Chapter 15

Communication For Life: Promoting Communicative Competence For Mental Health And Well-being

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Introduction

Children and adolescents with intellectual disability have complex communication needs (CCN) and experience difficulties acquiring competency in communication. These young people are also at risk of emotional and behavioural disturbances, and psychopathology. It is the emergence of 'challenging behaviours' used by young people with intellectual disability that signals that they may be experiencing significant communicative, emotional, behavioural or mental health difficulties. Providing support is about 'seeing beyond the behaviour …and dealing with the reasons why' (Cross, 2004, p. 10) in order to a make a difference for young people with intellectual disability in the long term.

This chapter will briefly consider those behaviours of young people with intellectual disability that cause concern for families, carers, and clinicians, and that may be indicative of a specific communication impairment or disturbance of their emotional, behavioural, and mental health status. Next, the challenges that young people with intellectual disability have in achieving communicative competence will be described and how difficulties across communication domains impact on their mental health status discussed. The use of augmentative and alternative communication (AAC) will also be explored as a strategy for promoting communication competence from an early age to prevent emotional, behavioural, and mental health disturbances.

Challenging Behaviours

When children or adolescents with intellectual disability exhibit behaviours that challenge family, carers, and others within their environments and community, there may be many reasons (Cross, 2004). As part of a functional behavioural assessment,

clinicians will investigate underlying factors that may be contributing to the 'challenging behaviours' displayed by young people. These may include physiological causes (e.g., behavioural phenotypes, medications, sensory impairments) or environmental influences (e.g., physical surroundings, relationships or interactions with others, restricted opportunities or undesired activities) (White, 2001). Once these factors have been examined, it is important that the form and function of observed behaviours are examined in order to interpret the intent of the behaviour.

Behaviours of concern, or 'challenging behaviours,' may involve young people with intellectual disability causing harm to themselves (e.g., self-injury), property (e.g., throwing objects, breaking windows), or others (e.g., hitting, punching, scratching). Severe behavioural difficulties may result in exclusion from their home (due to family stress and breakdown), school or community, and require alternative care and schooling arrangements, or detention. These socially inappropriate or maladaptive behaviours can be interpreted as a form of communication that occurs because of an inadequate communication system, or they can be seen as behavioural determinants of emotional and behavioural disturbances, or diagnosed psychopathology (Baumgart, Johnson, & Helmsletter, 1990; Di Marco & Iacono, 2007; Donnellan, Mirenda, Mesaros & Fassbender, 1984). Ascertaining the meaning and underlying cause of such behaviours is complicated by 'diagnostic overshadowing' (Bernard & Turk, 2009) and 'behavioural overshadowing' (Di Marco & Iacono, 2007). This is where possible symptoms of mental health problems in young people with intellectual disability are overlooked because they are seen as being part of their intellectual disability.

It has long been established within the literature that there is a link between communication difficulties and challenging behaviours in young people with

intellectual disability (Baumgart et al., 1990; Donnellan et al., 1984). There has also been an association found between communication difficulties and mental health in typically developing children and adolescents that can be applied to young people with intellectual disability (Cross, 1999; 2004). This association is complex and multifaceted, although longitudinal studies have indicated that complex language disorders in childhood that persist into adolescence and young adulthood increase the risk of poor psychosocial outcomes and psychiatric disturbances in later life (Clegg, Hollis, Mawhood, & Rutter, 2005; Snowling, Bishop, Stothard, Chipchase, & Kaplan, 2006; Whitehouse, Watt, Line, & Bishop, 2009). Snow (2008) noted that achievement of communicative competence in childhood was a predictor for positive mental health outcomes in adolescence and adulthood. The next section will consider the development of communicative competence and its effect on mental health outcomes.

What Is Communicative Competence?

Communication is the use of verbal and nonverbal methods to exchange information with others. Partners in this dynamic exchange make sense of the communicative behaviours used by others to determine the intent and meaning of interactions. From birth, these exchanges between children and caregivers facilitate the development of children's linguistic, social, cognitive, and emotional knowledge and skills. Integration of these skills assist children to develop a level of competence to enable them to be active and effective communication partners within their communities and throughout their lifespan (Prizant & Wetherby, 1990; Light, 2003). Such integration is known as 'communicative competence' and is influenced by environmental factors, relationships

with caregivers, and interactions with others (Cross, 2004). Children gain competence through development of knowledge and skills in

- *Language content (semantics),* i.e., understanding and conveying meaning through words;
- *Language form (syntax),* i.e., the structure of language including the sound system, grammar, sentence structure and narratives; and
- *Language use (pragmatics),* i.e., being able to use language appropriately in a variety of contexts.

Typical Development Of Communicative Competence

In the prelinguistic stage of communication development (birth to approximately 18 months), typically developing children use behaviours (e.g., vocalisations, facial expressions, body movements) in response to their internal states and the environmental context. Caregivers interpret these responses as being communicative and make inferences about the meaning of children's behaviours (McCathren, Warren, & Yoder, 1996). Caregivers then respond to children in a way that is sensitive to children's communication needs, scaffolds their learning, and encourages acquisition of communication skills (White, 2001). As children grow and learn through these interactions, their communicative behaviours become more intentional (8-10 months). Children learn to use informal or idiosyncratic means of communication (e.g., eye gaze, vocalisations, gestures) to request, establish joint attention, and engage in social interaction (Prizant & Wetherby, 1990). As children develop further (12-18 months), their understanding of language and interactions increases, and their communicative intentions become more symbolic (single words) then linguistic (use of two or more

word combinations). They use words to request objects and actions, comment and share information, and engage in communicative games and routines (Hill & Coufal, 2005; McCathren et al., 1996).

The early childhood (18 months to 2 years) and preschool (3 to 5 years) stages of communication development are characterised by a rapid increase in children's knowledge/use of words and word combinations (e.g., semantic relations to simple sentence construction) to fulfil a range of communicative functions (e.g., request, comment, negate, respond). As development continues, there is a rapid increase in children's receptive/expressive vocabulary, ability to convey meaning, understanding/use of structural language, and the ability to use language in a variety of situations (Cross, 2004).

By the end of the preschool stage, children have acquired fundamental communication skills and a have a basic level of communicative competence. At this stage, children have started to interpret their own and other's emotional states, and use language to express their experiences (Giddan, Bade, Rickenberg, & Ryley, 1995). Furthermore, the level of competence achieved in this stage predicts acquisition of communication skills in the school years and adolescence required for 'transition to literacy [leading to positive] self-esteem, school attachment [and] mastery of an increasingly complex range of written and spoken discourse genres' (Snow, 2008; p. 7). These skills in turn promote positive mental health and well-being in children and adolescents.

In the school years (5-11 years), children continue to develop their level of competence through extension of their word knowledge, sentence length and complexity, use of narratives and conversation, as well as acquisition of literacy skills

(Reed, 2005). In this stage, there is a change in language requirements and the need to both understand and use more specific and technical vocabulary (e.g., words with extended meanings, semantic categories, definitions), and abstract or figurative language (e.g., humour, idioms) as they progress through the education system (Smith, 2005; Starling, 2003; van Mourik & Roberts, 2003). The development of self talk or 'inner voice' is important during this period for verbal organisation and flexibility, and learning self control and regulation of behaviours associated with internal emotional states (Cross, 2004; Giddan & Milling, 1999). All of these skills assist children in acquisition of the pragmatic skills necessary for understanding and expressing complex emotions, personal problem solving, peer mediation, conflict resolution, and establishment of relationships with family/peers that will provide emotional support for positive mental health in the long-term (Giddan et al., 1995; Hill & Coufal, 2005; Snow, 2008)

Adolescence (11-20 years) is a time of psychological change and development with increased emotional, cognitive, and linguistic growth occurring during this period. Adolescents learn to become independent, consolidating a sense of personal identity and establishing roles within their communities (Smith, 2005). This independence is achieved through the development of sophisticated communication skills across a range of contexts that enables them to be flexible and adaptable to the increased rate and complexity of interactions (Smith, 2005). Examples include the extension of skills in Information and Communication Technologies (ICT, e.g., internet, email, SMS or texting), use of 'teen talk' specific to peer groups (Starling, 2003), appropriate interpersonal skills, and being able to 'code switch' between language requirements for different forms of oral and written discourse (e.g., joking with peers compared to the

demands of oral presentations, debating, written reports and essays in the classroom) (Starling, 2003). A high level of communicative competence in these skills ensures that adolescents achieve academic success, thus promoting positive self-esteem and personal identity (Snow, 2008). Snow (2008) noted that the level of communicative competence (particularly oral language) achieved in adolescence reflects 'a range of early protective factors, such as secure attachment, child-focussed parenting; adequate exposure to and experience with a variety of linguistic forms and opportunities; exposure to prosocial role models; consistent and developmentally appropriate educational input; and access to specialist services along the way if needed' (p. 8). Indeed, these factors need to be kept in mind when considering communicative competence in young people with intellectual disability and the mental health impact of developmental difficulties through childhood and adolescence.

Communicative Competence Development In Young People With Intellectual Disability

Acquisition of communication skills for children and adolescents with intellectual disability follows a similar developmental pattern as described above and can be seen as a continuum from non-symbolic to symbolic skill acquisition (Beukelman & Mirenda, 2005). However, the rate of skill acquisition, level of communicative competence and functional ability achieved will depend on

- Intrinsic variables, such as individuals' cognitive and/or neurological status (Sevcik, 2006) and psychosocial attributes, such as patterns of attention, social responsiveness, motivation for learning and communication, and resilience (Light, 2003); and

- Extrinsic variables, such as the demands of an individual's environment, including responsiveness of communication partners (Light, 2003; Prizant & Wetherby, 1990).

According to studies conducted in the UK and Australia, 45% of individuals with an intellectual disability had *significant* communication impairments or complex communication needs (Department of Health, 2007; Perry, Reilly, Bloomberg, & Johnson, 2004) and up to 80% have *some* communication impairments (Scottish Executive, 2000). The patterns of development along the continuum of intellectual disability (from severe to milder levels) often result in different communication profiles. These are briefly described below.

Communication Profiles Of Young People Across The Levels of Intellectual Disability

Some young people with intellectual disability do not progress beyond the preintentional level of communication development, are non-symbolic and have difficulties understanding and interacting with the world around them. Often young people at this stage of communication do not learn that they need to attend to or interact with objects, people, and events in their environment, and thus do not know how to engage in appropriate communicative exchanges (White, 2001). They may use communicative behaviors that are idiosyncratic and unconventional (e.g., facial expressions, physical movements, gestures, vocalisations) or challenging (e.g., screaming, grabbing, hitting, throwing) in their 'best attempt to transmit a message or meet a need' (Bopp, Brown, & Mirenda, 2004; p. 5). These behaviors may result in fewer opportunities for the young person to have a positive impact on his/her environment (Beukelman & Mirenda, 2005). Thus, the road to communicative

competence may become an isolating experience, with the young person having limited skills to enable connection with the world, establish relationships, and express thoughts, ideas, and feelings (Light, 2003; White, 2001).

Young people with more moderate levels of intellectual disability develop symbolic skills and use verbal communication. These young people may have been identified from an early age as having communication difficulties due to their intellectual disability and need for specialist services (e.g., early intervention, special education support). They may also have been introduced to a range of multimodal AAC systems (discussed later in the chapter) through childhood and adolescence to assist development of receptive (e.g., activity schedules, behaviour scripts, visual timetables) and expressive skills (e.g., choice boards, request cards, chat books, communication books) (Beukelman & Mirenda, 2005; ScopeVIC, n.d.). Even with these supports, achievement of functional communication skills and competence across communication domains may not be guaranteed in the long term.

At the other end of the intellectual disability continuum, young people with milder levels of intellectual disability have unique communication needs. These young people often appear to be competent communicators due to their fluent verbal skills, but may have significant undiagnosed communication difficulties in receptive, expressive, pragmatic, and literacy skills that persist into adolescence and adulthood (White, 2007). They may attend mainstream schools with additional unidentified learning needs or attend schools for children with ‘emotional or behavioural disturbance’ and have limited access to specialist services (Hall, 2000). Communication partners overestimate the communication skills of these young people, use language at a higher level than they can understand, and expect a level of competence in interactions beyond their skill level

(Kevan, 2003; Smidt, Balandin, Reed, & Sigafoos, 2007). These difficulties place young people at a disadvantage in interactions in school and community settings. They may appear to be uncooperative or oppositional when asked questions (White, 2007), uninterested, not motivated or detached, and revert to 'safe' interpersonal communicative behaviours (e.g., nodding, shrugging, 'dunno', 'maybe') when in social settings, leading to further disadvantage (Snow, 2008).

Young people with milder levels of intellectual disability may feel the stigma of difference, more so than those with greater levels of disability, in the struggle to compare themselves with and seek acceptance by others. They may feel alienated and disconnected (Starling, 2003), and in the struggle for identity may easily be drawn to groups with antisocial and delinquent behaviour patterns. They may not acknowledge (or be aware of) their disability, thereby placing themselves at a disadvantage, and engage in 'at risk' or offending behaviours as a consequence of exploitation; deficits in knowledge, skills, and experience, or an inability to 'function responsibly in a complex world' (Cockram, 2005; p. 75). They also have complicated clinical profiles that may include co-morbid mental health diagnoses, limited social networks or social isolation, complex family systems, poor academic outcomes, drug and alcohol abuse, and acquired brain injury (White, 2007).

As discussed, children and adolescents with varying levels of intellectual disability are confronted by a range of difficulties that impact on their ability to acquire competent communication skills and achieve the positive outcomes of their typically developing peers. A literature review of the specific difficulties in the communication domains of 'content, form, and use' experienced by young people with mild to moderate intellectual disabilities has been summarised in Table 15.1.

[Insert Table 15.1 here]

AAC And Environmental Challenges

The significant communication impairments (as outlined in Table 15.1) experienced by young people with intellectual disability have an effect on their ability to function within the community, and to establish and maintain social interactions. AAC systems are used to support and extend development of functional communication skills. An AAC system refers to a 'compilation of methods and technology designed to supplement spoken communication for people with limited speech or language skills' (Wilkinson & Hennig, 2007; p.58).

AAC technologies use multimodal approaches to enhance communication development and include symbols that may be unaided (e.g., body movements, facial expressions, touch cues, gesture or sign language) or aided (i.e., objects, photos, symbols, written text) (Beukelman & Mirenda, 2005; Wilkinson & Hennig, 2007). Aided AAC systems may incorporate 'low-technology' aids (e.g., communication boards, visual schedules, paper and pen) or 'high technology' aids (e.g., voice output communication aids, computer-based technologies or devices) (Wilkinson & Hennig, 2007). Yet regardless of the communicative modes or aids used in interventions with children and adolescents with intellectual disability, it is important that they are used to assist the development of language comprehension, production, and use in interactions (Sevcik, 2006). In this way, young people may be able to achieve a level of communicative competence that promotes positive interactions, mental health, and wellbeing. However, there may be environmental factors in young people's lives that

interfere with the successful use of AAC and impede their ability to develop functional communication.

Cress and Marvin (2003) indicated that for a child with multiple developmental needs, the burden of care, and focus on medical and physical interventions in early childhood often takes precedence over the introduction of a communication system for the child. In situations such as these, ‘children may move on to the preschool years with under-developed, limited communication repertoires, and restricted access to formal AAC modes’ (Cress & Marvin, 2003; p. 254). Light and Drager (2007) also noted that preschoolers with CCN were often introduced to limited modes of communication (e.g., gestures, communication books, simple technologies with digitised speech output) and a restricted number of communicative functions (i.e., requesting wants and needs) that limited their opportunities and interactions with communication partners.

Additionally, Downing (2005) indicated that there were many challenges for adolescents with severe disabilities who were included in general classrooms. She found that in this environment, additional effort was required to ensure that adolescents who used AAC were given opportunities for sharing information, expanding their communicative functions (e.g., greetings/ farewells, rejecting, making requests, commenting), using multimodal communication, and being given age-appropriate vocabulary and messages for social language. Smith (2005) also reviewed literature that indicated that some communication aids did not allow for the rapid rate of communication, and flexibility of topics and vocabulary required for adolescent interactions.

Furthermore, it has been noted in the literature and clinical practice that there is a growing number of young people with intellectual disability who no longer use their

AAC systems due to operational and self-image/identity issues (Clarke, McConachie, Price, & Wood, 2001; Smith, 2005). Light and Drager (2007) proposed that it was the *interaction* between communication partners, social context, and purpose of interaction that determined the effectiveness of AAC systems and whether individuals continued to use them in the long term. The following case examples illustrate some of the barriers to using AAC that young people with intellectual disability may have when they experience changes and unfamiliar environments.

Case 1

A child with a moderate level of intellectual disability started at a new school. She understood and used speech, key word signing, and photos for communication. Her new teachers and peers had difficulties understanding her speech, did not know any signs and used line drawings only in the classroom. The child had difficulties participating in class activities and interacting in the playground. She began hitting out at others, throwing things, and screaming that resulted in suspensions from school.

Case 2

An adolescent with a mild level of intellectual disability would not use his symbol diary and schedule systems because it made him look different and ‘uncool’ among peers in his mainstream school. He became anxious and confused when he forgot the routine or when changes occurred. The increased anxiety and comprehension difficulties resulted in aggressive outbursts at home leading to family stress.

Case 3

A young adult with a moderate intellectual disability and Autism Spectrum Disorder (ASD) had used multimodal AAC systems at his special school (e.g. activity schedules, conversational topic book) but when he started in a supported work place, these were outdated. His AAC systems did not have the necessary vocabulary for following work tasks, engage in conversations or establish new friendships. This resulted in reduced participation in work activities and withdrawal from others in the workplace.

These clinical examples reflect the difficulties that young people with intellectual disability and complex communication needs experience due to inadequate communication systems, communication partners that don't understand their unique needs, and the impact of changes in environmental and social contexts. Lack of competence in dealing with these demands increases a young person's vulnerability to mental health issues (Smith, 2005), and can exacerbate existing behavioural challenges. It is important therefore, for clinicians to be aware of these environmental challenges and assist young people's communication partners to overcome barriers that may exist. The *Participation Model* (Beukelman & Mirenda, 2005) provides a useful framework for AAC assessment and intervention for young people with intellectual disability. This model takes into consideration young people's current and future AAC needs, and barriers to participation by 'planning for today and tomorrow'. This framework may assist in planning AAC strategies across the lifespan to reduce the risk of mental heath disturbances.

The Impact Of Communicative Competence On Mental Health

Epidemiological studies have shown that 31-50% of young people with intellectual disability (4-19 years) have significant emotional, behavioural or psychiatric disorders (Cormack, Brown, & Hastings, 2000; Einfeld & Tonge, 1996b; Einfeld, et al., 2006; Hastings & Mount, 2001). There are many factors that increase the risk of individuals with intellectual disability experiencing emotional and behavioural disturbances, and psychopathology. These include *developmental* (e.g., cognitive impairment), *biological* (e.g., physical health, epilepsy, sensory impairments), *psychological* (e.g., adverse life events, poor attachments), and *social* (e.g., deprivation; family dysfunction, parental stress or mental health) risk factors (Dosen, 2005b; Dykens, 2000; Emerson, Robertson & Wood, 2005; Hatton & Emerson, 2004; Koskentausta, Iivanainen, & Almqvist, 2007; Kwok & Cheung, 2007; IASSID, 2001). However, it is the cumulative effect of these factors that increases the risk of mental health disorders.

Curran and Kyrkou (2008) noted that the key elements for emotional development included expression and recognition of emotions in self and others, self-regulation, establishment of relationships, and recognition of a sense of self. Acquisition of these skills requires a high level of communicative competence that many young people with intellectual disabilities do not achieve, especially those who have more severe levels of intellectual disability such that their communication skills are pre-symbolic or even pre-intentional. Emotional and interpersonal skills will be affected by difficulties with semantic competence (e.g., limited vocabulary to describe emotions; poor comprehension of ambiguities and subtleties of language), narrative competence (e.g., being able to understand own experiences and share these with others), and pragmatic competence (e.g., knowing rules of conversation and using a flexible repertoire of social skills). In fact, reduced competence in these areas has been

identified as part of the communication profile of young people with emotional/behavioural disturbances and mental health disorders who access services (Anger, 1999; Koskentausta et al., 2007; Russo, 2004). Having communication impairments and mental health disturbances can be ‘a frustrating and lonely experience for both the child and the family’ (Russo, 2004; p. 113). It affects their quality of life and impacts on young people’s relationships with family members and peers, coping in social situations, academic success, employment opportunities, self-esteem, and personal identity thus affecting mental health outcomes (Hill & Coufal, 2005; Russo, 2004; Snow, 2008, Starling 2003).

A review of the literature on young people with mild to moderate intellectual disabilities revealed that the clinical presentation of emotional and behavioural disturbances or mental health disorders is through

a) *Internalised behaviours*, such as withdrawal, thought problems, cyclical mood and behaviour changes, emotional reactivity, depression, and anxiety (Bernard & Turk, 2009; Dekker, Koot, van der Ende, & Verhulst, 2002; Hartley, Sikora, & McCoy, 2008); and
b) *Externalised behaviours*, such as hyperactivity, disruptiveness, antisocial behaviours, aggression, self-injurious behaviours, non-compliance, and inattentiveness (Bernard & Turk, 2009; Brereton, Tonge, & Einfeld, 2006; Hartley et al., 2008).

An ‘inner voice’ (also referred to as internal language, inner/private speech) is dependent on a young person’s level of communicative competence, including acquisition of a symbolic system in order to develop an internal representation of experiences, and also narrative skills (Cross, 2004; Prizant & Wetherby, 1990). The

internalised and externalised behaviours associated with emotional and behavioural disturbances may reflect young people's ineffective communication skills, including difficulties in developing an 'inner voice' that allows them to regulate and modulate their inner (emotions, arousal levels) and external environments (Audet & Hummel, 1990; Anger, 1999). An 'inner voice' is related to self-control and helps 'mediate between intention and action' (Cross, Blake, Tunbridge, & Gill, 2001, p. 229).

An 'inner voice' also helps with reflecting, organising information, formulating ideas, and being able to interact effectively with others (e.g., repair communication breakdown, negotiating, problem solving) (Audet & Hummel, 1990; Anger, 1999; Prizant & Wetherby, 1990). Young people with intellectual disability who have not developed an 'inner voice' may have behavioural outbursts or violent reactions in response to emotional upsets or threatening situations as they are unable to consider the consequences of their actions or an alternative response (Cross, 2004). Therefore, if young people with intellectual disability have significant difficulties acquiring basic functional communication skills, then using an 'inner voice' for internalising thoughts and regulating behaviours is going to be particularly difficult. Such difficulties may have implications for emotional and interpersonal skill development, and mental health outcomes.

Communication for Life: Promoting Communicative Competence For Mental Health And Well-being

As noted, acquiring a level of communicative competence required for positive mental health is difficult for children and adolescents with intellectual disability. Difficulties with communication development in conjunction with increased developmental,

biological, psychological, and social risk factors limit young people's capacity to achieve the positive mental health outcomes of their typically developing peers. Therefore it is necessary to attempt to bridge the gap and promote communicative competence across the lifespan through AAC interventions.

AAC interventions have been utilised with children and adolescents with intellectual disability since the mid 1980s (Beukelman & Mirenda, 2005), with an extensive research base supporting its use with this population. AAC has been demonstrated to

- Support development of expressive and receptive communication skills;
- Promote the use of a range of communicative functions across contexts and interactive partners;
- Reduce problem or challenging behaviours;
- Provide a foundation for later linguistic development;
- Support academic learning, participation in the educational curriculum, and literacy development;
- Support the establishment of peer relationships; and
- Promote acquisition of skills required for post-school employment and community living (McNaughton & Bryen, 2007; Ratcliffe & Cress, 1998; Sevcik, 2006; Sturm & Clendon, 2004; Wilkinson & Hennig, 2007).

Communicative competence can be developed by using multimodal AAC strategies within naturally occurring routines, play situations, and social contexts, such as home, school, and the community (Nurcombe, Anger, & Hoyland, 2001). Involvement of communication partners (i.e., family members, peers, other professionals) is essential in any AAC intervention. Parent training programs, such as

The Hanen Center's *It Takes Two to Talk*® (for parents of children with language delay) and *More Than Words*® (for parents of children with ASD), teach parents how to facilitate communication development in everyday situations (see www.hanen.org).

Light (1989; as cited in Light, 2003) proposed that the attainment of a level of communicative competence using AAC requires the integration of knowledge, judgment, and skills across four domains, described by Light (2003) as

- *Linguistic competence*: Receptive and expressive skills in the form, content, and use of spoken language and the 'linguistic code' used in AAC systems, and the ability to switch between codes;
- *Operational competence*: The ability to produce and sequence unaided symbols (e.g. gestures, signs), and access low/ high technology aided AAC systems;
- *Social competence*: Pragmatic (i.e., discourse and communicative functions) and interpersonal skills (e.g., being active and responsive in interactions); and
- *Strategic competence*: Compensatory strategies to manage limitations in the other domains.

Review of the AAC and language intervention literature has revealed numerous strategies that can be used to promote communicative competence in young people with intellectual disability. Some of these strategies have a strong evidence base and other strategies have been included as they have been found to work in clinical practice. The selection of specific communication goals and intervention strategies should always be based on a thorough communication assessment, consideration of factors associated with the presence of 'challenging behaviours', and with multidisciplinary consultation. The strategies described below focus on promotion of communicative competence in young people with mild-moderate levels of intellectual disability in order to prevent

mental health disturbances. The main aim of the strategies is to integrate AAC modes with young people's natural speech in order to achieve effective communication (Hustard & Shapley, 2003)

Development Of Linguistic Competence

The aim of augmenting spoken language with AAC is to extend young people's understanding of different linguistic codes (i.e., speech, symbols, sign), assist with learning the meanings of symbols/signs (content/semantics), and provide models for combining and ordering words/symbols/signs for generative language (form/syntax) (Mirenda, 2008; Romski & Sevcik, 2003). AAC can facilitate the expansion of vocabulary (semantics) that is essential for a range of communicative functions (pragmatics) (Anger, 1999; Burkhart, 2008; Downing, 2005), such as

- Directing attention;
- Requesting, for example, objects and actions, social routine,; permission, information and clarification, asking questions;
- Rejecting and protesting;
- Self-expression and assertion, for example, showing off, expressing feelings, asserting independence, negotiating and bargaining;
- Naming and commenting, for example, commenting on an action/object, describing;
- Giving/sharing information and stating opinions; and
- Social interaction, for example, greeting, acknowledging, turn-taking, relating events, talking about past and future, teasing, making up stories to share information, initiation, maintenance and termination of conversations.

Acquisition of a vocabulary and a repertoire of communicative functions can be achieved by immersing children in language rich environments where communication partners use opportunities within daily routines to provide language models and prompt appropriate use. Examples of early intervention approaches for promotion of communicative competence in children with intellectual disability are described below.

Aided Language Stimulation (ALS)

Aided Language Stimulation (ALS; Goossens, Crain, & Elder, 1992) is an approach developed for children requiring AAC systems that uses a total-immersion approach (Beukelman & Mirenda, 2005). The communication partner simultaneously uses spoken language and points to symbols on a communication display, thus modelling how symbols can be used naturally and interactively in activities. This technique requires the use of topic boards for activities and provides an opportunity for language mapping aimed at increasing receptive language skills (Dada & Alant, 2009). Romski and Sevcik (2003) noted that the essential elements of this approach were 'engineering the environment, including overlays and selecting vocabulary specific to daily activities' (p. 149).

Although studies on the use of ALS have been limited to small samples, this technique has been shown to increase symbol comprehension and production in three children with moderate intellectual disability (Harris & Reichle, 2004), increase the syntactic performance on manual communication boards for four out of nine participants after a week intensive intervention (Bruno & Trembath, 2006), and facilitate the acquisition of target vocabulary items across three activities for four children following a three-week intervention period.

BLADES Therapy

BLADES Therapy (based on the Bristol Language Development Scales, Gutfreund, Harrison, & Wells, 1989, as cited in Sherwood, 2004) focuses on semantic and pragmatic development. There is limited research on this approach, however Sherwood (2004) reported positive results using BLADES therapy that incorporated parent training (2 sessions) and parent-child group intervention (6 sessions) over an 8 week period. Evaluation of the intervention revealed that the majority of parents indicated that their children's communication skills had improved, and they felt that they had changed the way they interacted with their child.

The main feature of BLADES Therapy (Sherwood, 2004) is the acquisition of verbs to promote two word phrases across five categories: *possession* (ownership, e.g., got), *location* (movement, e.g., sit down, go), *experience* (inner thoughts and feelings, e.g., want, like, listen/hear), *attribution* (physical properties, e.g., that's a …, open) and *function* (ideas peculiar to people/objects, e.g., what do?, eat/drink, play) (Sherwood, 2004). Teaching strategies involve i) *mapping*, making the meaning obvious to the child while modelling the word at the critical time; ii) *having the child say the word* by prompting, such as the use of object and gestural aids, and 'waiting', iii) *generalisation* of the new verb phrases into daily routines, interactions, and book-sharing activities using pragmatic functions for 'controlling the environment…giving or receiving information…expressing a feeling' (Sherwood, 2004; p. 11).

This technique has been used in clinical practice with children with mild-moderate intellectual disability by augmenting the strategies with additional AAC (signs, photos, symbols, symbol workbooks). BLADES Therapy provides a structured

developmental framework for extending beyond the one word/sign/symbol level and teaching functional vocabulary that incorporates parent training and generalisation, which is particularly important for children with intellectual disability.

Development Of Operational Competence

The use of multimodal AAC systems, including both unaided (e.g., gestures, signs) and aided (e.g., photos, symbols) modes, will promote development of operational competence. Burkhart (2008) noted that teaching young people with intellectual disability to use 'multiple systems is far more powerful than the use of any one system' (p. 4). Such teaching assists young people to be flexible and adaptive to meet the requirements of a variety of communication partners and situations, thereby enabling them to be more efficient and effective communicators. The ability to use AAC systems depends on a young person's level of communication, including their symbolic representational skills, memory skills, scanning abilities, and discrimination skills (Burkhart, 2008; Rowland & Schweigert, 2003). A young person will also use an AAC system that is meaningful, motivating, and organised (e.g., Pragmatic Organisation Dynamic Displays, engineered displays; Burkhart, 2008) so it is accessible.

In more recent times, researchers and clinicians have been exploring ICT or 'funky gadgets' (Gillett & DePompei, 2004; Ireland, 2007), such as smart phones and personal data assistants (PDA), as AAC aids. Adolescents with intellectual disability may be more likely to use these aids than other forms as they are more acceptable to peers, however they require literacy skills (Gillett & DePompei, 2004). Westby (2010) noted that accessing these types of technology required more than the ability to decode the written word; it required *visual* literacy for images and video, *computer* literacy for

computer use (and devices) and software, and *media or technology* literacy in order to understand digital and multimedia formats on the internet. The *Multiliteracies Map,* developed in South Australia provides a four dimension approach to teaching multiliteracy skills in schools and can assist with observing, assessing, and planning typically developing children's literacy learning (for more information on Multiliteracies Map see http://www.earlyyearsliteracy.sa.edu.au/ and Westby, 2010; for ideas for general literacy instruction for those with complex communication needs see Clendon & Erickson, 2009).

Development Of Social Competence

Social competence relies on the acquisition of pragmatic skills and interpersonal skills that includes effective use of communicative functions and discourse, and being an active and responsive communication partner (i.e., showing interest in interactions, responding to questions/comments, showing consideration for others etc.; Burkhart, 2008). Young people with intellectual disability need to be given a range of social experiences to have the opportunity to learn these skills. Such opportunities include, for example, setting up child-directed activities with opportunities to make choices, experience control over their environment and interact with peers (Burkhart, 2008; Light & Drager, 2007). Some specific AAC strategies that can assist with development of these skills are outlined below.

Talking Mats®

Talking Mats® are a low-technology augmentative communication framework that assists young people with intellectual disability to understand and express their views

and feelings about choices in their lives (Cameron & Murphy, 2002; Murphy & Cameron, 2008). Picture symbols are used to represent *topics* being explored, *options* and *emotions* or feeling about each option. Murphy and Cameron (2008) found that Talking Mats® enabled individuals with intellectual disability with receptive language skills at three or more information carrying words (ICWs, i.e. understanding of three or more key ideas in sentence) to effectively and reliably express their views.

Social Stories™

Social Stories™ were initially developed for children with ASD and 'describe social situations in which an individual might have difficulty identifying salient social cues, expected behaviours, and consequences of behaving in various ways' (Reynhout & Carter, 2007; p. 173). Social Stories™ were developed by Carol Gray who provided specific guidelines for writing a social story using six sentence types: descriptive (describe what to do), perspective (thoughts and feelings of others), affirmative (reassures child), directive (appropriate behavioural response), control (analogies), and cooperative (who can assist child) (Crozier & Tincani, 2007). Social Stories™ are written from the child's perspective and are implemented by reading them to the child or recording them onto audio or video (Reynhout & Carter, 2006).

Social Stories™, are not an AAC intervention, however they have been used with children and adolescents with intellectual disability augmented with photos, drawings, and symbols. Research has yet to provide adequate evidence of the effectiveness of this technique. Nonetheless, some small scale studies have indicated behaviour change following the use of Social Stories™ (Crozier & Tincani, 2007; Reynhout & Carter, 2007). An individual's levels of cognitive and communicative

functioning appear to be important considerations when implementing Social Stories™ (Reynhout & Carter, 2006).

Comic Strip Conversations

Comic Strip Conversations were also developed by Carol Gray for young people with ASD. They are a visual communication strategy that involves simple drawings (using stick figures, colour, speech, and thought bubbles) to concretely represent a conversation between two or more people (Barnhill, 2002). They can assist a young person to process and understand interactions, and support social and emotional understanding. There is very little research evidence on the use of this strategy. However, in clinical practice Comic Strip Conversations have been used to explain major life changes, support re-telling of events, match emotional expression with thought and language processes, develop theory of mind, structure social interactions, support activity choices, and facilitate transition (Quinn, 2006).

Development Of Strategic Competence

Beukelman and Mirenda (2005) noted that interventions for strategic competence focused on teaching compensatory and repairs strategies for when young people with intellectual disability experience communication breakdown or interaction difficulties. Strategies may include teaching young people to repeat what has been communicated, rephrase or use another communication mode. It is also important to teach communication partners how to manage breakdowns in communication and ways to prompt young people to use their repair strategies.

Conclusion

The majority of young people with intellectual disability will have some communication difficulty that affects the way in which they understand the world around them, express their basic needs, wants, thoughts, and feelings and relate to their families, peers, and others in the community. The complex interrelationship between cognitive, communication, emotional, and social development means that a difficulty in one area will impact on the development in other areas. Thus, ineffective communication systems will affect the way young people with intellectual disability interpret their internal states and regulate their responses, and how they negotiate personal and social encounters by engaging with others in an active and responsive manner.

The presence of severe behaviours in young people may mask an underlying communication difficulty or mental health disturbance. The challenge for families and professionals is to be proactive and support communication development from childhood and across the lifespan to reduce the risk of emotional and behavioural disturbances, and poor mental health outcomes later in life. Black and Devine (n.d.) stated that ‘Good mental health is about the ability and opportunity to enjoy life, to deal with disappointment and sadness, and to have a positive sense of well being and self worth’ (p. 2). Promoting communicative competence through the use of AAC strategies facilitates multimodal communication in order for young people with intellectual disability to connect with others, exert control over their environments, and develop relationships with their families, peers, and others in the community, thus promoting positive mental health.

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Table 15.1

Communication Difficulties Experienced By Young People With Mild-Moderate Intellectual Disability

Communication Domain	Difficulties
Content/ Semantics	▪ Delayed development in both receptive and expressive skills. ▪ Limited vocabulary – use of 'survival' vocabulary, non-specific language, word finding problems. ▪ Verbal language lacks information and meaning. ▪ Requires longer to process information. ▪ Difficulties understanding questions (e.g., yes/no, either/or, 'who, what, where, why' questions) - suggestibility, acquiescence or 'yea-saying'. ▪ Difficulties understanding instructions longer than three key elements - context-dependent, watches others. ▪ Difficulties understanding abstract or complex language that includes 'higher level language' – takes literally. – Concepts e.g., time, emotions. – Word meanings and definitions, – Analogies and lexical ambiguities, – Figurative language (e.g., humour, slang, idioms, irony, metaphors, similes, proverbs), – Problem solving.

	▪ Difficulties learning to read – sight words, re-read to obtain meaning.
Form/ Syntax	▪ Delayed vocal development, articulation difficulties, and decreased fluency. ▪ Delayed development of first words and word combinations. ▪ Difficulties understanding/using grammatical markers e.g. tenses, negatives, conjunctions (and, because). ▪ Difficulties understanding complex sentence structures. ▪ Reduced sentence length, fragmented, and word order confused. ▪ Difficulties with recounting experiences, stories, narratives – leaves out detail, poor sequencing, confabulation. ▪ Difficulties generating written language
Use/ Pragmatics	▪ Difficulties in unfamiliar situations - require contextual information. ▪ Difficulties using appropriate linguistic forms in different contexts (e.g. politeness, ‘code switching’). ▪ Reduced use of communicative functions and initiations. ▪ Difficulties in conversation – topics inappropriate, repetitive, and tangential; poor turn-taking. ▪ Difficulties understanding/using appropriate non-verbal behaviours (e.g. personal space, body language, intonation, volume control, speech rate). ▪ Difficulties signalling/responding to communication

	breakdown. ▪ Poor social responsiveness and difficulties understanding requirements of social contexts, social rules, nuances of establishing friendships with peers.

(Adapted from Abbeduto & Hesketh, 1997; Abbeduto, Warren & Conners, 2007; Landa, 2007; White, 2007).