals. Although sign language, such as American Sign Language (ASL), can be included as a method of AAC, it is important to note that sign language is exactly that, a language. If children with complex communication needs are expected to use sign language as their primary modality, other people in the child's community (parents, teachers, peers) should also use it. More will be said on this topic when discussing the importance of immersive language learning.

WHO ARE STUDENTS WITH COMPLEX COMMUNICATION NEEDS?

People who may benefit from both AAC and assistive technologies (tools for aided AAC) to support communication and language development have complex communication needs (CCN). Perry et al (2004, 261) define CCN:

People who have complex communication needs are unable to communicate effectively using speech alone. They and their communication partners may benefit from using augmentative and alternative communication (AAC) methods, either temporarily or permanently. Hearing limitation is not the primary cause of complex communication need.

This definition has many important elements to note. AAC systems can augment existing speech skills. Some people with CCN can speak but are incomprehensible and therefore use AAC supports to communicate with people they don't know or in certain contexts. For example, children with severe apraxia of speech may use a letter board and a speech generative device to communicate with unfamiliar people or with groups of people. Some children with CCN who can speak a few words may be referred to as minimally verbal. These few words, however, do not meet the daily requirements for interacting with friends or engaging in learning experiences. AAC supports are also important for these children.

AAC can provide an alternative to speech. The inability to produce intelligible speech may be due to severe cerebral palsy, the result of an acquired condition such as ALS (amyotrophic lateral sclerosis)—think Stephen Hawking—or autism. As more is learned about people with autism, evidence suggests that there is a relationship between autism and apraxia of speech (Tierney et al 2015), although some people with autism don't speak (Rudy 2015). Evidence is emerging that the provision of AAC systems and, in particular, voice output systems (for people with autism plus CCN) not only help people communicate but also have a positive effect on reducing challenging behaviours (Ganz et al 2012; Kasari et al 2014).

AAC supports speech (and language) development. AAC supports may be required for a lifetime or a short time. Children with severe cerebral palsy may require AAC supports as their primary means of communication throughout their lives, as their bodies may never allow them to coordinate the various muscle movement to produce intelligible speech. AAC supports will be a temporary scaffold for some children while they acquire the ability to be understood through speech. Especially for young children, a common myth is that AAC delays speech development, but studies show that AAC actually improves speech development and language development in all cases. Schlosser and Wendt (2008) found that the best evidence indicated that AAC interventions do not negatively affect speech production in children with autism. Ronski and Sevcik (2005) looked specifically at the provision of AAC supports to very young children and also concluded that AAC supports do not delay speech and may enhance development of spoken communication.

AAC is a joint venture. Perry et al's (2004) definition points out that AAC involves both the people with complex communication needs (CCN) and their communicative partner(s). Communication is a dynamic process involving two or more partners. People with CCN must rely on the skills of others to help them participate in conversations (Iacono 2014, 83). Because of their unique and complex communication needs, the roles of communication partners and their need for training are particularly important (Goldbart and Caton 2010).

The importance of instruction for communication partners is widely recognized in the AAC literature (Binger 2010; Bruno 1997; Kent-Walsh et al 2015). Although the people who require AAC are often the focus, without partners who understand how the AAC

system works, how to model and support its use in context, and the opportunities and challenges the system involves for the user, success will be limited (Light 1998). Research shows that for many people with CCN, typical interaction patterns include taking relatively few turns in a conversation, infrequently initiating or even responding in an interaction, asking few questions and using a restricted number of linguistic forms (de Bortoli et al 2010; Myers 2007; Chung, Carter and Sisco 2012a).

Kent-Walsh et al (2015) undertook a meta-analysis of the effects of communication partner instruction on the communication of AAC users. They found that communication partner instruction has positive effects on communication performance of AAC users and that communication partner interventions can be effectively implemented across a range of communication partners, including caregivers, educational assistants, parents, peers and teachers. The authors conclude that partner instruction should be viewed as an integral part of AAC assessment and intervention.

Hearing impairment alone is not the issue. Although people with CCN may indeed have hearing impairment, it alone does not constitute complex communication need. People who are hearing impaired may use assisted technology (AT) such as hearing aids to help them learn language and communicate effectively. People who are deaf may learn ASL. People with hearing impairment may indeed become bilingual, communicating in both ASL and English for example, even though their language learning and use is in one primary modality. People with CCN face more complex issues than just requiring AT or learning another language in which to communicate with other speakers of that language. People with CCN are getting language input in one modality (spoken language) while they are having to learn to express themselves in another (AAC symbols or text). This makes learning to understand and use language much more complex. Although people who speak or use sign language to communicate must become competent in the linguistic structure of their language, people with CCN who use AAC must gain competence in the auditory language spoken all around them, while also gaining competence in an aided language system to express themselves. Janice Light (1998) suggests that AAC users must develop this dual track linguistic competence as well as social competence (pragmatics), strategic

competence (what they can say with the words they have in their system) and operational competence of the aided system. All communicators must develop linguistic and social competence (Hymes 1972), but people with CCN who use AAC have additional competency burdens from becoming effective communicators.

So who are these students? In her exploration of what it means to have complex communication needs, Teresa Iacono (2014) suggests that due to the “unfair nature of disability,” challenges often come in multiples. Students in classrooms with CCN may also have vision impairment, hearing loss, physical challenges, intellectual disabilities or some combination of any number of impairments that affect their lives and learning. As the complexity of the disability increases, so does the complexity of communication needs, finding an appropriate alternative system (Iacono 2014, 83) and adequately preparing their communication partners.

In the early years of AAC, the primary recipients of AAC systems and devices were people with severe physical limitations due to conditions such as cerebral palsy. Today there is a growing understanding that children and youth with developmental disabilities, autism and those who have multiple disabilities may also require AAC in order to support the development of their communication and language abilities (Ganz et al 2012; Wilkinson and Hennig 2007).

There is also a growing understanding of the value of AAC supports and services for infants and toddlers at risk of developing complex communication needs (Ronski et al 2015). While the number of children with CCN is relatively small (Binger and Light 2006; Matas et al 1985), there is a growing understanding that many of the students we used to consider nonverbal or minimally verbal should be provided with AAC systems and supports to help them communicate, grow their language and support their literacy development.

FOUNDATIONAL BELIEFS

Providing communication and literacy for every child is based on the foundational belief that every child communicates and is capable of learning a symbolic language system and emergent literacy skills. When the field of AAC was first developing, it was believed that children (or adults) needed to demonstrate

certain skills and abilities to be candidates for AAC. For example, in the early 1980s the belief was that children must demonstrate at least stage 5 sensorimotor intelligence, and if they could not, AAC systems were not recommended (Glennen and DeCoste 1997). Today, happily, we understand that any person with complex communication needs is a candidate for AAC. In fact, research has clearly shown that the provision of AAC supports and services can benefit every child with CCN (Ganz 2015; Ronski and Sevcik 1996).

Why the Programs of Study (Curriculum) Matter. In the field of special education, there was a belief for many years that some students would need a specialized curriculum, often referred to as functional or life skills. With the movement in the United States, in particular, to every child needing to progress in the general education curriculum, this notion of a specialized curriculum has been brought into question. While in theory a specialized or personalized curriculum may not appear problematic, the reality is that such a curriculum often lacks continuity because its content depends on the preferences and philosophies of educational staff (Beukelman and Mirenda 2013). When teachers create a new individual plan every year that is not based on the programs of study, the students' education will most likely lack the scope and sequence, and recursive structure that is built into a well-designed curriculum. Many times when children are not in curriculum, they are at risk of developing splinter skills. For example, in the world of special education, there has been a tendency to teach students with more significant disabilities mastery of one isolated skill, for example, memorization of the alphabet or list of sight words, in the hope that they may appear more age appropriate (Kraderavek and Rabidoux 2004). The special education literature is full of studies demonstrating that students with significant disabilities can learn to identify sight words in isolation (Browder and Spooner 2006), yet there is a question about whether these skills contribute to future conventional reading-and-writing abilities. Current thinking suggests that students should be actively involved in constructing their understanding of print, language and the connection between the two by interacting with more literate others across multiple contexts for multiple purposes (Erickson, Hatch and Clendon 2010). This is exactly the kind

of thinking that is involved in the development of the current English language arts program of study in Alberta where it states:

Language development is continuous and recursive throughout a student's life. Students enhance their language abilities by using what they know in new and more complex contexts and with increasing sophistication. (Alberta Education 2000)

We now know that this is true for every child including students with CCN and significant developmental disabilities. While students with CCN may take longer to succeed with symbolic communication, language and literacy, research shows that with high expectations, comprehensive instruction and the support of assistive and communication technology, even children labelled as being intellectually disabled acquire literacy skills and demonstrate intelligence beyond what would have been predicted by their test results (Biklen and Cardinal 1997; Erickson, Koppenhaver and Yoder 2002).

Presuming competence. Without doubt the most important thing we can do to help every child communicate and gain literacy skills is to presume competence. Presumed competence, according to Biklen and Burke (2006), is a kind of contract between the teacher and student to choose the most optimistic stance possible. We presume competence when we provide a child with CCN with an AAC system that includes a robust language system instead of a limited number of words. We presume competence when we provide a child with CCN and developmental disability with comprehensive literacy instruction beyond sight word memorization and copying text. We presume competence when we provide alternative pencils to children with physical disabilities who cannot pick up a pencil, so they may engage in scribbling and other emergent literacy activities. It is commonplace for parents and educators to approach children without disabilities as competent. Teaching literacy is carried out within the expectation that most, if not all, children are capable of developing communication and literacy skills (Biklen and Burke 2006). Traditionally for too many students with disabilities (including many with CCN) we may have presumed incompetence and forced the person with a disability to prove they can before they are allowed to try. Donnellan (1984) suggests that presuming competence is the least dangerous assumption:

Given that the long-term goal of education is to ensure that students acquire the skills necessary to be able to live, work, and recreate as independently as possible as adults; and given that there are a variety of educational means or strategies currently available for instruction; and given that, through the lack of conclusive data, we are currently forced to make assumptions about relative impact of various strategies on the long-term goals, which assumptions will have the least dangerous effect on the likelihood that the goal will be attained. (Donnellan 1984, 148)

Yet it seems the educators may fall into the presumed incompetence model where issues of readiness may stop educators from providing rich and challenging experiences that will support students with CCN to become more competent. The readiness paradigm might lead educators to hold students back from language and literacy experiences until they can demonstrate certain skills and abilities. Yet even today there is little evidence to support that students with disabilities learn differently than any other student. We certainly don't make students without disabilities prove they can before we let them try, therefore as Donnellan suggests the least dangerous assumption for every student is to presume they can, given robust communication supports and comprehensive literacy instruction.

COMMUNICATION, LANGUAGE AND LITERACY

For people with disabilities, the consequences of not being able to speak or not being understood are far-reaching and often serious. Their complex communication needs require urgent attention. (Iacono 2014)

Communication Matters

Communication is both a basic need and a basic right of all human beings (ASHA 2014; United Nations 2008). Any consideration of quality of life must take into account the degree to which people can effectively communicate with, and thus be full participants in, the community in which they live (Brady et al 2016). Communication is the transmission of a message or information from one person to another. Communication may or may not be intentional. Someone's facial expression may communicate

unintentional information to another person when one is trying to keep a secret or tell a lie. Communication for all of us, including those with CCN, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms and may occur through spoken or other modes (ibid).

Communicative behaviours begin as soon as a child is born. Parents respond to the movements, coos and smiles, or tears of their infants, attributing meaning. Parents may say to squirming children, "I see you are uncomfortable." Then the children may learn a word for the feeling that caused the discomfort. Parents may see their young children rubbing their eyes and attribute it to being tired and ready for bed. In this instance it is usually not the case that the children were communicating that message, but their body movements spoke for them.

Pointing may be the singularly most important gesture for young children both as an expressive means of communication (look at that, I want that) and to gain receptive understanding of the world (when they point, mommy labels what they are pointing at). Spoken language develops as these nonverbal methods are being used and responded to by the speakers in the child's world. Evidence shows that children come into the world with certain predispositions that enable them to become fluent in language, but if children are not in a language-using environment, they will not develop this capacity (Bransford, Brown and Cocking 2000). Although all children may be primed to learn language, they cannot do so in a language vacuum. Language does not grow out of silence (Zangari 2016), and this may be particularly challenging for children and youth with CCN.

Aided language stimulation. Children with CCN may not be able to provide or respond to the nonverbal and early verbal modes that typical developing children do. They may be challenged to point or follow a point to jointly attend to something. They may not be able to produce verbal word approximations that will be responded to by those around them as meaningful. They may be developing in a world that is bereft of the natural modelling and responding that is provided to children who will become speakers (or signers if they are deaf growing up in an ASL environment). While adults and peers speak to children and youth with CCN, it is uncommon for people to communicate with people using an aided language modality. Yet just as young children must be exposed to speaking models (or signing models), children with CCN have to be

exposed to AAC before they can be expected to use it themselves (Sevcik and Ronski 2002).

A substantive body of evidence supports the idea that adults (parents, teachers, SLPs and assistants) should model the use of a child's AAC system just like we model the use of our oral language system for typically developing children (Dada and Alant 2009; Harris and Reichle 2004; Jonsson et al 2011). Typically developing children learn language not only through structured explicit opportunities in supportive interactions but also implicitly, through overhearing and observing language in their environment (Smith 2015). Children with CCN are no different in how they learn. Yet, despite this robust evidence base, aided language stimulation or modelling of the AAC system is not often the norm in practice. Children and youth with CCN are expected to learn to use the AAC system to communicate in symbols with little or no exposure to seeing others use these systems communicatively. And too often, if children with CCN do not quickly express themselves using the AAC system, the assumption that they are not capable of using it may be made. When one considers that typically developing children may take up to two years of being immersed in speech before they speak a word, it is rather strange for us to expect a child with a disability (especially a cognitive disability) to use an AAC system expressively with minimal to no exposure.

Talking to children with CCN using AAC systems to let them know how you interpret their communication (intentional or not) can help them learn about the communicative process in general and about symbolic methods that can lead to increased communication and language development.

Communication is more than making choices and requests. A very common way that AAC supports are introduced to students with CCN is to provide a symbol or series of symbols that the students can use to make requests (for example, PECS, choice boards and so on).

While expression of wants and needs is one function of communication and language, it is far from the most important one. Consider the last time you had a conversation with a friend or perhaps even a new acquaintance. Did you make requests or express your wants and needs? Perhaps, but it is far more likely that you asked some questions, answered others, made comments, shared information or shared your feelings. It is critically important that we provide opportunities for students with CCN to engage in the full range of

communicative functions using their AAC systems. This means modelling of and providing for the full range of communicative functions that all children engage in as they learn to be competent communicators: answering and asking questions, making comments, giving directions, sharing feelings, sharing information and making requests. Yet despite this, research suggests that for students with disabilities, we focus almost exclusively on teaching students with speech-generating devices requesting skills (Jenkins Rispoli et al 2010). This may be because teaching commenting and other social functions is more difficult (Brady et al 2016), but if we expect children and youth with CCN to become competent communicators and to gain the language skills they need to participate in learning, we must support them in developing all functions of communication.

It is also important that we provide opportunities for children and youth with CCN to refuse, to say no (Loncke 2014). This skill is particularly important to support development of a sense of self, agency and autonomy. It also may be an important skill to keep them safe. People with CCN may be particularly at risk of abuse (Sobsey 1994), so learning to say no, along with having the ability to share real information with others, may be some of the most important life skills we can provide.

Language Is the Key to Literacy

Oral language is the foundation of literacy. Through listening and speaking, people communicate thoughts, feelings, experiences, information and opinions, and learn to understand themselves and others. Oral language carries a community's stories, values, beliefs and traditions. (Alberta Education 2000)

Children who need AAC to express themselves in and through language are often at a significant disadvantage as they enter school. Unlike speaking children who come to school ready to build on the foundation of their oral language skills, many (most) children with CCN do not come to school with means of expressing (oral) language as they have not yet been provided with an AAC system on which their language can be built. They have been immersed in a spoken language environment but must develop and use an expressive language system in another modality, one in which (as previously noted) they may receive limited input (Ronski and Sevcik 1993 as cited

in Smith 2015). Even those who have an AAC system that includes a speech-generating device (SGD), still face many challenges in using their systems to speak (Look Howery 2015; Smith 2015). Speaking through a SGD requires additional physical and cognitive skills and abilities.

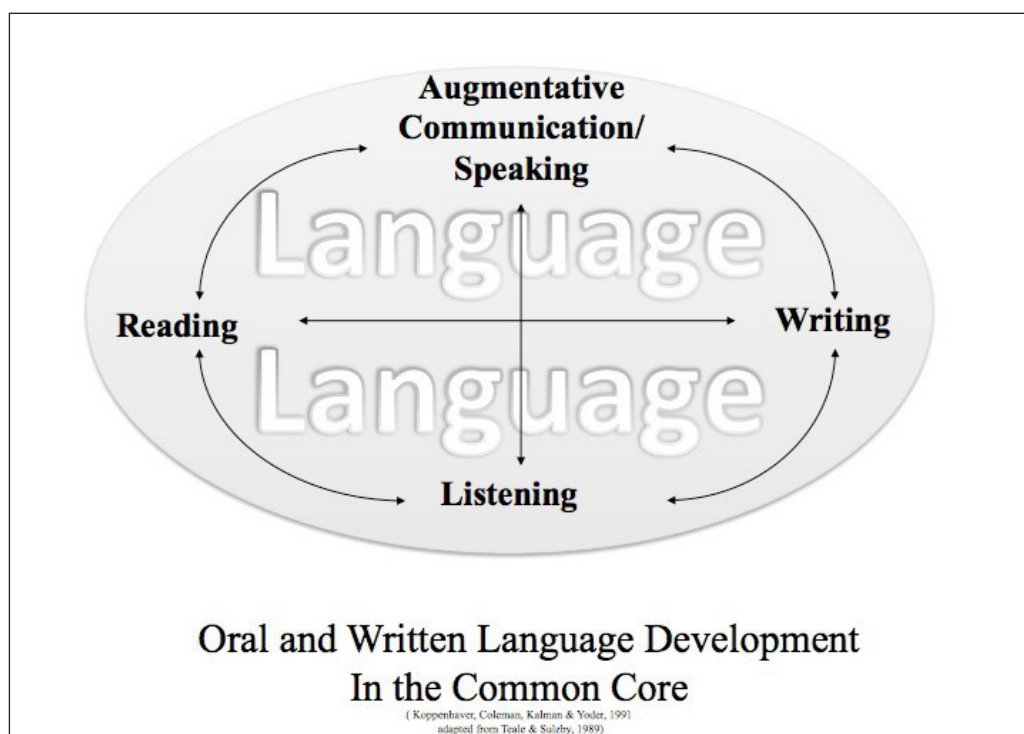
The interconnectivity of language development. The figure below presents the model developed by Koppenhaver et al (1991), which explicitly suggests that language develops in the interconnections between speaking/augmentative communication, listening, writing and reading.

Students with CCN who use AAC systems must experience talking about the books they are exploring and reading, talking about their writing and talking about what they are hearing and learning through listening. This is all a very interactive process that requires support across time and environments. Like all students, students with CCN need ongoing comprehensive instruction in

reading, writing, speaking, listening and language (Erickson and Koppenhaver 2015, personal communication). This instruction is based on the intentional use of robust AAC systems that are supported through modelling and intentional teaching of vocabulary in and across multiple contexts.

Core vocabulary. A relatively recent approach to providing language intervention for students with CCN who may not have a robust language system is to provide them with access to core vocabulary across a variety of contexts.

Among the many changes that the AAC field has experienced in the last decade is the notion that core vocabulary is (or should be) an integral part of any AAC system. We grew to understand the limitations of AAC supports that consist primarily of nouns and descriptors, realizing that those kinds of communication displays restricted our clients to requesting and labeling. (Zangari 2013)



A core vocabulary is composed of the words that are used most commonly in expressive communication (Yorkston, Beukelman and Bell 1988). Fallon, Light and Kramer Paige (2001) found that for typically developing preschoolers, the 250 most frequently occurring words accounted for 89 per cent of the total sample of language used by the children. In fact, a mere 25 of the most frequently occurring words were found to account for 44 per cent of the entire sample. Their findings and the finding of others who study word use in context suggest that a relatively small set of words make up the bulk of speech, and that these core words can be used across multiple contexts and for multiple purposes (do it, want it, go there, not go there and so on). Fringe vocabulary, which is also required in a complete language system, involves the words we use to communicate about specific topics in specific contexts (for example, scissors, paper and marker for art class; fork, drink and napkin for meal time). Zangari (2013) notes that teaching words like *it*, *do* and *not* is a lot different than teaching words like *cookie* and *bubbles* (ibid); however, throughout the day there are many more opportunities to model, use and teach these core words than using the once pervasive activity boards made up of nouns. Core vocabulary also lends itself to many repetitions of use of vocabulary in many different contexts and with many different people. This is the kind of learning that supports understanding.

Literacy

For people who use an AAC system to construct novel messages outside those that are stored in their device, they must have some literacy skills. Yet, students with CCN are at risk in multiple areas of development, including the development of literacy skills (Light and Drager 2007; Smith 2005). In 2000, David Koppenhaver challenged the field of AAC to embrace the notion that literacy is included within AAC.

If “communication is the essence of human life” (Light 1998), then literacy is the essence of a more involved and connected life. (Koppenhaver 2000, 270)

He points out that AAC users communicate through composing—that is, they create texts either by stringing together a series of picture symbols or letters and words. Sometimes these texts are then spoken aloud through the use of text-to-speech software, and sometimes they are understood (or not) by the communication partner who is following along in the text (message) construction. Literacy is in AAC

(Koppenhaver 2000), and literacy development is vital to AAC users (Hetzroni and Tannous 2004; Erickson, Hatch and Clendon 2010; Light and McNaughton 2014; Smith 2005).

Literacy is a critical goal for children and youth with CCN for a number of reasons:

1. Literacy is a foundational skill for learning (Alberta Education 2000).
2. Without the ability to spell, even the most advanced AAC users may not be able to say what they want due to the limited vocabulary available to them on their device (Look Howerly 2015).
3. Opportunities for meaningful and interactive participation in inclusive educational, work or social environments are severely restricted when AAC users cannot produce or interpret texts (Koppenhaver 2000).
4. Literacy affords access to the social media experiences that are integral to the lives of children and youth in the 21st century (Hetzroni and Tannous 2004; Light and McNaughton 2014).

An increasing evidence base suggests that even children and youth with CCN and significant intellectual disabilities can learn literacy skills at the emergent level (Erickson et al 1997; Erickson et al 2005; Fallon et al 2004). For children with CCN, emergent literacy skills may take longer to develop and will take intentional and explicit instruction. Students who are at an emergent level of literacy are working to understand functions of print and print conventions, phonological awareness and alphabet knowledge (Erickson, Hatch and Clendon 2010). Students with CCN may also require time spent in shared reading, which involves active interaction within the reading experience. In order to be actively engaged in emergent literacy activities, the modelling and use of AAC systems is critical. Students can’t talk about the books, ask questions about their learning, comment and share about their explorations of text without symbolic representation of language using their AAC system.

Research also clearly demonstrates that students with significant intellectual disabilities can make progress in conventional literacy when they have access to comprehensive instruction (Erickson, Hatch and Clendon 2010). Yet the fear is that students with CCN rarely have access to comprehensive instruction.

When they do receive conventional literacy instruction, it tends to involve mastery of lists of sight words or skills taught in isolation (ibid). David Koppenhaver and Karen Erickson (personal communication 2007, 2015,) argue that daily instruction that includes use and modelling of AAC systems, guided reading, word study, writing and self-directed reading is critical for students with CCN to develop conventional literacy skills.

Literacy Is the Key to Autonomy

The question of which symbol set will provide students with CCN the ability to generate autonomous authentic messages often arises, especially now that so many AAC apps with various language sets are available at relatively low cost. The answer is that there is really only one truly generative language set and that is the 26 letters of the alphabet. Until students with severe speech impairment are able to spell what they need to say, until they are literate, they are limited by the words they have in their device. Once children with CCN can use the alphabet, even if they are not proficient spellers, they can generate their own messages rather than being limited to choosing from the words and phrases others provide for them. Selection of vocabulary has long been a challenge in the field of AAC (Beukelman and Mirenda 2013). Today with the understanding of the importance of aided language stimulation (modelling the child's language system) the field is beginning to recognize that even emergent communicators need to have access to a language system and see this system in use. But until the child is literate, the words and phrases are always given to them, not truly acquired in the way a typically developing child would acquire vocabulary. Becoming literate, understanding how to combine those 26 symbols (letters) to make understandable word approximations is the key to having an autonomous voice in the world.

When the field of AAC was emerging 30 years ago, the focus was primarily on maximizing the communication of children and youth with CCN in face-to-face interactions. Today there is increased recognition that communication needs extend to written communication to meet the demands of school, share media experiences such as Facebook, establish membership in peer communities through texting, expressing updates and opinions through Twitter and so on (Light and McNaughton 2012).

Literacy means literacy. A common practice has been to provide access to information through symbolated text and access to writing through use of AAC systems. What we now know is that providing symbols with words, while perhaps helping students to gain access to the meaning of the text, does not help them to learn to read (Erickson, Hatch and Clendon 2010). In fact, evidence shows that putting symbols with words interferes with children's literacy learning as they pay attention to the symbol not the text. For a more detailed discussion of the potential unintended consequences of symbol supported text, please refer to Erickson, Hatch and Clendon (2010).

Another common strategy to help students with CCN write is to have them use their communication devices as keyboard emulators. That is, they send words to a document by choosing symbols on their devices. While this has the appearance of writing, that is, the text appears as text, the student is at best practising communicating with their device, and perhaps at worst coming to the conclusion that they and their teachers don't see the need to spend time and effort learning to write in conventional methods. But without the ability to spell, people with CCN can only say or write with the words they are given. This will not give them the ability for autonomous speech or get them actively into the world of social networking (Facebook, Twitter and so on) both of which are so important in their developing into active and engaged citizens in today's technological world.

For more information on supporting literacy development for students with CCN or significant disabilities, go to the Centre for Literacy and Disability Studies at www.med.unc.edu/ahs/clds.

BEST PRACTICES IN AAC SUPPORTS

The historical context in which educational teams have operated meant that students with CCN were often not viewed as capable learners upon entering school. Literacy may not have been a significant component of their special education programs, or certainly for their ongoing school careers. It was not understood that children who could not speak were capable of learning and applying phonics. And too often skills were taught in isolation through repetition (massed trials) and feedback (Erickson, Koppenhaver and Yoder 2002).

It Takes a Team!

The AAC literature clearly supports the establishment of a multidisciplinary team to provide AAC supports and services (Beukelman and Mirenda 2013; Loncke 2014; Lund and Light 2007; McSheehan et al 2006). For children and youth who use AAC systems, the educational team must work together to integrate an often complex array of technologies used for learning, mobility and classroom participation (Erickson and Koppenhaver 1995; Soto et al 2001; Stoner, Angell and Bailey 2010). The ability of teams to successfully collaborate has been linked to positive long-term outcomes for students with complex communication needs (Lund and Light 2007). Bailey et al (2006) found effective teaming to be a primary facilitator of effective AAC device use by students in junior high and high school. Collaborative practice involves more than having a group of professionals linked together as a team. Teams that supported effective AAC use functioned well together, communicated frequently and focused on increasing the communication skills of students. The preponderance of research suggests collaborative relationships are highly valued and even encouraged. Despite these findings, the reality in the classrooms suggests successful partnerships often elude educational teams (Fallon 2008). Teaming often takes the thing that is most challenging for educators to find, time. But without time to develop teams, work as teams and problem solve as teams, children who need AAC to communicate, participate and learn may never get the instruction, supports and services they need to succeed. This participation and learning time is something these students may lose forever.

Parents and peers are also critical members of the team. Research suggests that too often parents are not actively engaged in decision making around AAC or not supported helping their children learn the system (Bailey et al 2006; Cress 2004; Goldbart and Marshall 2004). Parents have critical knowledge of their children that must be sought in developing an AAC system. Also, much of the ongoing responsibility of ensuring use and support of AAC systems falls to parents and family members.

There is a growing body of literature on the importance of peer interactions for children and youth with CCN and how to foster these critical social interactions (Chung, Carter and Sisco 2012a, 2012b).

Although evidence suggests that students with CCN engage with paraprofessionals and other adults far more than with peers, such promising practices as intentional engagement of peer supports (ibid) and creation of communication circles (Musselwhite 2013) may help children and youth with CCN to more actively and successfully engage with peers. Today we know that with the intentional provision of teaming, time and appropriate instructional practices that “no student is too anything to be able to read and write” (Yoder 2000).

It Takes Time!

By 18 months of age babies have heard 4,389 hours of spoken language, yet we don't worry if they have not spoken even one word. If AAC learners only see symbols modelled for communication twice weekly for 20–30 minutes, it will take 84 years for them to have the same exposure to aided language as an 18-month-old has to spoken language (Korsten 2011). It takes time for any child to learn a language, understanding comes first (receptive language) and use (expressive language) follows years of exposure and exploration in form, function and purpose. Children and youth who must use AAC supports and strategies expressively often expect that they should be using their device or their language system right away, yet if one considers the context, this in fact seems rather absurd. Children must be given the time to learn the system and to explore using the system, just as we do for typically developing children. And given the complexity of learning a second language system (the AAC system) with the additional cognitive and operational demands of speaking with AAC, students with CCN need much more time to explore and understand their systems, certainly not less.

The same point must be made for the time it may take students with CCN to develop their literacy skills. Expertise occurs only with major investments of time for any learner (National Research Council 2002). While every child can learn, some may take a great deal longer than others.

Given the many issues they may face, not the least of which may be inadequate instruction, children and youth with CCN may take many years to gain emergent literacy skills and many years after that to become conventional readers and writers.

There is some evidence that for some students with CCN, their greatest gains in literacy may come in their

early teens (Erickson 2015, personal communication). This makes sense given that they may have been spending much of their lives learning to use their AAC systems, and learning language. Yet too often by the time students with CCN are in junior and senior high, the focus has moved from literacy instruction to life skills. Given the primacy of literacy as a life skill for students with CCN, educators and SLPs must assume competence and believe that it is never too late to provide comprehensive literacy instruction to any students, no matter what challenges they may have.

Teaching Involves Setting the Context for Learning

Precisely because of the history and power of behavior analysis in shaping the field of special education, professionals have not given a great deal of thought to how students with severe cognitive disabilities think. (Kleinert, Browder and Towles-Reeves 2009, 305)

Much of how we teach children and youth with CCN, especially those with developmental disabilities, is at variance from how we teach typically developing children. The world of special education has relied heavily on a behavioural paradigm, whereas theories on how children learn, especially how they learn language have refuted strict behavioural models in favour of cognitive and social learning theory. In the so-called general education paradigm, we understand that children need to attach the new to the known, they learn through doing and that learning is a social activity that is best supported by a more knowledgeable other (Miller 2002). In the past, primary emphasis was on drill and practice. Modern theories of learning and transfer retain the emphasis on practice, but they specify the kinds of practice that are important and take learner characteristics (for example, existing knowledge and strategies) into account (National Research Council 2002). The research suggests that arranged contrasts can help people notice new features that previously escaped their attention, and learn which features are relevant or irrelevant to a particular concept (ibid, p 60). While massed trials and repeated exposure with choice making (for example, food and clothing choices) and communication introduced through requesting have long been staples in the educational menu provided to students with significant disabilities, recent information suggests this may not

provide the conditions for learning required for success. We now understand that learning happens when we learn patterns through experience, not isolated drill. We also know that slight variations in a known pattern are likely to cause a learner to pay attention, something that is new but not so new that we cannot assimilate it into our current schema (Burkhart 2015). A confirmation of this comes from a recent study exploring perceptual learning in people with autism. It not only confirms that the benefits of slight variation in learning stimulus is beneficial, but that repetitive presentation of the same stimulus to high-functioning adults with ASD actually reduces their efficiency in learning (Harris et al 2015).

Learning happens best when children are supported by more capable others who respond to where they are at and provide experiences and scaffolds that help them extend their understanding through repetition with variety (Erickson and Kopenhagen 2015, personal communication).

THERE IS NO MAGIC TECHNOLOGY

Mere access to the content is inadequate as an AT unless that access is mediated by instructional design supports appropriate for the specific disability of the user. (Boone and Higgins 2007, 138)

Perhaps especially into today's world of pervasive technologies, it seems that the most important thing is to provide a child with CCN with assistive technology and most particularly a speech-generating device of some ilk. While access to appropriate assistive technology tools and voice output systems may indeed significantly benefit students as they engage with print and books and as they are provided opportunities to share their voices with others (Erickson, Hatch and Clendon 2010, Ronski and Sevcik 1996) technology alone will do little to help children learn to communicate, learn language and become literate. Learning to use assistive technologies and AAC devices takes effort and time; there is no magic (Higginbotham and Caves 2002). But the research clearly shows that technology in conjunction with a comprehensive approach can make a huge difference in the lives of people with CCN. The statement made some 20 years ago by the Alliance for Technology Access is as important or perhaps more important in today's world of apps and high-powered tablet computers.

The success of technology has more to do with people than machines. All the right parts and pieces together won't work miracles by themselves. It is people who make technology powerful by creatively using it to fulfill their dreams.

(Alliance for Technology Access 1996)

Through the concerted efforts and dedicated time of parents and educators, children and youth with CCN become competent communicators, active learners and ultimately adults who can self-advocate and have an autonomous voice in the world.

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Task Analysis for Effective Differentiated Instruction: An Old Concept in a New Context

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Teachers in today's inclusive classrooms must adapt and differentiate their instruction to meet the diverse learning needs of students to optimize their academic growth and success in the classroom. This is no small task. Knowledge about the many types of exceptional needs they must be familiar with is only part of the process, and while many teachers work hard to be well informed about the learning challenges of students, they still express that they feel underprepared to address their complex learning needs. In two recent Alberta Teachers' Association (ATA) documents on inclusive practices in Alberta (*Report of the Blue Ribbon Panel on Inclusive Education in Alberta Schools* [2014]; *The State of Inclusion in Alberta Schools* [2015]), it was reported that a main issue in implementing inclusive practices is the need for teacher professional development and support. Moreover, while teachers surveyed were highly supportive of the principles and goals of inclusive education and motivated to support their students with diverse learning needs, they expressed clearly that they lack the how-to knowledge required to address complex learning challenges and to provide effective differentiated instruction. The focus of this article is on one approach that can assist teachers in planning instructional supports toward this goal, targeted for students with higher incidence special needs in upper elementary and middle school grades.

Students with higher incidence special needs such as learning disabilities (LDs) (involving reading, writing and math skills), behavioural concerns, higher functioning presentations of autism spectrum disorder (ASD) and attention-deficit hyperactivity disorder (ADHD), whether formally identified or not yet identified, often present with "invisible disabilities" (Maxam and Henderson 2013) that can derail their

success in everyday classroom activities. Moreover, many also have co-occurring conditions (for example, ADHD with an accompanying LD), which further complicate their learning challenges. These students present a range of functional limitations in language and cognitive abilities, and varying needs in academic skill development. Many are especially vulnerable to difficulties with performance-based assessment tasks across the subject areas in the upper elementary and middle school grades. Despite good potential and motivation, their ability to "show what they know" can be impeded by the demands of complex classroom assignments and projects that require proficiency in the critical skills they lack. Teachers can differentiate according to students' strengths and interests; however, these factors may not provide the leverage needed to ensure academic progress and skill development.

Assessment and evaluation of student progress at these grade levels can be particularly challenging in inclusive contexts, especially with regard to current assessment practices such as authentic performance assessments, open-ended collaborative tasks and project-based learning that are geared to 21st-century learner outcomes and skills. These approaches promote such skills as critical thinking, creativity, collaboration and problem solving in groups, application of concepts in real-world contexts, and self-directed learning (Rotherham and Willingham 2009). Although they provide for richer and more meaningful learning experiences for students (that is, assessment as learning), they are also heavily layered with demands for higher level cognitive and language skills, which add to the challenges many students already face with mastering concepts and content-related skills. For example, project-based learning requires planning, decision making, integration of information from multiple sources and time management skills, in addition to a range of competencies with print and media literacy. Furthermore,

many types of group projects such as dramatizations, skits and group oral presentations require well-developed social communication skills, including the ability to collaboratively plan and negotiate group decisions through discussions and interaction. These task demands can become barriers for many students with learning and behavioural challenges who have poor social communication skills, and who have difficulty collaborating productively with peers. When students are unable to manage the complexity of authentic performance-based assessments and group work, teachers may resort to assessing their progress with more traditional forms of assessment, which may further limit their opportunities for participation and growth.

Most teachers are familiar with Carol Ann Tomlinson's well-known approach for differentiating instruction (for example, Tomlinson 2003) in which teachers flexibly adapt and simplify the content of instruction, the process through which it is taught, and the product through which students demonstrate their learning. While this content-process-product model provides a useful framework to guide decisions about delivering content and setting up activities for students, for complex assessment tasks, it may be too general to identify adaptations or instructional supports that students need. Better understanding of specific task components can provide a foundation for more fine-tuned instructional decisions, and can facilitate use of backward design principles during planning (that is, planning with the end in mind), which are focused on supporting students to attain essential and enduring understandings of content (Wiggins and McTighe 2005).

WHAT IS TASK ANALYSIS?

Task analysis is a longstanding concept in special education, which can be applied in any area of the curriculum as a preteaching planning tool for differentiating instruction, and which can reveal the complexities of classroom assessment tasks. Task analysis refers to a systematic approach to unpacking the processing and performance demands of learning tasks with respect to the skills needed. It is a common preintervention planning step in programs for students with developmental disabilities, for example in breaking down classroom routines to be learned into sequenced steps. In the present application, the focus is on the language, cognitive and academic skills needed for successful completion of assessment tasks

the teacher has designed to assess student learning. By considering task demands in relation to students' strengths and needs, teachers can identify potential breakdown points that could undermine student performance and proactively plan instructional supports that will facilitate success.

The overall guiding question of the proposed task analysis process is: What does the student have to be able to know and do in order to do this task? The main task demands under scrutiny involve oral language factors (vocabulary, receptive/expressive language, social communication skills), cognitive factors (executive functions such as planning and organizing, and working memory demands), academic skill factors (reading, writing, math), and other factors that are integral to the assessment activity itself, such as skills in art, drama, music or media/computer skills. An initial step is to review the main concepts, background knowledge and supporting vocabulary that must be recalled and used to complete the task. How much new vocabulary does the student have to work with, and does the student know the vocabulary? What skills are needed to produce the intended product of the assignment? Which academic skills will be needed during the task or project, such as reading comprehension, note-taking skills or passage level writing? What kinds of demands are there on such cognitive skills as working memory and executive functions such as organization and planning skills? Answers to these questions can help to guide decisions about differentiating tasks for individual students or groups of learners in a classroom. Identified points of higher challenge in complex tasks also signal teaching opportunities for reinforcing developing skills or introducing strategies, such as using a graphic organizer to prioritize details for a written report. A brief rationale for considering each of the three main types of task demands follows (that is, oral language, cognitive skills and academic skills) in preparation for differentiating assessment and instruction.

ORAL LANGUAGE SKILLS

Both basic and higher level oral receptive and expressive language skills are needed for successful participation in classroom activities. Basic skills such as following multi-step instructions and explanations are needed in most learning activities. Students must also be able to express themselves clearly and efficiently

using age-appropriate grammar and syntax in describing, explaining and answering questions. Higher-level skills refer to processing and expressing more complex instructional language, which often contains new vocabulary, and skills in following and participating in class discussions, making inferences from explanations, and reasoning with concepts. Teachers' instructional language in content area teaching is often lengthy, complex and challenging to comprehend and retain for many students with learning difficulties, whose oral language skills are not as well developed as those of their peers. Weak oral language skills, which are common in many students with special needs, can limit both their class participation and their ability to use language as a thinking tool.

One source of challenge is the academic vocabulary that is used in learning and assessment activities. Beck, McKeown and Kucan (2002) provide a tiered framework for classifying vocabulary difficulty relative to listening and reading comprehension demands in the classroom. Tier 1 vocabulary comprises familiar, high frequency words used in social and conversational contexts, which most students readily understand and use. Tier 2 vocabulary refers to academic vocabulary used across the curriculum, words such as summarize, analyze, report, develop, compare and contrast, which are often the what-to-do words in task instructions. Tier 3 words are the discipline-specific vocabulary from the subject areas, such as photosynthesis, democracy, hydrocarbons, refraction and economics, which are challenging for many learners to use expressively, read and spell. Identifying the Tier 2 and Tier 3 words in learning materials and assignments can help teachers determine which ones may need review, comprehension checks, word study activities or preteaching.

Another source of challenge for many students with learning and behavioural difficulties is the need for well-developed social communication skills when collaborating and working in groups. Students may be unskilled in appropriate ways to initiate discussions and contribute their ideas, and they may have difficulty accommodating others' ideas, and taking alternative perspectives. Teachers may decide to provide explicit support in preparing students for group activities, for example, providing direction about the student's role in the group and teaching simple scripts and routines for listening to others, taking turns in conversation and asserting their opinions in appropriate ways.

COGNITIVE SKILLS

Executive Functions

Executive functions (EFs) refer to a set of interconnected cognitive skills that guide and facilitate goal-directed behaviour and self-regulation of thinking and actions (Dawson and Guare 2010; Meltzer 2013). In complex multi-step tasks, EFs facilitate students' ability to plan and organize how they will approach tasks, and to sustain and adjust their effort and persistence in completing the final product. EFs also help learners to self-regulate by keeping on track and resist immediate needs and distractions, which is important for students who struggle with emotional self-regulation, attention control and time-management skills. In the classroom, EFs also facilitate development of learning-to-learn skills, which are learning routines or strategies that independent learners use to work efficiently, such as making notes from multiple text sources to writing a summary (Englert et al 2009). Since EFs do not fully mature until late adolescence, the preadolescent and adolescent years are a critical period for supporting development of these cognitive skills that facilitate independent learning.

Working Memory

A second cognitive resource that is within the umbrella of the executive functions is working memory (WM). Working memory has been referred to as a mental workspace and is the memory system that allows learners to hold information needed for tasks temporarily in mind (that is, online) while completing them (Gathercole and Alloway 2007). Working memory facilitates manipulation of information during problem solving, for example, using mental math during a word problem. Working memory also plays a key role in most higher level language tasks for example, making inferences from an explanation, or organizing details in mind while presenting an argument or writing a persuasive essay. A critical feature of WM that is relevant to teaching is that WM skills vary across students in terms of how much information they can hold and use for problem solving, which suggests the need for flexibly adjusting WM demands for some students. Recent research has also confirmed that lower WM capacity and less efficient functioning of WM resources are common in students with language, attention and reading deficits (for

example, Alloway 2006; Gathercole and Alloway 2007; Martinussen and Major 2011).

When students' WM resources are exceeded by task demands, learning breakdowns can occur, which can be perceived as behavioural problems. Students may make errors carrying out task instructions, omit parts of assignments, become confused or off-task, disengage and possibly abandon the task completely. Task avoidance and task refusal are potential outcomes of students' capacity being regularly overloaded, which often result in consequences for noncompliance as well as lost learning opportunities. Working memory deficits also affect students' ability to use language and thinking resources efficiently to make decisions and solve problems. In classroom discussion and group work, students may have difficulty holding an answer in mind while waiting to be called on by the teacher. Writing is especially demanding on WM resources, as students must coordinate many subskills simultaneously, such as transcription, word choices, spelling, sentence formulation, and connecting ideas when writing stories and essays. The common outcome for poor writers of low written output, poor specificity of ideas, and reliance on simple vocabulary and syntax may relate to the WM and organizational demands of the writing task as well as the student's lower WM capacity.

Sweller (1986) extends our understanding of the role of WM in learning and its relevance to analyzing tasks prior to differentiating instruction. Cognitive load refers to the degree of demand on WM resources at any given point in a task. Cognitive load is higher when there are multiple concepts or task components that must be handled simultaneously, when there is more lengthy, complex or abstract language with less familiar vocabulary, or when information must be synthesized from multiple sources. Because cognitive load is an aspect of the task itself, and not the learner, teachers can be instrumental in reducing cognitive load through planned task adaptations and instructional supports. When cognitive load is reduced or optimized for students, they can respond more productively to instruction and assignments. They are better able to understand connections among concepts, absorb new information and complete more work independently. To reduce the cognitive load of a task, teachers may decide to reduce the input demands (that is, the amount or type of information students must process and work with), the output demands (that is, what students must produce to demonstrate their understanding) or both aspects.

ACADEMIC SKILLS

These demands refer to the need for grade level skills in reading, spelling, writing and math to complete assigned tasks in the classroom. One consideration when making instructional decisions is the student's current level of performance, for example, in word identification or reading comprehension, and whether the skills are automatized sufficiently to support completing the assignment while simultaneously working with the content and concepts. Many students with high incidence special needs have what could be described as a shaky foundation in reading, spelling and written expression, such that their performance can vary from good to adequate to poor across learning activities. Again, task demands might explain some of these performance inconsistencies. For example, students may be able to write grammatical sentences with correct spelling in single sentence responses on a worksheet; however, in a writing task with a higher cognitive load such as writing a paragraph summarizing research on a topic, the written product may be short, with poor detail and organization, and contain unexpected errors.

Beyond the initial guiding question described earlier, the following questions can be used to review each skill area (oral language, cognitive and academic) to identify potentially challenging task factors that may need to be adapted through differentiation to enhance students' performance.

1. Oral Language Skills

Receptive Language

- How much listening comprehension is involved in the task/project?

Expressive Language

- How much verbal discussion and explanation are involved?

Background Knowledge, Vocabulary and Concepts

- How much activation of background knowledge is needed?
- What is the key vocabulary from past learning that the student will have to recall and use?
- What are the Tier 2 words (that is, the what-to-do words)?
- How much new vocabulary is required?

- What are the Tier 3 words (that is, content-specific words)?

Social Language Skills

- Are social communication skills needed to complete the task?
- Do students have to collaboratively communicate the outcome of the group project?

2. Cognitive Skills

Executive Functions

- How much planning and organizing of steps and information are required?
- How much multi-tasking and coordination of information and skills are needed?

Working Memory

- Which aspects of the task make high demands on working memory?
- What do students have to keep in mind while completing the task?
- How much problem solving is needed?
- At which stages will problem solving be critical for task completion?

3. Academic Skills

What are the reading demands of the task?

- What are the writing and spelling demands of the task?
- What are the demands on math or numeracy skills?

4. Other Skills

What are the requirements for art, music, drama, media skills and so on?

Once a performance-based assessment task has been unpacked in this manner, and potential breakdown points have been identified, teachers can proactively intervene through task adaptations and provision of instructional supports. The questions in each of the skill areas above can also cue the need for general or explicit supports for the whole class for the assigned task, which would enhance the performance of all students. For example, using external memory aids such as graphic organizers and checklists for planning and keeping track

of steps can reduce the cognitive load involved with the multi-tasking that is typical of project-based assignments. Furthermore, spelling reference sheets for Tier 3 vocabulary could support a student while composing a written report, so that he or she is not taxed by difficulties with spelling and remembering key vocabulary while writing. Students could also be taught task-specific strategies for organizing and providing sufficient detail in their written work.

Considering teachers' time constraints for planning, adoption of a detailed task analysis routine such as the one presented here should realistically be a gradual process. Teachers could start by analyzing the most familiar task features, such as vocabulary and academic skill demands of some of the more challenging classroom tasks they assign. Once these are part of the teacher's planning mindset, other cognitive factors can be addressed. Through task analysis, teachers can develop a new appreciation of the complexity of classroom activities and why students may be struggling. Better awareness and understanding of task factors that present barriers to success can also help other learners in the classroom, not only those with special needs.

CONCLUSION

This article provides a brief overview of the potential for using task analysis of classroom assessment tasks as a way for teachers to fine-tune decisions about how and what to differentiate, and which instructional supports can optimize student performance. Given that current approaches to assessment of 21st-century learners involve complex applied tasks with high cognitive load, especially in upper elementary grades and beyond, teachers need ways to maintain participation and progress of students with learning challenges in this context. When teachers can identify performance challenges and proactively provide supports and strategic teaching, students with learning challenges are more likely to be engaged and persistent in complex performance-based assessments. Task analysis, a longstanding practice in special education, can be a useful planning tool for differentiating instruction in inclusive classrooms to support these and other learners toward success.

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Severe Disabilities (Education and Individuals with Severe Disabilities: Promising Practices)

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The vital importance of education cannot be overestimated for any individual. Education is certainly critical for those individuals with severe disabilities, who often were excluded from the educational process, from a presumed inability to learn. Individuals with severe disabilities of all ages typically need more time and more opportunities to acquire and practise skills. Unfortunately, low expectations for progress, especially with regard to academic skills, have reduced the amount of exposure to typical and valued educational experiences.

For the purpose of this paper, individuals considered to have severe disabilities include those with moderate to profound levels of intellectual impairment, severe difficulties communicating their needs to others, and could have concomitant disabilities such as physical, behavioural, sensory and health. Traditionally, these individuals were separated from those without disabilities and placed in institutions. In schools today, the majority of students with severe disabilities spend most of their school day in specialized education classrooms (Cho 2008, Peetsma et al 2001; Williamson et al 2006). Such specialized classrooms allow for little if any interaction with others who do not have disabilities. Also, these classrooms do not reflect typical learning environments where it is hoped students will ultimately be expected to function. Since expectations for learning have been lower in special education rooms than in regular education rooms for those without disabilities (Stainback and Stainback 1996), the practice of such isolated and specialized environments for this population is in question.

THE FALLACY OF PERCEIVED INCOMPETENCE

Individuals with severe disabilities were once thought incapable of learning, labelled as custodial, and placed in programs designed to provide only basic care and safety (Blatt 1981; Orelove 1991). In environments where no teaching occurred, limited learning resulted. As a result of considerable parent dissatisfaction and activism, legislation emerged in some countries that reflected increased rights of individuals with severe disabilities (Blatt 1981). Since then research studies have confirmed the learning ability of individuals, given the opportunity to learn and quality instruction. Not only do individuals with severe disabilities learn as a result of direct instruction (Browder, Trela and Jimenez 2006; Browder et al 2008b), but they also learn through observation of fellow learners without disabilities (Falkenstine et al 2009; Farmer et al 1991).

While past perceptions questioned the ability of those with severe disabilities to learn (Blatt 1981; Ferguson 2008), current perspectives support the notion that all individuals can and do learn (Downing 2008; Jorgensen, McSheehan and Sonnenmeier 2007; Westling and Fox 2009). How they learn may vary somewhat from others who do not have disabilities, but the acquisition of skills in a variety of venues is well documented. Students with severe disabilities have learned to eat independently, do their laundry and dress themselves (Collins et al 1991; Hughes, Schuster and Nelson 1993; Taylor et al 2002); they have increased their communication skills (Brady and Bashinski 2008; Keen et al 2001), improved their social skills (Ketterer et al 2007; Shukla, Kennedy and Cushing 1999) and safety skills (Mechling 2008). Acquired academic skills have included reading, writing and mathematics (Browder et al 2009; Browder et al 2008a; Browder et al 2008b;

Jimenez, Browder and Courtade 2008). Clearly, individuals with severe disabilities learn both academic and nonacademic skills when they are expected to learn and given quality instruction and support.

THE NEED FOR HIGHLY TRAINED TEACHERS

To ensure that students with severe disabilities reach their full potential and receive the instruction they deserve, highly qualified teachers are needed. This is mandated in the United States under the *Individuals with Disabilities Education Improvement Act* (2004). Teachers require training in a number of practices proven to have a positive impact on the educational attainment of students with severe disabilities. Such recommended practices include receiving an education in general education classrooms with clear access to the core curriculum (Downing 2008; Fisher and Meyer 2002; Kennedy and Horn 2004), positive behaviour support (O'Neill 2004), communication skills development (Beukelman and Mirenda 2005), systematic instruction (Bradford et al 2006; Tekin-Iftar 2008), meaningful, age-appropriate programming (Snell and Brown 2006; Westling and Fox 2009), active family involvement (Blue-Banning et al 2004; Turnbull et al 2006), and collaborative teaming (Snell and Janney 2005). Teachers need to develop specific skills and knowledge for each of these recommended practices in order to implement them in various school settings. The lack of highly qualified and trained teachers can only have a negative impact on the potential achievements of students with severe disabilities.

A NEW WAY OF THINKING

The field of special education has moved from a perspective of caretaking and protecting to an expectation of learning and growth. The question is not whether students can learn, but how much they can learn, and with what types of instruction and support. While early intervention is a recommended practice, learning can occur at any age. Those supporting the student need to know how to provide appropriate and effective instruction as well as how to challenge the student to attain higher goals. Changes regarding the education of students with severe disabilities involve maintaining high expectations for learning, inclusive education and assuming more active roles in their communities upon leaving the educational system.

High Expectations

A major change in the educational attitude toward students with severe disabilities is the increased emphasis on learning academic skills within general education classrooms. Increasingly, these students are expected to access the same curriculum as their peers without disabilities and to make progress in this academic curriculum (Browder and Spooner 2006; Wehmeyer 2006). Under this approach to curriculum, developmental or mental age scores obtained via standardized assessments are not used as determinants of what students can achieve. Instead the student's chronological age is considered as well as culture, religion, geographic area, interests and needs related to individual goals. Providing the necessary types and amount of support can greatly enhance the student's ability to learn and achieve. Therefore, emphasis is placed not on any perceived limitations of the individual, but on external supports that can lead to maximal achievement (for example, the use of switches, switch interfaces with computers, and graphic software that scans to allow access to an individual unable to read or make use of his or her hands and arms).

Concomitant with higher expectations for learning is the relatively recent emphasis on teaching self-determination skills (Turnbull and Turnbull 2001; Wehmeyer et al 2004). Instead of viewing students with severe disabilities as recipients of the decisions made by others, teaching these individuals the skills they need to make decisions for themselves is a growing trend. Self-determination skills can include simple choice making, as well as more advanced skills, such as decision making, problem solving, goal setting, self-monitoring and self-evaluation. When students can learn to advocate for themselves, the dependence on others is reduced.

Inclusive Education

Another change in thinking involves the issue of where students with severe disabilities should receive their education. Instead of being separated from their same-age peers based on standardized test scores or developmental levels, students with severe disabilities have been shown to benefit from learning with their peers in general education classrooms. In a comparative study of general and special education placement in the Netherlands, Peetsma et al (2001) found that after a two-and four-year period, students with disabilities had made more progress in language and mathematics

in general education than their counterparts in special education. Another comparative study by Foreman et al (2004) demonstrated that students with profound disabilities in Australian schools had more communication interactions in inclusive settings than their counterparts in segregated classrooms. In the United States, Fisher and Meyer (2002) demonstrated the benefits of inclusive versus segregated educational placements for students with severe and multiple disabilities in communication, developmental and social skills over a two-year period.

Benefits for students without disabilities have included greater empathy, acceptance, skill acquisition and problem solving (Copeland et al 2004; Peck et al 2004). In addition, support personnel (for example, occupational therapists, speech-language pathologists) available to those with severe disabilities also are available to help students without disabilities, thus increasing the amount of instructional time with an adult. Several studies also have shown that educating students with severe disabilities with students without disabilities does not have a negative impact on the academic learning of students without disabilities, and can, in fact, enhance it (Hunt et al 1994; Jameson et al 2008). Bringing students together rather than keeping them apart has shown considerable merit.

Greater Community Involvement

A valued goal of education for all students is that they become productive citizens who support and contribute to the well-being of their community. Students with severe disabilities can leave the school system and assume meaningful roles in their communities provided that they are given needed support and encouraged to partially participate in activities (Wehman 2006). Educating students with severe disabilities in the natural environments of their neighbourhood and community supports their ability to assume more typical adult roles upon graduation (Agran, Snow and Swaner 1999). Through supervised employment, volunteer work and service learning, students with severe disabilities can develop valuable skills for adult life while giving back to their community. For example, service learning can be any position that contributes some free service to the community: preparing meals for the homeless, caring for animals at a veterinary hospital, doing paperwork for charitable organizations, caring for the elderly or picking up litter. This type of instruction can be highly individualized

and provides opportunities to practise real-life skills and develop lasting relationships in the community. As a result, it may support students with severe disabilities assuming more active and valued roles in their communities following public education. An additional benefit is that these types of community-based learning opportunities can be done with peers who do not have disabilities, thus creating more inclusive learning opportunities during the school years (Dymond, Renzaglia and Chun 2007).

RECOMMENDED PRACTICE FOR TEACHING STUDENTS WITH SEVERE DISABILITIES

Supporting the changes mentioned above are recommended practices in the teaching of students with severe disabilities. These recommended practices include systematic and direct instruction within natural learning environments; individualized, meaningful and culturally responsive learning; active family involvement; collaborative teaming; and positive behaviour support.

Systematic Instruction

When teaching individuals with severe disabilities, the use of systematic and direct instruction have been highly recommended (Downing 2008; Snell and Brown 2006; Westling and Fox 2009). A systematic instructional approach consists of a well laid out plan of teaching that involves targeting and evaluating what students can learn given meaningful opportunities to practise their skills. Such instruction involves specific procedures for identifying, prompting and reinforcing targeted behaviours, within typical age-appropriate environments. A founding principle of systematic instruction is that educators base their teaching upon their students' individual learning styles. Therefore, the types of prompts and reinforcers used during systematic and direct instruction can be visual, verbal or tactile, and reflect individual strengths, needs and preferences.

Systematic instruction stems from both formative and summative forms of assessment that effectively assesses student progress within natural environments and meaningful contexts. Assessment data is used both to measure student progress and to provide teachers with important information used to modify and change instructional programs. Systematic instruction

is used to teach both academic skills and nonacademic skills (for example, communication, self-care, self-determination), and can occur in typical classrooms at schools as well as in the community.

Individualized, Age Appropriate and Culturally Responsive Learning

Recognizing the needs and strengths of students leads to individualized instruction that is chronologically age appropriate, culturally responsive and meaningful for the student. Researchers have stressed the importance of considering student interests as well as cultural implications when teaching various concepts (Edeh 2006; Richards, Brown and Forde 2007). In keeping with the trend to educate students with and without disabilities together, making the core educational curriculum that is taught to all students relevant and meaningful to students with severe disabilities has become of utmost importance (Downing 2008; Kennedy and Horn 2004). Big ideas (vocabulary and concepts) are identified within each lesson and adapted materials are used to make learning relevant to the student's situation. Adaptations are individualized to allow for the student's optimal participation in learning within chronologically age-appropriate lessons. Students have access to the academic content of their same-age peers, but at a level that reflects their needs and in a manner that is culturally sensitive and relevant.

Active Family Involvement

Given the importance of meeting individual needs that reflect cultural differences, religion, experiences and language, active family involvement to assist with assessments and determining instructional programs for a particular student is a recommended practice (Downing 2008; Turnbull et al 2006). When students are unable to speak for themselves, which is often the case for students with severe disabilities, information from family members regarding expectations at home, skills and interests of the student, concerns, and future goals serves to guide educational programs. The home-school relationship is vital, and specific approaches have been developed to facilitate this bridge, such as these seminal approaches: Person Direct Support (O'Brien and Mount 2005), and Choosing Outcomes and Accommodations for Children (Giangreco, Cloninger and Iverson 1998). These approaches to

obtaining information from families are designed to keep the individual student as the focal point, with those closest to the student using their in-depth knowledge and caring for the person to guide their comments and hopes for the future.

Collaborative Teaming

This teaming approach prioritizes the collaboration between the families of individuals with severe disabilities and educators to better develop and implement intervention and support strategies (Janney and Snell 2008). Collaboration among team members includes shared assessments and development of instructional programs, co-teaching in age-appropriate classrooms by special and general educators, use of natural peer supports, and use of related service providers, such as speech-language therapists, who provide support within natural learning environments. Instead of adult members of the team providing services on a one-to-one basis in a specialized environment, these service providers incorporate their expertise into the existing program (Snell and Janney 2005). Members of the team pool their resources and knowledge to support the overall learning goals of the student, rather than isolated skills representative of one discipline.

Positive Behaviour Support

Positive behaviour support (PBS) is a recommended practice in the field of severe disabilities for learners with challenging behaviours (O'Neill 2004; O'Neill et al 1997). PBS is a proactive approach that takes into consideration identifying problem behaviours early and integrates many of the procedural guidelines that drive systematic instruction, such as access to meaningful routines and activities, teaching meaningful adaptive skills with an emphasis on communication skills, and functional assessment. The challenging behaviour is perceived as a student's way of self-expression to meet unique needs and desires, not as "bad" behaviours that need to be punished and extinguished. Positive and proactive means of supporting the student are used to remove the need for the student to engage in the undesired behaviour, and alternative skills are taught (usually communication skills) to encourage self-expression in a more acceptable and conventional means. The focus of PBS is on determining the function of the challenging behaviour for the student, and helping the student to engage in other behaviour that assumes that same function.

THE FUTURE: POSTSECONDARY OPTIONS

Perceptions regarding future options for students with severe disabilities also have changed. Typical lives have been sought for these individuals in work environments, residential sites (for example, owning one's home, sharing an apartment), recreational venues and general access to their community. Given the foundation of "A New Way of Thinking" and implementing the recommended practices previously explained, individuals with severe disabilities can have more typical lives in their communities. In the later school years, all students are preparing to transition to their adult life, whether they plan to go to college or directly go into the workforce. Since generalization of skills is often difficult for students with severe intellectual disabilities to acquire, teaching these students where the skills need to be demonstrated can facilitate the acquisition of meaningful adult skills (Westling and Fox 2009). Learning in the actual community, or community-based instruction, is an individualized student-centred approach that may be one very meaningful part of a student's overall program and supports the student's acquisition of academic, vocational, recreational and domestic skills in meaningful and natural environments. This particular instructional approach supports lifelong learning across all venues of living.

Furthering educational growth also has been considered as part of postsecondary options. High school graduates with severe disabilities should have similar options to students without disabilities. Benefits from inclusion in colleges and university programs have been reported for students with moderate and severe disabilities (Carroll, Blumberg and Petroff 2008; Hart et al 2004). As with younger students with severe disabilities in school programs, instructional and curricular content in colleges and universities will need to be adapted to meet the unique instructional needs of each student. With the appropriate supports and expectations, students with severe disabilities should be able to continue to learn from their participation in typical classes with their nondisabled peers. In other words, learning should not stop following the completion of required years in school.

SUMMARY

This paper has presented issues around the education of students with severe disabilities. Changing perspectives regarding expectations of these learners and optimal environments for education and instructional practices have been discussed. Students with severe disabilities can and do learn both academic and nonacademic skills. They need instruction by highly qualified teachers who can recognize their abilities and can maintain high expectations for their development and growth. Recommended practice for this population of students includes learning with peers without disabilities, systematic instruction that takes into account their chronological age, culture, interests and needs, strong family involvement, collaborative teamwork for a unified approach, and positive behaviour support that keeps the focus on desired behaviour.

Barriers to the learning of students with severe intellectual disabilities can include low expectations, teachers who lack training, limited if any family involvement, programming based on developmental models of learning, and environments that are highly specialized and not reflective of typical settings. Recognizing these barriers for what they are and making a commitment to ensure that they do not hinder student development are important goals for the field of the education of students with severe disabilities to achieve.

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Creating and Implementing Personalized Transition Plans for Students with Autism

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In Temple Grandin's renowned novel, *Thinking in Pictures: My Life with Autism*, she describes personal challenges that characterize her transition from high school to postsecondary school. Grandin (2006) declares:

People with autism have tremendous difficulty with change. In order to deal with major change such as leaving high school, I needed a way to rehearse it, acting out each phase in my life by walking through an actual door, window, or gate. (p 18)

Grandin (2006) emphasizes the need for educators to bolster students' strengths and develop their abilities versus focusing on improving their deficits. Grandin (2006) credits her science teacher, Mr Carlock, for helping to provide "a refuge from a world [she] did not understand (p 107)." He encouraged her to direct her fixations constructively so her interests motivated and guided her schooling. This strength-based approach positively influenced Temple Grandin, allowing her to pursue her passions and become a successful adult. Although educational policies for students with ASD mandate that strength-based, student-centred transition planning should be a focal point for educators, this is oftentimes not the reality.

When transition planning is viewed through a short-term lens, it includes changing schools and departing from familiar staff, grades, activities and transportation. Long-term transition planning is the preparation of necessary services and supports to help students' progress from school to adult life with comfort. This inquiry argues that transition plans can be better conceptualized early in schooling in order to adequately prepare students with autism spectrum disorders (ASD) for future transitions and ultimately lessen the anxiety that they experience.

ASD is characterized by having social skill deficits, communication challenges and repetitive and restricted behaviours and interests (Hallett et al 2013). In addition to these core symptoms, anxiety disorders impact approximately 40 per cent of individuals who have ASD (van Steensel, Bogels and Perrin 2011). Canitano (as cited in Hallett et al 2013) notes that comorbid anxiety causes acute distress and amplifies the core symptoms of ASD. This can make transitions especially difficult for individuals with this diagnosis, considering that novice or unpredictable situations also increase their anxiety, furthering their discomfort and distress (Lipsky 2011).

By exploring the following research questions I investigated how to personalize transition plans by employing technology, heeding student strengths and including students' voice in the process:

- What are the essential elements involved in creating effective transition plans for students with ASD?
- How can transition plans be implemented by teachers early and brought to life through student engagement using a strength-based process?

Included herein are a review of literature, research findings and a description of the methodology I employed. This paper concludes with reflective comments that highlight recommendations for practice, study limitations and suggested future research directions.

LITERATURE REVIEW

The Link Between Transitioning and Anxiety

Students diagnosed with ASD are typically ill-prepared for transitions as they lack the coping skills

necessary to navigate them. When situations require flexibility, they frequently encounter feelings of anxiety and uncertainty, resulting in problems. Alberta Learning (2003) confirms that, “even minor transitions are often difficult and result in increased anxiety and inappropriate or resistant behaviours” (p 125). Thus, to enhance their success with transitions, it is essential to properly prepare students with ASD; preparedness helps with the reduction and management of anxiety.

Transitioning to Middle and High School Settings

Adreon and Stella (2001) found that all students encountered challenges when transitioning to new school environments. However, students who have ASD experience even greater challenges due to the discrepancy between their existing skills and the skills required to successfully adjust. As a result, students with ASD present with significant levels of both internalized and externalized emotional distress during this process (Adreon and Stella 2001). These routine changes can be life altering for persons who rely on consistency.

People with ASD need to be explicitly taught the skills required for the new setting in order to function successfully. This necessitates a transition plan that adequately supports learning unfamiliar rules, social and organizational skills, anxiety management, and how to seek help (Alberta Learning 2003). Self-advocacy, versus frustration and withdrawal, is a critical learned behaviour.

Transitioning to Postsecondary Settings

High school is a more structured setting than postsecondary environments. In high school parents of children with ASD are typically involved with schooling, and there is an obligation for staff to provide accommodations along with extensive assistance (Dente and Coles 2012). Mitchell and Beresford (2014) discovered an increase in the anxiety of students with ASD, when they transitioned from high school to postsecondary settings. Rather than facing these issues, students were inclined to avoid them. This is troublesome because avoiding the issue altogether leaves many people unprepared and ill-equipped for adult life. Mitchell and Beresford (2014) explain that postsecondary schooling is characterized by “expectations of

increased independence, greater demands for self-directed learning, self-management of time, and less structured timetables, as well as new peer groups and social situations” (p 152). The impairment in social skills that characterize ASD impacts these individual’s abilities to effectively adapt to new settings, develop peer networks and handle expectations of autonomy. In fact, in postsecondary settings students are required to direct their own disability needs by initiating requests for accommodations and providing documentation that supports requests (Dente and Coles 2012). The onus is placed on individuals to self-advocate; however, their disabilities prevent them from being able to do so unless they have been adequately prepared.

Government Mandated Policies

Alberta Education

Alberta Learning (2003) stipulates that transition plans should be included in students’ individualized program plans (IPP). IPPs are educational documents that are created yearly by teachers for students who have medical and/or educational disabilities. While creating IPP goals, the desired outcomes for adult life, current needs, persons responsible and timelines should be clearly defined. Team members are accountable for their responsibilities in the transition process.

Policies Versus Reality

While policies are in place mandating that transition planning is a priority for students with ASD, the effectiveness of these plans is often bleak. Gerhardt (2007) states that individuals with ASD, “Often live lives of isolation, dependence, and with few opportunities to improve their quality of life” (p 26). There is a system disconnect between what research indicates is possible and the outcomes that are commonly realized (Gerhardt 2007). Transition plans are often generated without substantial student input and are, therefore, less meaningful. Thorough planning is the precursor to successful transitions whereby skills are pretaught and students are provided with the tools necessary to face new challenges in novice environments. Without the safety net of a solid transition plan, the most common outcome for adults with ASD is that they live with their families and if employed, it is in sheltered workshops or voluntary work settings (Wehman 2010).

Relatives frequently arrange supports to assist their family member because without adequate supports, he or she struggles as an adult. Thus, it is not surprising that Hendricks and Wehman (2009) share that parents of students with ASD were dissatisfied with their child's transition planning services as well as the effort required to obtain much needed services post-transition. In part this may be because students are leaving a system where they were entitled to services, which were previously organized on their behalf, by school personnel (Lee and Carter 2012).

Over a three-year period, Martin, Marshall and Sale (as cited in Martin et al 2007) surveyed a sample of program planning teams that followed a teacher-directed meeting style. They discovered that students did not know how to participate, nor did they understand the intention of the program plan. These same students reported feeling less comfortable in meetings than students who were more actively engaged. This highlights the need to prepare students with ASD for meetings in order to enhance their communication and social skills, which are specifically engaged during transition planning.

Self-Determination

Self-determination is a process that occurs over time, which is composed of knowing one's strengths and weaknesses, goals, and how to achieve those goals (Fullerton and Coyne 1999). Constructing and fulfilling a realistic plan for one's life necessitates an awareness of personal strengths, challenges and skills (Lowe and Attridge 2015). Hendricks and Wehman (2009) propose that the transition planning process is an opportunity for adolescents to learn about themselves and plan for their futures. However, the skills required for transition planning need to be directly taught to students with ASD. Teachers can increase opportunities for student choice, control and community involvement, thus encouraging active involvement in the transition process and paving the way for a self-determined life to be actualized (Burton-Hoyle 2011).

A significant onus is placed on schools to assume the primary responsibility for successfully preparing students to enter the community on completion of their education. Roberts (2010) suggests that teachers should nurture student dreams through person-centred planning, which can be achieved by creating strength-based IPP goals and involving students in the process. Burton-Hoyle (2011) states: "Only when choice

is honored and acted upon through appropriate accommodations and services can individuals with autism live a self determined life" (p 27). Improved academic and postschool outcomes have been found for students with increased self-determination skills (Martin et al 2007).

Strength-Based Approach

To increase opportunities for students with ASD, getting to know the individual and valuing their strengths must be an integral component of developing transition plans (Roberts 2010). Goals should be personalized, functional and skill focused (Hendricks and Wehman 2009). A personalized approach allows planning members to learn about individual preferences as opposed to deficits and limitations. Thus, the focus is on what is possible, not impossible, for that particular individual.

Transition plans only beget successful results if the educational program is appropriately designed to help students achieve their goals. When, where and how the necessary skills will be taught are major considerations to ensure that they are internalized, naturally occurring and meaningful. Only then are they purposefully implemented (Wehman 2010). Wehman concludes: "To prevent patterns of dependency and institutional care, it is necessary to establish measures for moving the individual systematically from the protected umbrella of the school to the adult service delivery system" (p 7). One could conclude then that the emotional and financial cost of institutionalizing an individual are far greater than providing the necessary resources to buoy independence.

Collaborating as a Team

Interagency collaboration consists of bringing the transitioning individual, parents, school personnel and representatives from community agencies and support services together by defining roles and responsibilities (Alberta Learning 2003). This is important for establishing a range of support for a successful transition (Roberts 2010).

It is also extremely important to include parents of students with ASD in the planning process. Mitchell and Beresford (2014) found that parents emerged as the most significant and valued source of support for their children. However, guardians share that they feel under-informed and that the lack of support they receive from legislated services can diminish their efforts. The importance of sustaining

parental involvement is further highlighted by the value it adds to a child's mental well-being. Parents are instrumental to the transition planning process, typically playing key roles such as gathering information and making decisions (Mitchell and Beresford 2014).

The transition planning process is also enhanced by teacher involvement, especially when teachers take an active role in initiating early transition conversations. Students express both need and value for information that is clear and easy to understand. Thus, both an honest and comprehensible approach is suggested (Mitchell and Beresford 2014). The following practitioner skills and knowledge are encouraged: know the individual and how his or her autism manifests itself, identify student strengths and weaknesses, demonstrate reliability, being open-minded and willing to listen (Mitchell and Beresford 2014). Without these skills and knowledge, educators may undertake the transition process negating student input. Halpern (as cited in Martin et al 2007) cautions that many teachers believe that students with disabilities cannot learn to take an active leadership role in their transition process, and so to the students' detriment, they are excluded.

Adreon and Stella (2001) assert that weak collaboration and poor communication between and among school programs are significant impediments to the success of the transition process. The discontinuation of services and supports, and the need for their augmentation, remains a vital concern for effective transitioning. The need for ongoing review of the IPP to determine the level of supports and services required is critical so schools can advocate responsibly on behalf of the student's changing needs.

Work experience is another focal area for team members to address with high school students with ASD. By doing so, specific job-related skills and interpersonal skills could be finessed, prior to the student graduating. According to self-reports, vocational success is not contingent on completing job duties but lies in the social aspect of employment (Wehman 2010). Unless social skills are explicitly taught in the environment where they are expected to occur, full community integration and social fulfillment continues to be an obstacle to one reaching his or her fullest potential. Further, it is critical to

understand how to develop a transition plan that will help increase employment opportunities. By planning purposefully, employment retention can be increased, as individuals will be matched to complimentary jobs (Hendricks and Wehman 2009).

METHODOLOGY

With the goal of improving my teaching practice, I explored themes that are present in the literature in relation to transition planning. The key themes of parental involvement, self-determination, early intervention and anxiety were used to organize my understandings as I explored this topic.

Specific research questions guided my review of the literature, assisting me in clearly identifying articles and policy documents to explore. I used a combination of keywords to help me conduct a database search using ERIC, Google Scholar and PsychINFO. Peer-reviewed journal articles of both a qualitative and quantitative nature were selected so that a balance of research approaches were considered, leading to a triangulation of data collection. I also reviewed and analyzed the narrative accounts of individuals who have ASD and comorbid anxiety so that I could gain a deeper understanding of their experiences first-hand. Writing through a transformative lens, I seek to give a voice to students with disabilities.

FINDINGS

Self-Awareness

Field, Martin, Miller, Ward and Wehmeyer (as cited in Martin et al 2007) confirm that by teaching students with ASD to develop an understanding of their skills, interests and limits, students can use this information to help establish goals and use self-management skills to attain those goals. Teachers can encourage self-awareness by increasing opportunities for students to get to know themselves through completing learning style inventories, journalling and metacognitive assessments. Halpern (as cited in Martin et al 2007) suggests empowering students by giving them the opportunity to examine their own behaviours in comparison to their expectations. Developing the ability to self-monitor one's behaviours and goals can and should begin early.

Early Intervention

Carefully thought-out transition planning should begin between the ages of 10 to 13 (Hendricks and Wehman 2009). Transition planning is an ongoing process that needs to address social, academic, emotional and physical factors (Adreon and Stella 2009). To prepare students for life beyond the classroom, teachers should implement social skill instruction that focuses on group work and role-playing that instructs students how to self-advocate (Roberts 2010).

Griffin et al (2013) explored the predictors of the involvement of 320 youth (with ASD) in their transition planning process. To increase student success, Test, Aspel and Everson (as cited by Martin et al 2007) conclude that this process should be composed of informed choice making, student-directed transition planning and student discovery of skills needed for post-school environments. Students who received specific instruction were more likely to attend and actively participate in transition planning meetings.

Lee and Carter (2012) argue that skills are contextually determined and should be taught within the setting where they will be applied. Thus, “employment” experience within the school building is optimal (Autism Speaks 2011). Work opportunities can be afforded in elementary schools as well, where students are given responsibility to undertake simple tasks, such as feeding the classroom pet.

Alberta Learning (2003) suggests that transitions between grade levels should be completed in early spring of the preceding year, in order to prepare students and receiving teachers. The plan should provide information about student strengths and needs, allow for the observation of routines and expectations, identify adaptations and modifications, and inform of successful instructional strategies. Ensuring that these transitions run smoothly is imperative to student success for ensuing transitions. While considering the transition from middle to high school Adreon and Stella (2001) suggest that students participate in school tours, class visits and orientation events. Alberta Learning (2003) states: “It is recommended that transition planning from high school to adult life begin as early as possible” (p 130). However, all supports need to be identified and in place before the transition occurs.

Implications for Teaching: The Calgary Board of Education and Iris

Iris is a custom-built web-based learning platform that was developed by the Calgary Board of Education (CBE) to support student-learning needs (Mosher, Boyd and Rae 2013a). Iris is composed of a learning plan, learner profile and workspace, all of which focus on Elmore’s instructional core that links the student, teacher, task and assessment (Mosher, Boyd and Rae 2013a).

Learning plans create opportunities for students to develop and share self-understandings (Mosher, Boyd and Rae 2013b). Students reflect on how they learn best, what goals they would like to achieve and identify useful strategies. Students also engage in metacognition by reflecting on artifacts while developing self-awareness. Parents can view the student portion of their child’s Iris account; however, neither teachers nor parents can alter the content that students’ choose to post in their profile.

Iris can potentially be used to aid in the transition planning process for students within the CBE. Student profiles are intended to grow and evolve over time as students transition to new grades. Mosher, Boyd and Rae (2013a) state, “What is known in one context cannot be lost in another” (p 21).

DISCUSSION

Limitations

The reviewed literature mainly discusses the shortcomings for students with ASD. Few success stories are available to interpret, thus many suggestions to improve transition planning are offered. Research data often pertains to studies that are conducted in the United States, thus they cannot always be generalized, given that the laws and policies that govern education and disabilities are different in Alberta. It is recommended that future studies explore transition planning as it pertains to the educational context in Alberta.

CONCLUSION

Initiating, designing and implementing individualized transition planning for students who have ASD is imperative for their mental, physical and emotional well-being. Only with an effective and

purposeful transition plan can individuals with ASD live inclusive lives. Unfortunately, transition plans are often not created or implemented appropriately, as policy mandates.

This paper offers strategies that educators can use to enhance the transition planning process for students who have ASD. Specifically, enhancing student self-awareness, offering opportunities to develop self-determination, utilizing a team-based approach and intervening early are highlighted.

In her popular memoir documenting a mother's activism, *The Spark: A Mother's Story of Nurturing Genius*, Barnett questions, "Why is it all about what these kids can't do? Why isn't anyone looking more closely at what they can do" (Barnett 2013, 56)?

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BOOK REVIEW

The End of Average: How We Succeed in a World That Values Sameness

by Todd Rose

Toronto: HarperCollins, 2016

Chris Mattatall and Jeffrey MacCormack

It doesn't take much effort to think of examples of when we compare something—maybe even ourselves—to ideals, standards and measurements. Why do we do that? Festinger (1954) proposed that human beings have a basic drive to evaluate themselves through social comparisons. But do human beings really have this drive, or is this compulsion a learned behaviour, taught to us for generations? Todd Rose argues in his book, *The End of Average*, that by relying too much on averages, our society misses the true value of people. According to Rose, no one is average and the tendency to compare people to prescribed standards is strictly a human invention; one, he claims, that is spectacularly and scientifically wrong.

Challenging something so foundational to our world is no small task, which may be why the three parts of Rose's book differ so much in tone and content that they read like three entirely different books. In the first of his three parts, Rose traces the historical origins and social implications of average, illustrating his arguments with lively tales such as that of Aldophe Quetelet, the 18th-century Belgian scholar and early adopter of statistical analyses to groups of people, and Peter Molenaar, a long-time advocate of averagarianism,

who had an epiphanic road to Damascus revelation. Every facet of society, Rose posits, includes some recognition of average as a standard and, as such, is built on shaky foundations.

While Rose's deconstruction of average is persuasive and engaging, we are left wondering how we might admit undergraduates or hire employees if not by comparing averages. Rose highlights three principles of individuals as alternatives to averagarian thinking: the jaggedness, context and pathways principles. The jaggedness principle asserts that talent and human characteristics are never one-dimensional. The context principle asserts that human beings are largely defined by their contexts. Born traits, says Rose, are simply a myth. And finally, the pathways principle suggests that life's path is not set from birth. Indeed, each experience, meeting, conversation or event can alter our path, thinking and trajectory.

The last section of Rose's book provides case studies of how we can see individuality in action so that we can realize the true paradigm that governs human agency. Rose challenges us to replace an average-based system—say, in business and in education—with one that celebrates and calibrates for individual need for expression, development and identity. Rose's final admonition is to focus our attention on the nature of opportunity. Instead of using concepts of averages and standards to create opportunity, Rose advocates for

thinking in terms of equal fit. We should, he argues, let people's characteristics and needs determine what they receive, how they are taught and how they might serve in the workplace.

The central premise of *The End of Average* is unmistakable: no one is average. It sounds benign, but knowing how to apply Rose's ideas to the classroom is not simple. Putting aside for a moment Rose's somewhat undercooked suggestions about the value of competency-based schooling, imagining a postaveragarian school will require careful and passionate work.

After all, Rose's book may be new, but conflict between the covers has been around for a long time. We, as educators, may know better than others how complicated it can be to reconcile competing needs for efficient, broad-based programs with the needs for effective, individualized programs. Educators have been mulling over that tension for decades.

Furthermore, we would like to propose that the slight tang of progressive education that hits the palate when reading Rose's book may remind us to resume

that fiery discussion. Since the 1970s, when traditional education finally stuffed mainstream progressive education into the locker, we don't much talk about it. That may be why, despite arguing for competency-based education, individualized education and self-determined pathways, Rose avoids drawing connections between his own ideas and the ideas of progressive education. Rose's ideas are not new, they are only newly packaged, and Rose may want to distance himself from progressive education, but a knowledgeable reader will see Dewey's influence throughout the pages. Perhaps Rose represents a neoprogressive education, based on the science of the individual. Perhaps he is looking to turn over old ashes and reignite the fire. Either way, it is time for us to start thinking again about the power of individualized schooling, and Rose's book is a prodigious place to start.

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POEM

The Fast Walker

John Williamson, St Anne Academic Centre, Calgary

My friend Beth, who teaches what used to be called special education
Is the fastest walker I've ever met and I've been known to run marathons
But I can't keep up with her

She's a pretty good listener mostly, but sometimes
I turn to say something clever, as we pace the halls together,
But she's already gone,
And I'm left talking to a cyclone she left behind

My words mixing in
With the thick hallway air her briskness has agitated
Coffee, bacon, Axe body spray,
And something sweet and skunky
That should maybe be investigated
This twister of these vapors and my words
(which probably weren't so apt after all)
Spinning its course and falling to the floor
Swept up by caretaking
The air is made purer, for having been stirred
And things seem more possible

She's not trying to win a race, or to leave me behind
She just has a lot of people's shoes to walk in
Before the day is done
Broken shoes, mismatched shoes,
Or so say the normative voices Beth pays no attention to
A few too many clown shoes, that much is self-evident
Wheels and crutches that work like shoes,
That work just as good as shoes, when surfaces are just
Shoes that always go further than you expect

This spring Beth candidly told me
That after a bicycle accident, an injury and a surgery
She was too busy working 10-hour days
With and for students
To follow all her doctor's recovery orders
So one of her legs is now a bit shorter than the other

The risk when this happens, this "one leg shorter thing" is
If you're not careful you will find yourself walking in a circle
But as Beth would tell you, that's OK too, for in this thing we,
now with greater wisdom, call inclusion
With its circles of caring,
Circles of courage
Circles of patience
Saying the same thing all over again
Differently,
Circling back when each kid is ready

A circle is usually the fastest way between two points.

GUIDELINES FOR SUBMISSION

The Inclusive Educator Journal is the official journal of the Alberta Teachers' Association (ATA) Council for Inclusive Education. This journal is intended for teachers, administrators and other professionals involved in inclusive education. Its goals are to promote professional development for those working in inclusive learning environments and to provide readers with exemplars of best practices in inclusive education. The main audience for the journal is practising classroom teachers, so articles should have implications and practical applications for the classroom.

We welcome articles related to inclusive education practice from all educators. Our readers welcome

- articles describing promising or innovative practices in the field of inclusion, including implications for the implementation of those practices in classrooms or schools;
- research articles;
- reviews of books and technological applications, and evaluations of inclusive programs or materials;
- literature reviews; and
- articles discussing trends or issues related to inclusive practice.

Please ensure that your article is clear and concise and that it provides enough information so that readers can understand the issues or questions addressed, what was done, and the findings and recommendations.

Articles should be no more than 3,500 words, including illustrations, tables and the reference list. Book reviews should be no more than 2,000 words. Other articles and studies cited should reflect the most current work (within the past 10 years). All illustrations and tables from other sources must be referenced and appropriate releases obtained. Sources cited in the text of the article must appear in full in a reference list at the end of the article.

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