A Heuristic on Best Practices in Working with Students at the Post-secondary (College or University) level experiencing Autism Spectrum Disorder. An Investigation, a Guide.

Kevin Reinhardt MA, C.Psych.Assoc.
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Project Description

This investigation attempted to look at what is being offered to students who experience Autistic Spectrum Disorder (ASD), primarily Asperger’s or High Functioning Autism (HFA), at post-secondary programs in Canada and the United States. This investigator visited or corresponded with staff, students, and parents at a variety of such post-secondary institutions or programs. At each, three questions were posed: “What are we doing now?”, “What issues are being identified?”, and “What should we be doing to help meet the needs of these students at post-secondary?”.

Along with program and institution visits and correspondence, this reporter/observer, conducting this investigation, was able to attend a number of ASD oriented conferences, trainings and presentations. A literature review was done and a variety of books and informational websites were accessed. All of the information obtained was synthesized into the following report.

The following characteristics of ASD discussed in this report may or may not be present in a particular individual experiencing Asperger’s Syndrome. No one individual can be expected to be described herein. Due to the diversity and complexity of this disability, many of the characteristics or problems discussed may not be evident in any one particular individual. An understanding of all of these characteristics is important, because the behaviour of these individuals experiencing ASD is frequently misinterpreted. As support staff will encounter a range of individuals, and as programs will need to respond to the needs of that range of
individuals who experience ASD, a full understanding of the many possible characteristics is necessary. Extensive training and understanding for staff working with these individuals is imperative as many behaviours that seem odd or unusual are due to the disability and not the result of intentional rudeness or other psychological/psychiatric issues on the part of the student.

Much of the information presented here is from conversation or verbal presentation made with or to this reporter. I take full responsibility for the content of this report and the statements contained therein. It is possible that there have been misunderstandings on my part and any perceived misinterpretation or misrepresentation is my responsibility alone and I apologize to any of the respondents who may feel that they were so represented. In large part, respondents have been left unidentified to maintain confidentiality and allow them to speak freely.

Acknowledgments

There are a large number of people to thank who have been of great assistance in the compilation of this report. It should be pointed out that large parts of this report have been informed by the Alcorn MacKay, S., (2010), 'Identifying Trends and Supports for Students with Autism Spectrum Disorder Transitioning into Postsecondary', Toronto: Higher Education Quality Council of Ontario report. Much of the information of that report is included in this report and full acknowledgment and thanks for this work is made. Staff at: University of Toronto; Humber College; Algonquin College; Loyalist College; Carleton University; University of Ottawa; University of Calgary; State University New York (SUNY) at Albany; College Internship Program (CIP) Amherst; Landmark College, Vermont; University of California at
Los Angeles (UCLA); Dr. Wendy Roberts, Hospital For Sick Children Toronto, Dr. Susan Bryson, Isaak Walton Killam Hospital for Children, Halifax and Dalhousie University Craig Chair in Autism Research; Randy Lewis senior V.P. Supply Chain and Logistics, Walgreen Co.; Thorkil Sonne, The Specialist People Foundation, Denmark; Geneva Centre for Autism, Toronto; Kerry's Place, York Region; Autism Ontario; Wendy Mitchell, PhD Candidate at the University of Alberta; Dr. James Bebko, York University Mentorship Program; Durham College and UOIT; Dr. Catherine Rice, CDC, CARD, U. of South Florida; College Committee on Disability Issues (CCDI) Ontario; Dr. Louise LaRose, London; The Hawkins Institute, Toronto; The Catholic University of America, The College Achievement Program, Denver Colorado; Geneva Centre, Toronto; Autism Ontario; Marshal University, Autism Training Center, West Virginia; Dr. Jane Thierfeld Brown, University of Connecticut; Dr. Lorraine E. Wolf, Boston University; the Government of Ontario; and others. My thanks to them all. Having listed them here does not indicate that these persons or entities, their staff, students, or associated parents, subscribe to the observations presented herein or the conclusions I have drawn. I also wish to thank my colleagues and administration at Seneca College and the students with whom I have worked over my many years at Seneca. You too have informed my knowledge of ASD and the issues facing students and institutions in attempting to mutually meet each other’s needs. Lastly, I would like to thank my family, my wife and her parents for putting up with me throughout the period of my sabbatical and especially my sons Alexander and Daniel who have given me many insights into the struggles of students (and parents) embarking on their post-secondary studies while dealing with disability issues and especially ASD.

Summary

What we do now.
It was discovered during this investigation that services in Ontario vary significantly from institution to institution for those students experiencing ASD and attempting post-secondary studies. We find some post-secondary institutions with no dedicated services for the student experiencing ASD. There is nothing available to these students beyond basic Disability Services Office (DSO, also sometimes known alternatively as 'Access Office') services. What services exist may be delivered by very committed staff, albeit in overworked, under-resourced departments, untrained in ASD, utilizing (sometimes) volunteers or peer students to deliver generic programming to the general student population. This is contrasted with other post-secondary support services at institutions in Ontario that have heavily supported, specific ASD services, utilizing committed and highly trained staff fully conversant in the specifics of service necessary for individuals and families experiencing ASD.

Outside of Ontario the situation is similar. There are, however, within this mix of programs, some potential 'model programs' both within Ontario and outside this province from which we may learn much and which we may wish to emulate, in full or in part.

“What are the issues?”

As a 'first principle' it must be accepted that by the nature of the disability affecting these individuals, ASD support services cannot be "one size fits all" in any rigid sense. This reality runs contrary to the need in many institutions to have predictable managed and defined programs within which identified students are expected to fit, and who will then receive a predictable service based upon their identification. The nature of the definition and understanding of ASD is itself developing and changing. We are currently learning more all the time about ASD and in particular, the area of Adult ASD and education is an area begging
for research and better understanding. Having said that, it is altogether fair to paraphrase the now well-known quote, ``If you have met one person with ASD, you have met only one person with ASD.`` Each of these individuals is unique and processes information and their environment in a unique way. They each require a specific and individualized approach to supporting them in post-secondary education.

Regardless of changes in the definition of ASD by any one body purporting to define and designate disability, these students, no matter their label, will continue to come to our institutions and will need our assistance to have an equal chance of success (or failure) in post-secondary studies. We can provide them with that equal chance, where they will succeed or fail on merit and not be thwarted by our individual and institutional inability to see and respond to the disability driven needs of these students.

The issues:

In short, the issues which are discussed at some length in the body of this report can be reduced to a few points for quick review. The individual experiencing ASD may have needs related to:

- language and communication
- transitions
- social deficit and socialization
- sensory issues
- motor and visual motor issues
• executive function issues

• anxiety

• lack of knowledge of the disability on the part of staff (support, academic and administrative)

• parental involvement

• self-advocacy

• self-regulation

From these basic issues many different potential challenges can develop, including challenges with group work, difficulties with keeping appointments or finding classrooms, misperception of 'stalking' or 'psychosis-like' behaviours, lack of or perceived over-involvement of parents, etc. These and many other potential challenges will be outlined.

“What should we do?”

This was the third and final question posed to this investigation's participants. There are barriers for these students experiencing ASD that relate to the level of disability specific knowledge of the persons working with them, institutional barriers (how we are organized and how or what we usually do or how we expect the educational experience to unfold), and the student's own disability related issues. In short, there are a huge number of items that may need to be addressed by individuals and institutions. We will need to become knowledgeable of the disability and flexible in how we deliver programming. This will involve potential changes to everything from how we promote our services to how classes are organized, and how we work with parents. The usual approach of everyone from DSO offices through
Academic programs may need to allow for change and flexibility in approach. Again, these and many other potential useful strategies for giving these students an equal chance in relation to their disability will be discussed in greater detail in the body of this report.

**Issues and 'Traits' in Autism Spectrum Disorder (ASD)**

Autism is a complex developmental disorder that typically affects a person's ability to communicate, form relationships, and respond appropriately to his or her environment. Autism results from a neurological disorder that impedes normal brain development (hence a “Developmental Disorder”) in the areas of social interaction, executive function, sensory integration, and communication skills. People affected by Autism Spectrum Disorders have difficulty with communication, organization, anxiety, and social skills.

This discussion will use the terms Autism, Asperger’s, High Functioning Autism and Autistic Spectrum Disorder (ASD). At the post-secondary level, we are almost always referring to the student currently identified as Asperger’s, or High Functioning Autism. Often for the sake of brevity the term ASD will be used and should usually be construed to mean Asperger’s, or High Functioning Autism.

A range of “Traits” have been ascribed to individuals diagnosed as experiencing Autism or Asperger’s Syndrome. Hans Asperger first labelled this collection of characteristics in 1944. The label he used was "autistic psychopathy." Asperger went largely unnoticed until 1981 with the publication of a paper in English by Lorna Wing. Wing introduced Asperger's work to the larger English speaking world and contributed much in the way of her analysis and observations of her own patients. She coined the term “Asperger's Syndrome" as a more appropriate term so as to not confuse the syndrome with the popular inappropriate and
inaccurate use by the public of the term “psychopathy” making it (inaccurately) synonymous with ‘psychopathic’ behaviour.

Today there continue to be discussions about the utility of the term “Asperger’s Syndrome” in diagnosis and indeed the DSM V may eliminate the term, adopting the notion of a “spectrum” approach to labelling where the current Autistic, Asperger’s, and PDD NOS collection of symptoms may be eliminated and subsumed under an “ASD Spectrum” or “Autism” label. Given that all processes of ‘Diagnosis’, ‘Identification’, and 'Labelling' are socially, politically, and administratively determined processes, driven by circumstance, subject to change over time, and ‘made up’ by various groups and societal bodies; we must recognize that regardless of the labelling approach adopted by one body or another, the individuals dealing with this condition will continue to exist and they will require our assistance to help them function successfully.

Another common point of potential confusion must be addressed. Frequently there is a tendency to refer to “High Functioning Autism.” This may refer to high functioning in the intellectual sense or in the sense of daily living skills. Often, Asperger’s Syndrome, where intellectual development is generally average or above average, is equated with High Functioning Autism, in the intellectual sense.

Asperger’s Syndrome is a developmental disorder disability. “Developmental”, should be noted to mean in this context, “from birth” and should not be confused with the term, 'developmentally delayed' used in reference to those individuals who have impaired intellectual development. The individual experiencing Asperger’s has average or above average intellectual development. Asperger’s is characterized by social interaction deficits, impaired communication skills, and unusual behaviours. It is sometimes referred to as 'high functioning autism', but there are many who would argue that the two are different. This
distinction may be a moot point in light of the current and immanent changes proposed by the DSM5 which would remove the Asperger's and HFA labels.

Some of the items or “traits” that may characterize individuals who experience Asperger’s Syndrome or ASD have been identified are as follows:

**Behavioural Traits**

The student experiencing ASD may respond poorly to changes, sensory stimuli, transitions, lack of structure, and restrictions; with confusion, anger, fear, and anxiety. The behavioural correlates may include what are perceived as 'acting out behaviours', including refusal, self-removal, etc.

There may be repetitive movements (e.g., jumping, rocking, pacing, touching, spinning, etc.) and repetitive speech (i.e., talking about favourite topics, interests, repetition of themes or information in an effort to make themselves clear or explicit). This repetitive speech has been described to this reporter as a means of constructing information on the part of the individual experiencing ASD. It is a public display of the internal thinking of the individual in constructing their argument. The unusual body movements, and/or repetitive behaviours are usually stress reducing behaviours and as such are useful for the individual.

There may be rigid, inflexible or rule-bound behaviour always repeated in the same manner and sequence regardless of immediate changes in circumstance and environment.

Inappropriate behaviour given the social situation (e.g., speaking too loud, or too softly in place of worship, during classroom, instruction or a lecture). This has been described to this investigator as an issue of ability to distinguish the gradient of the vocal behaviour. At subtle
gradients the distinction is not discernible to some individuals.

Problems with emotional regulation (e.g., meltdowns when asked to do something that causes anxiety or which produces stress, (like changes in routine)

Superior ability to focus on favourite activity or interest (e.g., spend hours mastering video game or collecting and classifying items of interest, to the exclusion of other daily activities)

May show motor clumsiness, balance or body in space issues. Sequencing of motor activities or motor planning may be an issue.

**Social/Communication Traits**

Despite having a desire for friends, the individual has difficulty initiating or maintaining relationships

Apparently due to previous difficult or unsuccessful social interactions, the student may profess no interest in socialization.

There are frequent errors in the interpretation of body language, tone, intentions, or facial expressions of others

Problems reading non-verbal/social cues or understanding social rules (the unwritten curriculum)

Socially naive and as a result are often taken advantage of or bullied. May develop 'beliefs' regarding behaviour (negative or positive) that are firmly entrenched. An example would be the student with whom the observer has worked who on seeing a negative social interaction on film or described in a news report would spontaneously provide a benign explanation for
the actions of the people in the interaction.

Socially, often acts as a critic or judge. This role has not been thrust upon them. The individual experiencing ASD will readily take on this role as 'rule keeper'.

Poor quality (lacking or intense/atypical) eye contact is frequently noted. Individuals affected comment on it being too tiring to follow someone's eyes. Another rational for this behaviour may mirror the need for maximizing information in a situation where the individual does not feel certain that they are getting all the information available. If the individual does not readily get information from watching 'body language' (eye contact) they may look for another indicator of information content. It has been observed by this investigator that in classes employing an ASL interpreter for a deaf student in the class, hearing students will look toward the ASL interpreter when they have missed a point voiced by the professor. There is little to no chance that the hearing student will actually understand the ASL interpreter, but it is the next immediate source of the information being presented regarding the information that they have missed. Studies at Yale (Klin A, Jones W, Schultz R, Volkmar F, Cohen D., 2003) have shown eye gaze information related to persons with ASD watching a film showing an emotional exchange between two actors. The individuals experiencing ASD tend to concentrate on the lips of the actors. The neuro-typical participants in the study tended to show eye-gaze that looked at the facial expressions and eyes of the actors. I would suggest that by looking at the mouths of the actors talking in the scene, the persons experiencing ASD were attempting to maximize the information available from the most readily understood modality, spoken language, or the visual representation of that language, the moving mouths of the actors.

Atypical use of communication gestures and facial expressions, no expression, exaggerated expression, or inappropriate expression
No conception of the “give and take” nature of conversation, the “serve and return” of the “conversational tennis match”.

One-sided conversations, with little apparent ability, facility, or 'need' for “small talk”

Problems in asking or inability to ask for help

May appear overly shy or overly extroverted, but inappropriately so. Often appears unaware of others’ thoughts, feelings or perceptions or unaware that the ASD individual's own appearance or behaviour could impact negatively or positively on those other’s thoughts, feelings or perceptions.

These students may make literal interpretations of communication from others. Sarcasm, idiomatic expressions or humorous use of language must be explicitly learned and may not generalize from one situation to another

Avoidant of social contact and may experience heightened anxiety during social contact.

Communication is used for delivering information or requesting information. There is no need perceived for meeting emotional needs of others through communication.

Conversation is perceived as an “Information Dump” (i.e. “I tell you everything that I know about a particular topic.”)

There is a tendency to act as an unwanted “enforcer” of rules or as a “helpful coach” with the individuals with whom they are interacting socially.

Unusual speech, volume may be too loud or too quiet with unusual tone, pacing (unusual rhythm and/or rate) and prosody issues.

Younger children are often labelled as “The little professor.” and characterized as ”pedantic”
Speech may be monotonic and without expression.

May not seem to ‘hear’ or respond to conversational conventions. May not seem to understand the concept of a conversation involving ‘social stroking’ where we reward our listener and fellow conversational participant by acknowledging their part in the conversation.

Individual may have restricted interests that may be unusual and sometimes may become a rigid topic for social conversation. The well-known and the familiar are easier to deal with and produce less stress.

**Cognitive Traits**

Average to superior intelligence is a defining characteristic.

Detail-oriented approach to tasks may result in missing the “bigger picture”. The individual can perseverate on the details (can't get to the forest for the number of interesting trees that must each be described first).

May have associated learning disabilities (e.g., Non-verbal Learning Disability), (Rourke, 1985).

Often have high verbal IQ scores and lower performance IQ scores,

Often display additional difficulties very similar to individuals experiencing ADHD (executive function, memory, or attention type difficulties)

Difficulty seeing “parts-to-whole” and “whole-to-parts” relationships as can get lost in the details.

May prefer technical/factual information over abstract /emotional information
Deficits in abstract thinking (can appear to be “concrete”, misses the "big picture", focuses on irrelevant details, and may have difficulty generalizing).

Difficulty understanding the motives and perceptions of others (Theory of Mind) Helen Tager-Flusberg, (2007).

**Executive Function Traits**

Problems with executive function, memory, and organization (including initiating, planning, carrying out, and finishing tasks)

Wants things "just so" (Familiarity is stress reducing).

The student may have difficulty with time concepts. They may have difficulty distinguishing between 5 minutes and 25 minutes, “due in 5 days or due in 10 days”. Needs assistance with time related issues and scheduling. Finishing assignments, tests and exams will probably require scaffolding where appropriate and extra time.

Difficulties with working memory and organizational, sequencing or other executive functioning skills

**Sensory Issues Traits**

Often has difficulty with sensation overload. Too much, or a particular noise, movement, variations in lighting, odours, tastes, or tactile perception may cause stress, anxiety, and mild to extreme discomfort. These sensory issues can be internal as in the case of illness, headache or gastric upset or they may be external to the individual. Sometimes internal
feelings related to illness may be mis-identified and attributed to external factors.

The student may have unusual sensitivity to touch, sounds, odours, and visual stimuli. Sensory overload may result in the individual experiencing reactions that can range from tiring and mildly irritating for the individual experiencing it, to completely incapacitating.

**Motor Issues Traits**

Some individuals have both fine and/or gross motor difficulty and/or some difficulty in visual motor integration. This may result in difficulties in participating in sport, negotiating crowded hallways, lining up, negotiating stairs, or in producing written work, organizing columns of figures on an unlined page, legible handwriting, etc.

The student's motor and visual spatial behaviour may appear dyspraxic.

The individual may appear literally “lost in space” requiring time or guides/scaffolding for deliberate observation and motor planning to be able to navigate in space or on paper.

**Incidence/Identification of Students Experiencing ASD at College and University**

Often referred to as a “spectrum disorder,” the symptoms and characteristics of autism can present themselves in a variety of combinations, to varying degrees of severity, from mild to severe. The phrase “autism spectrum disorders” (ASD) refers to a broad definition of autism including Pervasive Developmental Disorder (PDD), and Rett's syndrome. Persons with high functioning autism or Asperger’s syndrome have IQ scores in the normal or above normal range and in many cases those intending to attend college or university have a superior IQ and additional talents (Camarena & Sarigiani, 2009).
As with some other disability populations, identified students experiencing ASD seem to be overrepresented at the college level. Numbers of these students attending post-secondary are also growing at a surprising rate. Two institutions in Ottawa are illustrative. Algonquin College has 116 identified students up 111% from 2009 vs. Carlton University with 55 identified students up 72% from 2009 (Susan Alcorn-McKay, 2012), Total enrolment at Algonquin is 13609, making the ASD percentage of the total population .009%. Total enrolment at Carlton is 20537, leaving the ASD percentage of the total population at .003%). The College has three times the identified number of ASD students as the University in the same city. Researchers have suggested that some students with ASD may have a high aptitude for learning and are extremely focused on a specific discipline. This factor or others may account for the lower incidence of identification in the university setting as some of these students might do well in their area of interest without supports. The relevant point is that colleges experience a greater identified percentage of these students and institutional efforts, funding or resource allocation, should probably reflect this reality.

To further define and describe this condition known as ASD beyond the items reported to this observer and reiterated in Alcorn MacKay, S. et al, let us look at the definition of ASD provided by the organization, Autism Ontario.

**Definition of Autistic Spectrum Disorder from Autism Ontario**

They are grouped under the broad heading "Autism Spectrum Disorders" or ASD - a general category of disorders which are characterized by severe and pervasive impairment in several areas of development. Diagnostic evaluations are based on the presence of specific behaviours indicated by observation and through parent consultation, and should be made by an experienced, highly trained team.

For diagnostic purposes in North America, this category of disorders is currently identified as Pervasive Developmental Disorders (1994, Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, American psychiatric Association) Thus, when professionals or parents are referring to different types of autism, often they are distinguishing autism from one of the other spectrum disorders.

Individuals who fall under the Autism Spectrum Disorder category exhibit commonalities in communication and social deficits, but differ in terms of severity, number of symptoms or age of onset. Some differences between the specific diagnoses are listed below.

Autistic Disorder

...impairments in social interaction, communication, and imaginative play prior to age 3 years. Stereotyped behaviours, interests and activities.

Asperger's Disorder

...impairments in social interactions and the presence of restricted interests and activities, with no clinically significant general delay in language, and testing in the range of average to above average intelligence.

Pervasive Developmental Disorder - Not Otherwise Specified
(commonly referred to as atypical autism) a diagnosis of PDD may be made when a child does not meet the criteria for a specific diagnosis, but there is a severe impairment in specified behaviours.

Rett's Disorder

...a progressive disorder which, to date, has occurred only in girls. They have a period of normal development and then loss of previously acquired skills, loss of purposeful use of the hands replaced with repetitive hand movements beginning at the age of 1-4 years.

Childhood Disintegrative Disorder

...characterized by normal development for at least the first 2 years, followed by significant loss of previously acquired skills. Autism is a spectrum disorder. In other words, the symptoms and characteristics of autism can present themselves in a wide variety of combinations, from mild to severe. Although autism is defined by a certain set of behaviours, children and adults can exhibit any combination of the behaviours in any degree of severity. Two children, both with the same diagnosis, can act very differently from one another and have varying skills. Therefore, there is no standard "type" or "typical" person with autism. Parents may hear different terms used to describe children within this spectrum, such as: -like, autistic tendencies, autism spectrum, high-functioning or low-functioning autism, more-abled or less-abled. Whatever the diagnosis, children can learn and function productively and show gains from appropriate education and treatment. Autism Ontario provides information to serve the needs of all individuals within the spectrum. We will use the term "autism" to refer to the above disorders. “

The points from this definition that are relevant to this investigation are:
“Asperger's Disorder ...impairments in social interactions and the presence of restricted interests and activities, with no clinically significant general delay in language, and testing in the range of average to above average intelligence. “

This statement captures much of the discussion and many of the issues that were repeated from staff, students and parents throughout this investigation. We are dealing with very bright individuals who can have very severe social impairments. The type/quality of these impairments and the recursive nature of the reaction to the impairments on the part of the student experiencing ASD and on the part of the so-called neuro-typical person interacting with the student define much of the 'disability' experienced by the student.

Another statement of note is: “there is no standard 'type' or 'typical' person with autism.” This statement speaks to the experience of every staff person interviewed and to the reality of the student who experiences ASD. As might be expected individualization of understanding and programming flowing from that understanding is required.

The last statement from that Autism Ontario definition that I would like to note is: “Whatever the diagnosis, children can learn and function productively and show gains from appropriate education and treatment.” This is the reality. I like to think of this as the “Why this is important.” They can learn, show gains, and be widely productive, if they have “appropriate education and treatment.” This reality is born out in those institutions and those programs that are meeting the needs of these students. It is the challenge that exists for all of our programs to attain this status.

What we do now.

As previously stated in the “Summary” this investigation found that services in Ontario varied
significantly from institution to institution. There were those institutions providing multi-day ASD specific orientation programs for students. Some institutions are attempting to involve parents in planning and as supports to the institution programming. Some very well supported mentoring programs specific to ASD are being offered. Institutions are developing specific social skill training programs targeted to the needs of young adults with ASD. Some institutions are utilizing in-class supports in the form of 'Social Intervenors' to assist the student experiencing ASD. Some institutions are supporting socialization groups run by students experiencing ASD to further their social opportunities. Single occupancy residential spaces are being prioritized for ASD or efforts are being made to carefully pair students who experience ASD with roommates who are knowledgeable of ASD and able to provide some support in the residential setting. There is some voluntary training in appreciation of ASD and instructional advice being offered to faculty and staff. DSO staff are voluntarily making efforts to educate themselves about the support needs of students experiencing ASD.

Some institutions offer no specific ASD supports.

As previously stated, the situation outside of Ontario is similar. There are, however, within this mix of programs, some potential 'model programs' both within Ontario and outside this province from which we may learn much and which we may wish to emulate, in full or in part. These programs will be referenced in more detail in the “What do we need to do at post-secondary and some examples of “Best Practices”” portion of this report.

Challenges and Issues

The following are 'Challenges' and 'Issues' identified as affecting students experiencing ASD and the institutions and individuals who work with them as drawn
from those reported in Alcorn MacKay, S. et al, and those made directly to this investigator in the course of this investigation, or taken from the literature reviewed.

Social Challenges:

All articles perused presented that social interactions were one of the main challenges facing adults with ASD. Notable was the inability to interpret body language effectively, the inability to read social cues and the loneliness that many, adults with ASD face. (Prince-Hughes, 2003, Luckett & Powell, 2003; Sperry & Mesibov, 2005). Developing personal relationships is also challenging for many people with ASD. Dating and intimacy are often problematic and can lead to misunderstandings and other social conflicts. (Sperry & Mesibov 2005). A recent New York Times article profiling a young couple, both of whom experience ASD gives particular insight into the complexity of the potential problems (Navigating Love and Autism, By AMY HARMON NYT, Published: December 26, 2011). In the context of social skills training using the PEERS method, Dr. Liz Laugeson commented that the ASD participants in social skills training, themselves would identify “typical” adolescent interaction on the part of an individual experiencing ASD with the singsong teenage appellation “Stalker”. These inappropriate social interaction behaviours around dating and intimacy are also identified anecdotally by post-secondary counsellors as a major possible area of conflict for the individual experiencing ASD in the post-secondary environment.

Overwhelmingly, researchers have noted difficulties that persons with ASD face relating to social interactions. They have difficulty understanding the pragmatics of language and may develop specific behaviour patterns that are not readily understood by their peers (Gilchrist et al, 2001, Prince-Hughes, D. 2003, VanBergeijk, Klin & Volkmar, 2008). The repetitive and restricted activities noted in those with more severe ASD include rocking, flapping hands, etc. However, even highly intelligent, verbal, high functioning persons with ASD may engage in
some level of this behaviour such as shuffling feet, moving hands, blinking eyes, shuffling coins in a pocket, twirling hair, and other less noticeable movements.

A well known and successful individual who experiences ASD, Dr. Temple Grandin, has said in one of her interviews, that she found very soothing and stress reducing, the practice of flicking light switches on and off, or asking the same question, repeatedly, as she knew and could anticipate the outcome.

There may be a difficulty in initiating and sustaining connected relationships or even just information exchanges with peers. There are problems understanding social rules (such as personal space, appropriate facial expression to put with appropriate emotion, eye contact, etc.) There may be impairment of two-way interaction (May seem to talk "at you" rather than "with you").

Conversation and questions may appear to be tangential or repetitive. The student with ASD may experience at best a lack of recognition or at worst outright rejection by peers. The social interaction of the student experiencing ASD may be perceived by peers as inappropriate, 'weird', or even threatening.

**In-depth Interests Challenges**

People with ASD may also have unusual depth of interests in some aspect of the world such as World War II, trains, stars, numbers, coins, birthdays, statistics of sports, computers, or science. The depth of their interest and absorption in these activities is what sets them apart and they may not be able to tell when they can share their knowledge with others and when they should remain quiet on these subjects. When interacting with others, they may have difficulty becoming interested in any activity others may be enjoying if it is not related to their
area of interest fixation. (Adreon & Durocher, 2005; Prince-Hughes, D. 2003). Some will talk inappropriately in conversation or in class while others may rarely speak (Taylor, 2005; VanBergeijk, Klin & Volkmar, 2008). Assessments typically find deficits in non-verbal skills. One individual known to this reporter, on being gently chided regarding their infrequent (but highly relevant) in-class participation responded, "I do participate in class by virtue of the fact that as opposed to many others, I keep quiet unless I have something of consequence to add to the discussion." Other areas of intense interest may involve stamps, fossils, religion, politics, philosophy, etc. In class, their depth of knowledge may be problematic in that they may wish to forcefully correct their professor or peers if the student perceives that these others are incorrect or incomplete in what they are presenting in class.

**Inflexible Behaviour Challenges**

People with ASD tend to want a fixed schedule with no changes. They may take the exact route between places regardless of barriers, become upset at any schedule change, have no tolerance for anything but the literal interpretation of rules following them to the letter and have great difficulty with any change in any routine (Adreon & Durocher, 2005; VanBergeijk, Klin & Volkmar, 2008). Again, this observation probably comes back to anxiety about the world around them. Consider the stimulus overload and stimulus interpretation issues that seem to be experienced by these individuals. One technique for managing this highly stress and anxiety provoking, difficult to interpret world, is well learned and predictable routine and consistency. Deviations from this routine are extremely anxiety provoking.

**Co-morbidity Challenges**
Persons with ASD are at greater risk for developing co-morbid conditions, commonly anxiety and depression in adolescents and adults. This may be as a result of their inability to cope with the fast-paced society they live in and constant misunderstandings about what is expected of them socially, academically and personally (VanBergeijk, Klin & Volkmar, 2008; Luckett & Powell, 2003). Also noted by the practitioners, parents, and students in this investigation were the issues of sensory difficulty, motor problems, and executive function difficulties. These challenges may not be separated from the disability represented by ASD. They may be integral parts of the expression of the disability. However, as these challenges are not part of the DSM4 or the proposed DSM5 definition of ASD, as such they may be seen as co-morbid conditions.

**Anxiety Challenges**

Anxiety, stress or fear is a major factor in the life of the individual experiencing ASD. In her presentations regarding her own history, Dr. Temple Grandin makes this point repeatedly. Students to whom I have talked throughout this investigation, almost do not recognize anxiety as an issue as they are so inured to the daily unceasing strain of dealing with what is for them their normal life condition. This is not to say that they do not feel the anxiety. They accept it as an unavoidable and very unpleasant fact of life.

Having this level of unceasing constant anxiety can be likened to a hypothetical situation. It is a little like saying, that I walk around in a pool of water up to but just under my nose all day every day. To communicate with others I must hop up to clear my mouth above the water. The only difficulty is that the pool bottom is uneven so I am never sure if I am going to come down able to breath or sink below the surface of the water. It makes day to day life a little stressful!
In some inexplicable way, everyone else seems to have acquired this skill called ‘swimming’. I am not sure how that is done, only that everyone else is doing it while I hop about hoping the bottom does not fall away from me and that I drown.

I imagine this is similar to the level of anxiety that the student experiencing ASD experiences every moment of every day of their life.

**Understanding of Language Challenges**

One of the most notable behaviours of people with ASD is a literal understanding of non-literal language especially metaphor, irony, sarcasm or humour. They tend to adopt an over-literal interpretation of language that can cause them to miss the meaning of the language or remain fixed on the perceived meaning (Luckett & Powell, 2003). In this observer’s experience, persons experiencing ASD attempt to learn every single nuance of meaning of every word and social situation. This is a task of herculean proportions and probably and predictably cannot be completely or adequately accomplished as there are just too many individual permutations and combinations of these items of human intercourse to be individually learned as discrete pieces of knowledge. Even if it is possible for an individual to learn many of these items, knowing when to apply them in different and fluidly changing social discourse may be beyond their ability. Many of you may be familiar with Oliver Sacks and his “An anthropologist on Mars.” This comment is attributed to Dr. Temple Grandin. She saw herself attempting to navigate and negotiate her way among the neuro-typical, in the same way as an anthropologist on Mars would attempt to understand a completely alien species. Nothing can be taken at face-value. All of your preconceptions regarding the meaning of behaviour and your understanding of language must be questioned. You are, after all, dealing with an alien
As a teenager I was lucky enough to be able to spend one summer of my youth pursuing what many of my contemporaries were doing in that I went to Europe armed only with a backpack, “Europe on $1.00 a Day” and my very useful thumb. On being picked up by one German family while hitchhiking, I attempted to use my one year of high school German to converse with them. After several not so successful attempts on both sides, one of the family exclaimed, to my understanding but total bafflement “Sie verstehen als ein bahnhof! ("You understand like a train station!"). I was later made to understand that this was not complimentary and that indeed my understanding was being compared to the cacophony of the European train station where languages of a score of different countries converged to be mutually misunderstood. That image sticks with me for the individual experiencing ASD. They are immersed in this mutually misunderstood world. Further, take the example of my purchase of a can of food in a local Austrian store. It had a picture of what looked like some kind of spaghetti and meatballs. I took it back to my hostel to prepare it and found myself with a can of meatballs in water, no sauce, and no spaghetti. It turns out that the picture was a “serving suggestion”. Take the individual experiencing ASD out of their routine, and you are plunging them into the chaos of a foreign country, where they only barely understand the language when they indeed think that they understand the language. The nuances of idiomatic expression and social conventions are lost to them. They think they understand the language (as I understood “You understand like a train station!”), and the statements still make no sense. If they can make sense of them (understand the language), the language seems to be conveying the wrong meaning for the particular situation. Even observed behaviour or pictorial information cannot be trusted (as in my teenage experience with the can of species.
As that teen in Europe, I was lucky. When the stress of constantly attempting to translate every sign, every label, every spoken word or instruction got to me, all I need do was seek out the sound of an American voice. I could then relax in the company of another individual who spoke my language. I did not need to translate and interpret. My stress was reduced. I could re-charge and go forth whenever I felt ready to confront another unknown situation. Truth be known, I knew that I had that return ticket in my backpack that would allow me to leave if ever I got too overwhelmed. The person experiencing ASD is navigating that foreign country, trying to understand the language and the customs, trying to make sense of the often apparently nonsensical, and they are doing it every moment of every day of their life. They have no respite of another English speaking voice to turn to when they get tired of the translating, or the security of that return ticket in their pocket to turn to. They are destined to have to negotiate that foreign country as best they can, forever.

Individuals experiencing ASD have been noted to have difficulties in prosody, tone, or volume in the production of spoken language. Often their speech is characterized as monotonic and without expression. One student with whom I have worked suffered greatly from frustration and anxiety related to these issues, especially the issue of appropriate volume. All her life, in social interaction both inside and outside her family, people were telling her to speak up. She could never understand how to modulate her volume of conversation in these social situations. She just did not ‘hear’ the problem that was being continually pointed out to her and has never felt able to respond to these constant requests. Interestingly, she has been able to successfully take a drama course that required her to appropriately project her voice in a theatre setting. One individual experiencing ASD described their experience of this ‘volume in conversation’ problem as follows: “It is not a problem with loud or soft, it is a problem with
degree or distinction of or graduation of levels. In a situation where there are clear guidelines (as in the “projecting to the back of the theatre example”) there is no ambiguity. In normal conversation it is always ambiguous.”

Fatigue Challenges

Fatigue may be an overwhelming factor for the individual experiencing ASD. As expressed to this reporter, “Sometimes by the end of the day, I am just so tired from trying to understand all the social language, navigate the space, deal with the stimulation and stress, and learn in my lectures that I am too tired to read my texts.”

Choice Challenges

A difficulty for some students experiencing ASD is “too much choice”. Often support services or even tests or assessments are organized so that students may choose when they will write a test or participate in some other activity related to their academic program or support in that program. This may work well if the activity and the content both have no negative aspects and appeal to the interest of the individual. Often, however, the activity has intrinsic aspects (interaction with strangers, new physical setting, etc.) or is outside of the area of competence or interest of the student and the result is that the student will avoid the activity to the point of failure in the assignment. They may completely miss the value of the support activity and not choose to avail themselves of it. This may be perceived as the student’s choice, but it may be more analogous to the neuro-typical individual choosing not to put their hand in an open flame or some such other extremely disagreeable activity with a predictable unpleasant outcome. Too much choice may seem to paralyse the individual experiencing ASD in that they must
consider all possible aspects of making each choice and are unable to extricate themselves from the myriad details that this approach entails. On rare occasions, some service providers have suggested that a more authoritative and directive approach may be necessary on the part of individuals working with the student experiencing ASD when it comes to making choices.

**Time Sense Challenges**

Often there is a description of time sense that seems to point out problematic issues for the individual who experiences ASD. These difficulties seem typical of the executive function difficulties that seem to be part of the life experience for these individuals. The sense of a “quarter hour” or “it will take you five minutes” seems to be very nebulous for some individuals. Equally, longer periods of time necessary for planning and execution of items like the days necessary for essay preparation (or even the hours necessary for food preparation) may not be easily dealt with by many of these individuals. Structured supports and ongoing training in how to use these supports may be necessary. Sequencing of events in time may also be a great difficulty for some individuals. Conceptual understanding of “Quarter to Ten” as opposed to “9:45” may continue to be a lifelong difficulty for some individuals experiencing ASD.

**Transition Challenges**

Transition difficulties are noted in all studies reviewed. Any change in schedule, location, people interaction, can cause people with ASD difficulties to varying degrees (VanBergeijk, Klin & Volkmar, 2008; Adreon & Durocher, 2005; Camarena & Sarigiani, 2009). While there are
no statistics to prove how successful transition may be, anecdotally, disability staff report that a number of these students drop out within their first semester or even in the first few weeks of PSE. A main focus for transition preparation is the development of self-advocacy skills since these students will have to disclose their needs and also inform instructors and (perhaps) classmates (Eckes & Ochoa, 2005). These transition difficulties can reflect a myriad of issues related to the person experiencing ASD. One example might involve the typical 'end of class assignment of work' or 'reminders about upcoming assignments or tests'. The individual experiencing ASD may have so much difficulty processing the cacophony of the end of class paper shuffling, chair shifting and cross conversations among classmates that they are unable to attend to and or process the information being announced by the professor. Alternatively, the information may be lost in the 'ending class routine' that the individual follows so as to reduce stress and get themselves on to the next class. Part of that routine may not include explicit attention to the occasional test or assignments announcements. The routine is about making sure you have all your personal belongings, that you remember to save your file before shutting down, etc.

Self-awareness and Self-regulation Challenges

It is the observation of this reporter that students experiencing ASD often have difficulties with self-awareness of their own challenges. Everything is fine until suddenly it is not. There is a difficulty seeing developing problems and planning a response. A typical example involves the student who attends the first week of classes and meets with their college support person at the end of that week. When asked how they are doing they reply that things are going well. A meeting is suggested for the following week. The student suggests that they are doing OK and that they will come back when they need to speak with the support person. The next that
the support person hears of the student is that they became overwhelmed in the second week as the implications of the social load of the classes and college attendance became apparent. Unwilling or unable to make an immediate appointment with their support person the student withdraws from classes.

Self-regulation refers to the reactions of the person experiencing ASD to the many challenges that they experience, socially, institutionally, and environmentally. At some level they will be able to deal with these challenges. However, some individuals will reach a point where anxiety and stress are beyond their ability to cope. These are the students from the previous paragraph who leave the institution. They can also be the students who experience a 'meltdown' that can include running from a classroom, crying, shouting, or banging a keyboard on a desk.

**Academic Participation Challenges**

Many people with ASD find it difficult to be interested in classes that are not specifically their preferred area of interest. Many post-secondary programs have an eclectic mix of courses including General Education courses in which the student with ASD is not able to sustain interest while completing. Use of language, organization, routine study skills, writing skills, and presentation skills may all be problematic (VanBergeijk, Klin & Volkmar, 2008; Camarena & Sarigiani, 2009). Working in groups is noted as being especially problematic for students with ASD. This can be a serious barrier in many classes in today’s post-secondary environment where group work is considered one of the standard pedagogical techniques.

An individual experiencing ASD may need to finish a train of thought before being able to switch to another topic or aspect of the topic under discussion. As such, they may miss
aspects of the lesson if it has moved on and the individual is still working on the previous point.

If well informed in a particular topic the student experiencing ASD may feel compelled to share that knowledge with the class. They may be keen to correct anyone including the professor who makes a statement that may be factually disputable. If they do not understand what is being presented in class they may withdraw into another activity which is better understood and less anxiety provoking. Alternatively, they may ask what can be experienced as unending questions in their quest to obtain the understanding that eludes them.

Individuals experiencing ASD sometimes ‘think outside the box’ in academic situations. It can be possible for professors to interpret this thinking as irreverent at best and as disrespectful or rude at worst. Jane Thierfeld-Brown ASD U. of Connecticut uses one of my favourite examples in her presentations on ASD and post-secondary services. It is a diagram of a right triangle with the values given for both legs. The hypotenuse value is not calculated and is represented by “X”. The question asks, “Find X.” The student has circled the “X” and written “Here it is.” Another example told to us as students that I remember from my own undergraduate program, involved an essay question to which the student had answered: “Intuitively obvious.” The story goes that the student got full marks for that answer.

**Institutional Space Challenges**

Secondary school special educators indicated the critical importance of a dedicated space for students with ASD. In many cases, the availability of such a space avoided other more socially unacceptable and critical incidents. Institutions with a concentration of students with ASD should consider creating a dedicated space as a safe de-stressor area for such persons.
In conversations with Temple Grandin or in her lectures and writing, she has identified the need for such a space in her own experience. She found such spaces on her own, under a stairwell, in an electrical closet or on an elevated catwalk above the grounds/animal pens where she was working. Anecdotal evidence presented by post-secondary counsellors interviewed has identified that in their experience this space often devolves into the waiting area in counselling departments or their own offices. Institutions need to be proactive in providing such a dedicated de-stressing space.

The buildings themselves associated with the post-secondary environment provide many challenges for students with ASD. Way-finding in a confusing and noisy environment can be a fearful experience for many students, but paralysing for some students with ASD, especially without extensive transition preparation.

Other students with ASD complain of the effects of fluorescent lights. The flickering illumination can cause attention difficulties. (Luckett & Powell, 2003), (Stuart, 2003). Extremes of heat or cold can be debilitating. Noises internal or external to the classroom may make it impossible for the student to participate.

**Academic Expectations, Challenges**

Some students experiencing ASD are less than forgiving of their professors, TA's or their fellow classmates. The student may be judgemental of and disturbed by behaviour that they feel is not appropriate to the learning situation. In our classes where we seem to increasingly see off topic social cross conversations by students, immersion in Facebook or other social networking, or obvious lack of preparation for classes, we can perhaps understand the confusion and anxiety that this type of behaviour may engender on the part of the student
experiencing ASD. They see TA's working on other material during professor's lectures and arriving at tutorials unprepared. Professors are sometimes seen as accepting or even condoning the aforementioned off topic student behaviours. Even more confusing for the student experiencing ASD is the censure that they may experience when they too attempt to emulate this behaviour that they see in class. Inevitably they do so in an inappropriate manner or at an inappropriate intensity, or time, and are (in their understanding) inexplicably and unfairly censured for it.

**Role of Parents, Challenges**

Parents of students with ASD play a major role in negotiating the services for their sons and daughters and increasingly they are requesting post-secondary options for their children who are qualified academically for college and university programs. Parents often intend to stay involved in their son’s or daughter's post-secondary experience in a way that is not the norm in post-secondary institutions. (Eckes & Ochoa, 2005; Adreon & Durocher, 2007). Disability Staff anecdotally report that parental involvement is a reality in PSE as well as in secondary school. This parental involvement does present with some challenges as learners in PSE are ‘adults’ and the institutions are bound by the Freedom of Information Act which prevents the transference of personal information to others other than the learner without express written permission of the individual involved.

This reporter attended a recent International conference “On the Job: Advancing Vocational Opportunities for Persons with Autism Spectrum Disorders” sponsored by the Autism Research Unit, The Hospital for Sick Children Toronto (among others), at Hart House the University of Toronto, in Feb. 2012.
As the culmination of the two days of presentations from experts in the field of autism, there was the formation of three groups to address three different areas that required consideration so that the conference could focus on next steps in those areas. This reporter was part of the group addressing Post-secondary, Higher Education issues. One conclusion of the Higher Education breakout group session of this conference was that post-secondary institutions need to get over their fear of parents and learn how to work with them. Parents are a resource and support that needs to be incorporated into the institutional support of the student experiencing ASD. Parents often know the individual best, and are the most aware of the situations, strengths, and challenges that will most affect the individual student experiencing ASD.

At the high school level, parents frequently play a pivotal role and are often a part of their student’s school day and in frequent communication with school staff. Post-secondary services need to recognize these realities and expectations regarding parental involvement and move to most effectively utilize this resource. Helpful for this group of students experiencing ASD may be institution assisted maintenance of regular contact with parents.

Support Staff Training Challenges

The second most important finding of the Higher Education group “On the Job: Advancing Vocational Opportunities for Persons with Autism Spectrum Disorders” was that support staff, although well intentioned, are not trained in or aware of how to work with individuals experiencing ASD. One instance related to this reporter involved a support staff person in a meeting with a student experiencing ASD. The meeting was such that it can be surmised that the student was experiencing considerable stress. Throughout the meeting the student
avoided eye contact or unsolicited verbal responses. The student flipped through journal articles on their computer and appeared to read them silently through the entire meeting. After the meeting, the support staff person expressed evident frustration with the student by commenting that the student was obviously not very interested in the issues at hand in the meeting as they had surfed and read articles throughout the whole discussion. Without being aware of the various methods that students experiencing ASD utilize to reduce stress during anxiety provoking situations, the support staff person cannot be faulted for making the obvious inference. Lack of eye contact, lack of ‘appropriate’ verbal interaction, combined with the ‘dismissive’ nature of the surfing and reading behaviour would tend to have us interpret the student as being uninvolved at best. The system at post-secondary can be faulted for not employing individuals who have sufficient training and expertise in working with ASD to be able to understand and interact appropriately with individuals who experience ASD and with their families. The system at post-secondary can also be faulted for not providing the training necessary for all levels of employees to attain a greater level of competence in understanding and interacting with students who experience ASD.

An example of this lack of understanding and training may be found in the comment from a parent and professional detailing her son’s recent experience at an Ontario post-secondary institution: “I noted there is a lack of knowledge and training on how to address the social challenges that many, many individuals with ASD contend with on a daily basis. In addition to the lack of programs, there has to be more training for college instructors to recognize the unique challenges of individuals with ASD. Many of my son’s attempts to be social, strategies that worked in high school but failed at college were not understood by his instructors. Due to the instructors’ lack of understanding and training, they dealt with my son’s social gaps in a punitive way, assuming that he understood what he was doing wrong. This left the instructors
feeling frustrated and left my son confused, hurt and angry. “

**Other Identified Issues:**

The student experiencing ASD deals with a significant level of background stress and anxiety at all times. Interaction with the world around them is extremely stressful. We cannot be surprised when other items that we introduce to their world elicit overwhelming levels of stress. As a consequence of this constant battle with just keeping their metaphorical nose above the depth-less swirling flood waters of stress as they daily struggle to swim this river of life, they become experts at finding the shallows and stand so that they may rest their weary minds and senses to survive another minute or another day. Given this required survival talent; it should not be a surprise that these individuals are experts at denial and avoidance of stressful thought.

This may not be immediately apparent, as some individuals seem to obsess over issues that cause stress for them. However, other issues will be successfully ignored often to the detriment of the individual. An example; A student requires the use of a calculator in their data management exam. They do not do well in math as they have issues from very early on that include organization, sequencing, and working memory difficulties that cause math to be a more difficult subject for them. They possess a calculator that they used in high school. On last minute search, it cannot be found in the house before their exam. They have another calculator that they take to school for the exam. It proves to have a defective display. Does the student then rush out after the data management exam to get a new and sufficient calculator? The answer is no. They put the issue to the back of their mind. It is uncomfortable and as such, they do not wish to add it to the daily round of stress that they experience. The
fallacy is that the stress, although reduced in relation to their current state, is still there and when the next data management exam comes up; the issue may explode in stress. They end up with another crisis similar to the original where the calculator could not be found. They may, get a last minute replacement for the “lost” calculator, but it will be unfamiliar and as such will be a source of stress in itself.

An attempt by the individual to “deal” with stress by ignoring the situation results in a “stress explosion”, continued stress and reduced academic performance. This situation may appear to have elements of organizational difficulty, but it seems to have more grounding in the attempt to manage stress. An effective intervention must involve both elements of assisting with the organizational issues and alleviating stress with stress reduction being the more important of the two. Both must be addressed to provide an effective intervention.

Students who experience ASD may have motor or visual spatial difficulties that inhibit their ability to take notes. During high school, if not properly addressed, these students may learn to attempt to orally memorize their entire series of lectures. As can be appreciated, this may not be the best method of learning as the amount of material to be processed grows at the post-secondary level and may be beyond their capability to memorize. Being routine or rule oriented, it may be very difficult for the student experiencing ASD to recognize that they need to change their method of acquiring information in lecture situations or while reading texts as the rule or routine they have developed is to memorize orally.

Systemic and Structural Issues

Colleges and universities work on a schedule of courses, classes, and semesters. There are so many class hours, tests, exams, assignments and then we go on to the next semester. A
student who fails within that period is at best told to re-take the course. A student experiencing ASD may not march to the same class hours and semester schedule that we demand. Various scheduling structures may conflict with how the individual learns. Some individuals require more time to consolidate the information presented in class. A typical result can be the student doing well in the first part of the semester, less so in the middle and failing the last third of the semester. Too much material needs to be mastered in too little time. The student fails the course and we tell them to repeat the course. On repetition, the pattern can be very similar. The additional elements are that the student is now not motivated, resents having to re-do material that they have already done, and still finds that there is too much material being covered in too little time. A second failure is a very real possibility.

A better approach might be to give credit for what the student has mastered and then allow them to spend the new semester working on those aspects of the course that they have not mastered. This is a logistic and pedagogical nightmare for our institutions. We are not generally prepared to teach in this manner. If we are to meet the needs of these students and not systemically contribute to their failure, we may need to learn how to do so.

A mainstay of our modern classroom is the concept of group work. Group work although increasingly coming under fire as an inefficient learning methodology, stifling creativity, is a required component in many classrooms. Group work goes directly to the social interaction weakness of the individual who experiences ASD. It is akin to asking the blind student to interact with other students on the basis of height, ethnic origin and clothing colour. In the same way as they cannot see visually indicators of these characteristics and may make errors based upon purely auditory interaction with their group members, the person experiencing ASD will not “see” the unwritten rules of interaction in a group assignment. They will make mistakes and they will not know what they did wrong.
One of my clients was part of a group where one individual was not pulling her weight. The professor was approached and asked what would happen. He informed the group that everybody would get the same mark and that all parts of the project needed to be completed. After some days of discussion where this individual did not show up for group, and the ensuing increasingly negative comments on the part of the other group members, my client was elected by the group to contact the absent member and express the concern of the group over her non-attendance. My client subsequently sent emails to the missing group member detailing the comments of the group, the least offensive of which was “you lazy bitch” and exhorting her to attend the group and do her portion of the work. You can imagine how this went over. My client was only repeating the comments made by the group.

Professors need to be very careful and supportive of the group work efforts of the individual experiencing ASD. The individual will not get themselves into the “best” groups as they do not have the skills to identify those groups and may not be valued by those potential groups. They will often end up in a group composed of other individuals experiencing communication and socialization difficulties. This makes a potentially bad situation worse.

As difficulties arise in the group around roles, communication, and deadlines, the professor needs to be aware that the person experiencing ASD may not be able to negotiate these issues without significant support and guidance. Part of the difficulty may be in that the individual experiencing ASD will not recognize that the difficulties are developing until the problems are significant and very difficult to resolve. Constant monitoring on the part of the professor may be necessary.

A behavioural characteristic observed and noted by individuals working with those who experience ASD is something that they refer to as the “Amygdala hijacking”. (Landmark College Presentation, Brock University, 2009) The Amygdala is one of the structures in the
brain involved with emotional response. The behaviour being referenced in the Amygdala hijacking analogy is that the individual experiencing ASD encounters a stress and before it can be processed rationally the amygdala immediately "hijacks" the response eliciting a “fight or flight” response on the part of the individual. The very verbal and generally logical individual is pushed into this fight or flight state beyond language and logic. There will be a period where discussion will not result in resolution of the stressor situation. Following this period, the individual will be able to function again, but given that the response of those persons around them often escalates the situation, they can get caught up in an escalating cycle. The behavioural response on the part of those dealing with the individual experiencing the “hijacking” could be characterized by the two words, borrowed from Douglas Adams and his Hitcher’s Guide series (a trilogy in five parts). These words are: “Don’t Panic”. The hijacked individual needs to be given the time and the physical space to be able to overcome the rush of adrenalin they are feeling and to respond rationally to the stressor. Those around them should not become the next stressor. Institutional responses often involve calling security or clearing the classroom. Such interventions will probably not result in calming or settling the individual. Usually such approaches will provide more stress and possibly lead to inappropriate behaviour on the part of the student experiencing the “Amygdala hijacking”. This is not to excuse the behaviour of the hijacked individual, but it is an explanation for that behaviour. Counsellors or coaches should work with the individual to help them recognize the signs of a hijacking and to regain control as rapidly as possible or to substitute other behaviours or responses. I would posit that this situation would never disappear completely for the individual. This is not an issue of lack of motivation or will on the part of the individual. It is probably brain chemistry and structure.

There may be difficulty with building navigation. Building maps and numbering systems may
not make “logical” sense. These systems may not be explicit or may make such use of symbolic interpretation that the individual experiencing ASD is confused by the system.

A period of illness or indeed a “study week” is a break in routine that may cause some level of stress and confusion for the student. Starting a new semester and new classes with new classmates and professors is also a possible source of such stress and confusion. Obviously, such situations cannot be prevented, but they can sometimes be anticipated (as in study breaks and semester changes) and all aspects of orientation and preparation should be considered so as to reduce the stress and confusion that can accompany such changes. For unanticipated changes such as the period of illness (even one or two days), the issues of stress and confusion should be addressed and support staff should be aware and cognisant of potential issues such as missing assignment due dates or tests that may have been discussed during the absence. The person experiencing ASD will not naturally ask what was missed as that involves a social interaction. The systems employed in our classrooms do not always make allowances for explicitly repeating items so that students who have missed when they were absent will get the information when they return to class.

When using a laptop as an accommodation, students should be given priority seating to be able to use available sockets. Without such power available students experiencing ASD may spend inordinate time worrying about battery power levels to the detriment of actually getting something out of the teaching that is going on in the classroom.

Renovations/builds should take into account the increasing need for installation outlets for laptops throughout the classroom, front row seating, middle, rear, and sides.

A new or unfamiliar keyboard or calculator may prove an almost insurmountable obstacle in testing situations. Students must be able to use familiar technologies when being asked to
preform and especially in test situations.

**Executive Function, Anxiety, or Sensory Issues**

These issues continued to be identified by staff and students from a variety of programs as being important to the potential success of the student. The College Internship (CIP) program staff, and others, identified these types of issues. Their students and others when interviewed followed up with comments like, “They (the staff) help me to stay focused, to stay on track.” Or, in relation to anxiety, students commented, “Anxiety? I live and breathe anxiety every day.” The identified challenge that was raised is that the issue for each student in relation to these items (Executive Function and Anxiety) is dynamic, fluid, and changes from situation to situation and over time.

When ill (i.e. a cold, headache or gastrointestinal upset), the student’s ability to deal with the environment is greatly reduced. So-called 'normal' or 'regular' stressors may become overwhelming.

**Institutional Self-regulation Expectation Issues**

There is hope for a progression and growth in the student’s self-regulation skills so that they are able to come to a point where they are better able to handle these items on their own. However, that can also be the difficulty. The statement is, “Better able to handle these items on their own.” The statement does not read "cured" or “independent”. Support staff and administrators must constantly remind themselves of this reality and be prepared for the possibility of long-term provision of support services.
For better or worse, those of us in disability support services and post-secondary education and administration seem to have come to believe that students with disabilities will be able to function independently once we have given them accommodations, technology, strategies, and the eight to ten counselling sessions that we feel obliged to give. The reality is that for some of the disability populations who are coming to post-secondary and who have a chance of completing certificates, degrees and diplomas, and going out to function in society, this type of “fix and accommodate” will not be sufficient. For some members of these populations, high levels of structured support may be necessary, requiring that most precious of resources, skilled manpower. It may be necessary to keep these levels of support in place for most of the student's post-secondary experience, or not. That is where the dynamic and changing nature of the coping skills and ability of these students must be closely, individually, and constantly assessed and changes initiated on an ongoing basis. This too requires the involvement of highly skilled support staff over a potentially long period of time. Staff interviewed at various programs expressed that initial impressions of students and their ability to function may be wildly inaccurate. To avoid frustration from too rigid a set of scaffolded supports or to avoid the mistake of supports that are too little and too late, close observation and communication must be maintained. This requires building some relationship with the student and may require more effort or techniques that take us outside of the office and face-to-face traditional counselling or advisement. The CIP program involves the staff and students in a variety of interactions to accomplish this relationship building and inculcation of skills with the students. This relationship factor was frequently repeated to this observer in his discussions with students.

Other Institutional Structural Impediment Issues
There are institutional structural impediments that have to do with our practices apart from the environment or layout of the actual building. Students experiencing ASD may be drawn to rules as a means of making their world predictable and understandable. This observer has been privy to more than one instance where our institutional use of these rules, although offered in the most benign and indeed helpful manner and intent, caused a significant impediment to the progress of a student experiencing ASD. As an example, on arriving at a challenge test of ability in a subject area, a student with an extra-time accommodation sat in a general challenge test introduction where the staff explaining the test very helpfully advised the students that the test was timed, that they would have to work quickly if they were to finish, and that there was no extra time beyond the 2 hours allocated for the test. The student with ASD on hearing this did not approach the staff with their accommodation letter authorizing extra time as they had just heard that the 'rule' was no extra time. The staff did not mean to withhold extra time from an authorized student experiencing a disability who required that extra time due to the issues related to that disability. The problem lay in the institution not having a policy where each staff was to query the roomful of students for authorization or accommodation letters before each test so that the staff could make sure no person went without their required accommodation.

The 'rule' in most institutions is that the student is responsible for self-identification and for reminding staff and triggering the accommodation that is authorized when it is needed. Given the nature of the ASD student with executive functioning issues, and with the additional wrinkles regarding adherence to 'rules', and difficulties in social interaction and follow-through, it is more than predictable that many instance will arise where the student feels they are not able to use an authorized accommodation or where they forget to properly invoke such accommodations, (wrong time limits, wrong person, etc.). The institution may need to initiate
much more intense levels of support to accommodate such needs.

Interventions with individuals experiencing ASD may require more than the usual 'talk therapy' that we routinely employ as counsellors or as therapists. In addition to techniques like the 'stick figure' cartoon explanations making visual the verbal, and the use of the 'social story' we may need to use extensive roll play or real world visual and motor interventions and practice. Due to the facility with language and perhaps preference on the part of some individuals experiencing ASD for verbal mediation in the face of possible visual motor problems, it is tempting to think that the verbal exchange with the student experiencing ASD is achieving the necessary objectives in accomplishing behaviour change. Often, asking the student to perform the activity will point out issues that do not appear in conversation. Attention should be paid to Applied Behavioural Analysis (ABA) and to more general use of behavioural techniques, supplemented by verbal exchanges. Care must be exercised to train for and to test generalization of any counselling intervention. Language issues should be considered as sometimes our use of metaphor may result in an understanding that is different from what was intended.

Writing Issues

The student may have difficulty choosing a topic when presented with a choice of more than one writing topic.

Getting started writing or researching may be a problem. As one student expressed to this observer, "I can write the paper no problem once I get started. It just takes me a long time to get my head in the correct space for writing. This is a problem when professors wait for what they think is an adequate length of time before giving out essay or project topics. It is not
adequate for me. This can also be a huge problem on exams where you have to write in such a short period of time. I need more time to compose my thoughts before I start writing."

Papers may be redundant, as they may return to the same topic or focus repeatedly (see intense interests).

There may be difficulty in ending a paper or research assignment. The student may not realize that they have adequately covered the item being researched or written about. There can be a tendency to get bogged down in the details regarding the production of or research about a topic.

Time considerations in writing a paper may be out of the ordinary. The individual may feel the need to completely plan a paper before even starting to write. Asking for a rough draft may prove difficult for the individual to produce. There is no written rough draft. All the planning and editing may be done before the writing takes place.

The student may be able to state facts and details, and construct powerful logical arguments, but may be greatly challenged by papers requiring emotional analysis or even more difficult for some individuals, a description or analysis of personal feelings in regard to an essay or assignment topic.

Taking another’s point of view may be difficult. In ASD this can be referred to as Theory of Mind (TOM). Theory of Mind might be characterized as the ability to see the effect of your behaviour on the thinking of others. Theory of Mind (TOM) issues can be extremely debilitating for individuals experiencing ASD. Let me give you some information as to the level of impairment that an individual experiencing ASD might encounter. There are normed tests that purport to measure TOM. There is very little available for adults in this area. Measures, as with much in the ASD world, tend to be oriented toward the needs of children. One client I
worked with seemed to have issues in this area. We measured her TOM using one of these instruments for children. She scored at the 2nd percentile for a 16.9 yr. old. This is a very low score for a 16.9 yr. old person. One might presume that the student should score much higher as she was a young woman in her early twenties. As such, her score of 2nd percentile is arguably probably much lower if it were possible to compare her scores to other young women in their early 20s.

Synthesizing information to arrive at a larger concept may prove difficult. There is a tendency to get caught up in the details.

There may be difficulties in comparing and contrasting to arrive at the "big picture". In contrast to the getting caught up in the details, the details may be seen by the student experiencing ASD as irrelevant as the issue is 'Intuitively obvious'.

The use of analogies, similes or metaphors may tax the understanding of the literal minded student.

Literal understanding of language (difficulty interpreting words with double meaning, can be confused by metaphors, sarcasm, and humour, until and unless they are explicitly explained in the context that they appear).

Professors and staff at post-secondary should not use absolute words in their speech or written instructions such as “always” or “never” unless that is exactly what they mean.

Safety, Abuse and Bullying Issues

Under the rubric of other identified issues to confront were issues regarding abuse and safety related to the person of the student experiencing ASD. In particular, the issue of cyber bullying
came up. There is a concern about physical bullying or exploitation that is common in the social perception of how these students experiencing ASD may be treated by their age related peers or others. Examples of sexual exploitation of socially unaware and communication impaired students were heard and institutions need to take steps to ensure that such possibilities are eliminated. Perhaps more a factor of our technological age was the issue of cyber bullying. There is a whole world of social interaction and social communication related to electronic interaction. Institutions need to be aware of this aspect of their student’s social world. Several instances of vicious cyber bullying were related to this observer. As the cyber world is simply an extension of the social world for our students, such difficulties may be expected for students experiencing the communication and social issues related to ASD, but they should be immediately and forcefully responded to by the institutions involved. This is an area that must be explored by the institutions so that they can come up with appropriate measures to educate, monitor and respond to such situations. The damage caused by such public humiliation and intimidation cannot be emphasized strongly enough.

Conventional bullying must be recognized and practices put in place to educate, monitor, detect, and deal with such occurrences. It is a general perception that due to their constellation of difficulties affecting social interaction this population of students is particularly vulnerable. One example of how these students can create social issues for themselves, related to this reporter during this investigation, involved a young man in a writing group. He commented to his writing tutor when given an assignment in writing group to write about how they liked another member of the group, “But I don’t like them so how could I write that?.”

Another scenario has been referenced earlier under Systemic and Structural Issues. This scenario involved a group assignment in a business class. One member of the group was not pulling their weight and had stopped attending group meetings to work on the project. The
group members expressed their discontent with this situation to their professor who told them that they needed to work this out and that they would all get the same mark regardless of who did the work. The group members very colourfully expressed their discontent with this situation among themselves using language that was inappropriate, but expressed how they felt. They decided to email the missing group member and invite her to get back in the group and make her fair contribution. The group member elected to make this contact was the student experiencing ASD. They dutifully emailed the individual in question and reiterated the comments made by the group members as they had discussed the character of the individual, her imagined birth without the marriage of her parents, and what they would like to do to the offending group member if she did not make her contribution to the group. The student with ASD did not attempt to filter any of this language in her email. The result, as could be expected, was outrage on the part of the student receiving the email, threats of physical violence to the student with ASD if the girl receiving the email ever saw her in the halls, and involvement of the police was only narrowly averted by the intervention of the counsellor for the student with ASD.

**Gender Sexuality and Socialization Issues**

Other issues raised include the overwhelming numbers of males identified as experiencing ASD. There is a perception on the part of some service providers that the needs of this group are specific and different from the smaller number of female students who are identified. These needs in this instance are not so much specific to the disability, but to the social needs of the different genders. The males (primarily) want to socialize with and learn to socialize with females. Often the makeup of ASD social skills groups or socialization groups is largely male and as such may not be perceived as an attractive option for the largely male
heterosexual students who are looking for socialization with females. UCLA is currently piloting a young adult version of their very successful PEERS program for teaching relationship skills and altering thinking and behaviour related to relationships. Some institutions are attempting to meet this wider relationships need by young adults, through the offering of explicit groups on sexuality and dating. There are also similar socialization needs related to non-heterosexual students experiencing ASD which will need to be addressed as these needs are made known.

There seemed to be an overall perception that Females experiencing ASD have done better in terms of surviving their post-secondary experience than their male counterparts. I would caution that this perception may be linked to the slightly lower number of females who are identified as being on the spectrum. The larger number of males may lead to a perception of a larger number of problems without actual frequency being different. Institutions need to be open to the needs of females experiencing ASD. They may suffer from lack of identification or lack of services as their numbers seem so much smaller than their male counterparts. Tony Attwood has devoted some attention to this issue and others related to the needs of females experiencing ASD (Tony Attwood, 2006)

**ASD Label Issues**

Another issue identified is that many of the students experiencing ASD don't want to “own that label”. It can be very difficult to get them to participate in services that are offered to them. As one service provider commented, “You realize that you (this observer) are only meeting with those students who were successful.” From subsequent conversation it became clear that there were a number of students who attempted to access services and were unable to do so
successfully and another group who rejected services (and were largely unsuccessful). Those students who attempted to access services and were unsuccessful in these attempts speak to the lack of fit between the structure of many of our institutional support systems and the needs of these students. There are many ways in which we can change and improve our services to make the system work for these students. More problematic is what can be done to service the students who do not wish to “own the label”

**Support Staff Availability Issues**

Drop-ins (unscheduled and immediate access to a counsellor or support person) are seen as being very important in being able to meet the very immediate needs of these students. Other methods of supplying these immediate needs should be explored. One suggestion involved ‘anytime’ cyber support. If the student is comfortable using electronic communication a five minute immediate Skype call may go a long way toward clarifying confusion and providing direction. To make the student wait for an appointment ‘sometime’ in the future, ignores the immediate nature of the problem and plays into one of the weaknesses in the executive function abilities of the student. They may not note the appointment, place it on a scrap of paper that get misplaced, or come back on the wrong day or at the wrong time.

**Residential Issues**

In residence, many institutions have determined that it makes sense to assign priority to students experiencing ASD for single rooms. This can be related to the socialization difficulties of such students and the further need for a safe place for these students to ‘de-stress’.
One student in residence at one institution, a white female with an ASD diagnosis, was paired with a black, neuro-typical roommate. The student with ASD told her roommate: “You dress really well for a black person.” This was not perceived as a compliment. Another student came into residence with a longstanding and significant aversion to “foul language”. As those of you who know students in residence can appreciate, this student encountered great and frequent difficulty dealing with the everyday conversation of his resident mates. Students who experience ASD may have issues that go beyond social and communication issues. Sensory issues can be a source of great anxiety and disruption for them and their attempting to cope with these issues can exacerbate already problematic social difficulties. It is reported that these students have been known to turn to roommates and objectively declare, “You smell.” This declaration may refer to body odour or to expensive perfume. Regardless, the student is reacting to a sensory stimulus that they find intolerable and doing it in a manner that will not help their social acceptability. Other issues include the possibility that the student experiencing ASD may themselves have issues with personal hygiene and tidiness. They may not recognize a need to wash hair, shower, or change dirty comfortable clothes for clean clothes. Institutions need to recognize that such difficulties may arise in a residence situation and plan accordingly. Significant support may be necessary. A single room may a priority for such students. A single room also allows the student to return after stressful social and environmental encounters and regroup before venturing out again.

A concern with the single room solution expressed by many support personnel related to social isolation. There was concern that since these students experiencing ASD have social difficulties, putting them in a single room will add to or at least not help alleviate the social isolation difficulties. This concern must be balanced with the very real difficulties that do occur in the intimacy of room sharing with another individual. If supports are not in place, such
pairings are predictably prone to extreme difficulty.

Some Further Considerations and Potential 'Types' of ASD

The student experiencing ASD may have difficulty with high-level thinking and comprehension skills. They may give the false impression that they understand, when in reality they may be repeating what they have heard or read. Many, but not all individuals with Asperger's Syndrome are visual learners. Techniques suggested for students with learning disabilities who are visual learners are often helpful for those visual learners.

Dr. Temple Grandin puts forward the notion that there are a number of distinct learning or interactive styles for the individual experiencing ASD and that attention must be paid to these ways of interacting with the world if we are to adequately support each of these individuals in the manner best suited to the way they perceive and interact with the world. She posits that there are visual thinkers/thinking in pictures brains, music/higher math brains and verbal lists/language translator brains. The visual thinkers/thinking in pictures have difficulties with short-term memory and multitasking, but strengths in visual thinking and long-term memory. The music/higher math have strengths in non-visual thinking, numbers, facts and music. The verbal lists/language translators are non-visual thinkers who have strengths in numbers, facts and foreign languages. Recognizing the strengths and weaknesses of these students can help lead to effective support strategies.

One caveat that must be stressed throughout our work with these students was articulated by the director of support services at the SUNY Albany campus and is expanded upon here. Asking the student with ASD not to have their difficulties with anxiety, social interaction, sensory issues, and executive function issues in class, is like asking the epileptic not to have
seizures in class. Such difficulties are part of the disability and will occur unbidden on the part of the student and do not reflect the student's lack of effort or their disregard for their professors, classmates or the learning environment. As these difficulties are a consequence of the disability it is the responsibility of the institution and its representatives to help mitigate and ameliorate the situation that the student experiencing ASD struggles with on a daily basis.

**Advantages of ASD**

These students may have impressive vocabularies, word knowledge, and an excellent rote memory. They can be an absolute fount of knowledge on a particular topic. One of the characteristics of people with ASD is a “heightened attention to detail that contrasts somewhat with the usual focusing on the gist or ‘wider picture’ (Luckett & Powell, 2003). With a restricted focus, coupled with a good rote memory they may have a thorough detailed knowledge base related to their main interest. When this interest or heightened attention is related to a viable career choice such as information technology, engineering, and sciences (among others), students with ASD can excel in academics and careers in related fields.

Rudy Simone, (“Asperger’s on the Job”, 2010) writes that individuals with Asperger’s bring the following strengths to the workplace: Focus and Diligence, We take pride in our work, A desire to please, Independent unique thinking, Higher fluid intelligence, Visual three-dimensional thinking, Attention to detail, Honesty, and Logic over emotion. These same strengths can be evident and brought to the forefront in academia if the support individuals and institutions are educated to the unique needs of these students. The outcomes can be very successful for both the student and the institution.

A November 2, 2011 article in the Globe and Mail by Anne McIlroy titled: “The Autistic
Advantage: Montreal team taps researchers’ potential”, reported on a recent article in the British Journal, Nature where University of Montreal scientist Laurent Mottron discussed the contributions to research of various individuals in his research group who experience Autism. He is quoted as saying: “Some of the team members have exceptional memories, while others have an ability to see patterns in data, or other skills, and contribute because of their autism, not despite it.” One of those team members, Michelle Dawson, is quoted as saying: "Mostly I'm useful because I have extreme versions of what are usually called autistic deficits. One example: My responses to anomalies are extreme and impossible to deflect. Until I resolve the anomaly, I can be hugely disruptive (there are witnesses!). I really can't help it, and there's the problem of others being oblivious to the anomalies I perceive, which should make things even worse. So this sounds severely dysfunctional and just plain bad. But I've been given opportunities to be in contexts where spotting anomalies at multiple scales, and pursuing them no matter what, has been sort of productive, … If I were less extreme in this respect, less "severe," I wouldn't be useful in research ...." 

**What Do We Need at Post-secondary? “Best Practices”**

**The students identified with ASD may require extensive supports:**

Autism specialists, Learning Specialists, Assistive Technologists, Counsellors, Case Managers, Tutors, Mentors, and Parents, are very important in supporting students, professors and administrators.

In-class educational assistants or social intervenors are often seen as vital at the secondary level. Specific assistance with and monitoring of coursework is often done by such staff. Behavioural intervention and guidance is another common role of such staff.
At post-secondary, such supports are often seen as problematic. There are many issues related to this in-class intervention and the problems that may attend. There is the issue of cost. Another issue put forward is student readiness or independence. The comment heard is, “If they are not ready to handle it on their own, they should not be in a post-secondary class.” Alternatively, you may hear, “Providing in-class supports impedes the learning of independence on the part of the student.” Potential classroom disruption is also cited as a possible issue as “having another person in the class” may in some fashion be disruptive. All of these potential issues can be taken in turn, but the following quote from a Landmark College researcher at a recent presentation (Landmark College Professional Visit Days, March, 2012) seems to put these and perhaps other issues in perspective: “You don’t lower the bar, you raise the level of support, and teach the self-sustaining strategies to achieve the goals, as necessary.”

**The Supports:**

Testing accommodations employed are often found to be extensive with the rewording and explanation of key points and assistance with recall and formulation of responses potentially being necessary to avoid the semantic confusion students experiencing ASD may encounter. The number of test questions may be reduced as long as the key points being tested are being served. The rational for this reduction is the executive function, anxiety, and organizational issues experienced by individuals with ASD.

Other supports can include physical building supports. Some institutions are using a ‘safe area’ set aside for these students to access when they are experiencing stress or anxiety difficulties. These rooms are monitored by staff and used exclusively for students with ASD.
Support groups facilitated by a knowledgeable staff and run by the ASD students may be of benefit in helping students survive their post-secondary experience. These groups probably require trained and professional mentors or facilitators. A wonderful example of one of these groups at work can be found in the York University Mentoring program for students experiencing ASD. Professor Jim Bebko and his group of graduate students in psychology studying autism, provide a mentoring group for students experiencing ASD. An explanation of the program was given at a conference presentation: CCDI 2010, “In recent years, the number of students with an autism spectrum disorder (ASD) pursuing post-secondary education has significantly increased. A survey exploring the student population of eighty American universities found that on average, ten students per year identify themselves as having an ASD. Although many students with an ASD are able to excel academically, services provided by most universities do not address the particular social difficulties these students face. The AS Mentorship Program was developed to address these issues and to help students with Asperger syndrome (AS) navigate the social and academic framework of York University’s campus life. The AS Mentorship Program is a multifaceted service for students diagnosed with AS. Broadly, the program is comprised of two parts: 1) weekly or bi-weekly, one-to-one meetings with a mentor who provides individualized support; and 2) group meetings/social events which provide students with a safe environment to meet other students with AS, as well as an opportunity to create a peer group within the university setting. Therefore, the AS Mentorship Program aims to: 1) help students build a social network/peer group within the university community; and 2) provide a supportive environment for university students with AS.”

Other institutions have other approaches. These approaches range from ASD oriented, staff facilitated groups, determined to teach specific social skills; through to student run “social
groups” for the purpose of socialization activities like attending a movie or going bowling and may not be specific to a disability group at all. For students experiencing ASD, a range of supports is probably necessary as these students vary in their needs and development. At one level, you probably need a social skills training group that is intent on instilling specific social skills, changing thinking about socialization, and is facilitated by trained staff. A good example of such a group might be the PEERS training for young adults (Liz Langerson, 2011). Although the young adults module is still in the pilot version at this writing (and differs notably from the middle school/high school version in that it explicitly addresses sexuality and dating), the empirically tested success of the middle school/high school and the elementary school versions of this program would tend to support the adoption of such an approach.

Additionally, socialization programs, again facilitated by trained staff, are probably necessary for students at another developmental and skill level. These would be the programs arranging dinners, movies, games nights and bowling. Some institutions like CIP or Landmark College take these further into white water rafting expeditions or multi-week service trips to countries in need where students can practice and use their skills in social interaction in helping others.

One approach that has seemed effective in helping individuals experiencing ASD to improve social relationships in workplace and educational settings is the concept of social capital. It is discussed with the student that on entering a new social or work situation, the other persons in that setting have no knowledge of or obligation to the individual experiencing ASD. The student is starting in that new group at ‘zero social capital’. To build social capital, to increase their social capital account from zero to 'rich' in amount of social capital, the student experiencing ASD needs to engage in those behaviours that will allow the student to increase the amount in their account. Dressing in a conventional manner, being quiet and agreeable, not correcting or policing people, working to appear as pleasant and non-threatening as
possible, showing interest in other people’s interests will all 'build' social capital. Why is social
capital important and why does the student need it? Occasionally, the student will do
something out of the ordinary, something not generally acceptable to the group. If the student
has built social capital, if they are accepted in the group, the group members will be more
likely to forgive the occasional aberration in conversation, social skills, dress, etc. Without
having built up a large account of social capital, the student will have nothing to draw on to
use when they have a bad day or just forget to follow the group rules. They will go into a
negative balance and people may be upset with them. This characterization has helped some
individuals experiencing ASD in understanding the why and how around the functioning of
social groups.

Theory of Mind issues need to be addressed. In one instance in the experience of this
reporter there was a student working with vulnerable children, themselves experiencing a
disability. This student was a very bright individual and a graduate of an undergraduate
program in psychology. Her difficulties at work included, for her, inexplicable issues in
communication with the parents of the children she was working with and subsequent poor
work reports from her supervisor putting her placement in jeopardy.

Throughout high-school and into university and beyond this individual found social
acceptance in what might be characterized as the 'Heavy Metal' crowd. Acceptance in this
group involved adopting a style of dress that could at best be described as casual, involving
jeans, Doc Martins, and Tees with deaths heads or other like symbols or pictures. My client
was repeatedly exhorted by her family to change her dress to something more conventional
and perhaps more ‘feminine’. She could not see the point of such a change. 'Logical'
discussion of how her dress might impact her communication difficulties with parents in her
work setting did not seem to achieve a level of 'emotional' insight (to borrow from the
Freudians). “What does it matter how I am dressed? I am conforming to the dress code in that I am not wearing any jewellery or hanging chains that might constitute a hazard if a child were to grab them. What is the problem?” This continued to be her understanding until we engaged in an exercise where we talked about how she thought that parents of the children thought about her, when they saw her dressed as she was. This discussion was supplemented by a series of stick figure drawings using thought bubbles (as in a comic book) to illustrate who was thinking what. Almost immediately the student was able to understand that the parents might think that she was not a person responsible enough or capable of looking after their children when they looked at the student’s appearance and thought their own thoughts about the suitability of her appearance.

**Human resources**

It is reported (Alcorn MacKay, S. et al and others interviewed for this investigation) that one of the most important supports found helpful for students with Autism Spectrum Disorders (ASD) at the elementary and secondary level is access to resource teachers and educational assistants. This is recommended as important support for these students in maintaining their integration in regular classes and providing the just-in-time supports required on a daily basis. This level of assistance is often seen in the secondary school system in Ontario. At the post-secondary level this need for intensive support does not disappear. The nature of the support may change. At post-secondary we are more likely to see peer tutors and peer mentors along with DSO advisors and counselling staff. These personnel may need to be supplemented with more frequently available and more highly trained staff than is generally now the standard in the usual college or university DSO if we hope to actually meet the needs of students experiencing ASD.
One specific support at the post-secondary level that was repeatedly pointed out to this investigator was the need for access to counsellors in a timely manner. One young lady, on contrasting her experience at a former post-secondary institution with her current experience at an Ontario university, commented that the reason that her current program worked was because she lived in residence. This was a little confusing for this interviewer in that it was also being made clear from other interviews and other institutions that residence life was another challenge that required its own set of considerations to make possible a chance of success for the individual experiencing ASD. This student went on to explain that in residence there was a counsellor available immediately. She could just go and see this person and talk to them when she needed someone to talk to. There was no waiting for a week for an appointment to deal with an issue that was immediate and by the next day, (bar the next week) would result in action or inaction that might have significant consequences for the young lady in question or indeed for any student experiencing ASD.

It can often be critical to have a designated mentor or other trained support person that students could go to in times of stress and who is available to closely monitor the students' social-emotional needs. In many institutions this is a peer mentor. The value of the peer mentor is probably directly related to the level of training and support that the mentor receives and the mentor's availability to the student experiencing ASD and the mentors ability to employ their training in an effective manner sensitive to the particular needs of the student being mentored. Some systems deliberately place limits on the availability of the mentor, (one weekly appointment maximum). Other systems restrict the mentoring to academic systems and prohibit social mentoring. Often peer mentors are used and they are likely untrained in issues related to ASD.

Interdisciplinary Teams, which include such professionals as Speech-Language Pathologists,
Occupational Therapists, Physiotherapists, Child and Youth Workers, Social Workers, Psychologists, Counsellors, Peer Mentors, Professors, Case Managers, Learning Strategists, Assistive Technologists, Tutors, and Job Coaches, may all be necessary to assist in successful integration in post-secondary settings. Integration may include the classroom, work experience/practicums, or future job placements.

Disability Counsellor/Advisors are required at the post-secondary level as well as tutoring services, learning strategists and assistive technologists.

Counselling services can also be helpful in guiding appropriate program selection to effectively capitalize on the students’ learning strengths and interests. As anxiety is such a pervasive issue for these students, counsellors and other staff should be ever vigilant for developing situations which may exacerbate such anxiety, and work with the student to ameliorate any such situations. The counsellor may also be the case manager and 'go-between' for students, their parents, and with other support personnel and faculty or administration in the institution.

Learning strategists and assistive technologists should be prepared to field the extensive executive function needs of these students. As one student interviewed put it,” I don't forget anything. I just get confused sometimes.” There will be the usual technology related needs that are inextricable from the learning strategies. There will also be learning strategy needs that must take into account the difficulty some individuals will have in embracing change. The very idea of employing a new strategy is anxiety inducing. Comfortable stress reducing strategies and technologies may need to be abandoned in favour of new and anxiety provoking approaches that are potentially more effective. 'Selling' the student with ASD in such situations requires training in how to deal most effectively with these students. You must be prepared to overcome the entrenched resistance of the individual experiencing ASD when
it comes to change. You must enlist the student in embracing the change.

**Other Necessary Resources, Services, and Instructional Supports**

A current learning profile of the student's strengths and needs is probably necessary. This profile can be very useful in building the students' self-awareness and in guiding the selection of appropriate supports and services. An updated psycho-educational or psycho-vocational assessment may be necessary to establish true areas of psychological processing strengths and weaknesses and to identify avenues of potential intervention.

Practice in meeting with teachers/professors prior to school starting is recommended. These students require familiarity to lessen the level of anxiety that they experience. Familiarity also allows the professor to be aware of the peculiarities of the student's social interaction style and to proactively plan around anticipated classroom interactions. An example of how this prior knowledge of a student's issues can be helpful can be found in the following. This observer was called in to consult on what was perceived as a possible crisis situation regarding a particular student. It was described how this student was loud and inappropriate in class, often blurting out comments or unwilling to leave a topic in which they had become invested. They sat too close to people or did not make appropriate eye contact or use appropriate body language when they talked. Often, the emotional tone that they presented in conversation seemed to not fit the conversation and was often described as flat and inexpressive. They seemed to have difficulty with social limits, inundating classmates or professors with emails or texts at all hours. On reading the history of the student, this observer suggested that the student presented in a manner that was perhaps less psychotic (as was being suggested by staff and fellow students) as it was perhaps Autistic. The
professors in the consultation did some literal and figurative “head slapping” and said, “Of course! Now it all makes sense!”

Students need to learn where the classrooms are located, and to get a level of comfort and familiarity with the physical building prior to school starting. This may require multiple visits. Learning the geography of the campus is not recommended at the beginning of the semester. Not only are the hallways filled with other lost and as such unhelpful students, but the students who are experiencing ASD are dealing with all the other aspects of class start-up and new academic classes with all their attendant demands. Couple this with the overwhelming sensory input related to thousands of other new students and the individual experiencing ASD may very well be sensorially overloaded with the concomitant difficulties which that entails.

Lockers should be provided in advance along with timetables, rooms, reading lists and professor assignments. Often there is a tendency to say that the allocations of such resources as lockers are equitably distributed through a “first come first serve” policy or a lottery. Such policies are indicative of the type of systemic barriers that prevent students experiencing ASD from being able to access the resources that will help them to be successful. Given their social interaction difficulties and executive function issues, the student experiencing ASD will probably not be able to be in that “First come, first served “ group and will never get a locker. Having a locker may allow the student to get from class to class successfully in that they will have a place to put the boots, coats, gloves, hats, papers from other classes, etc., that would otherwise be carried around, lost, worried about and generally get in the way of being able to pay attention and participate in their studies.

Within the first two to three weeks before the start of each semester a meeting with all persons involved should be held. This meeting is to provide background information about the
Parent involvement informs those working with the student of the student’s likes and dislikes, quirks, eating habits, what circumstances may contribute to an unfavourable behaviour, how to handle inappropriate behaviours including consequences to actions, sensory issues, and provides ways in which staff will be able to communicate with each student in a positive and dignified manner in line with Ontario Human Rights requirements. It provides students with further familiarity with their working environment and the players in that environment.

Educational Assistants, Social Intervenors, and Professors may wish to maintain an ongoing dialogue with parents on a daily to weekly or monthly basis, either via a communication book, or via e-mail (such contact with student’s permission) to help the student to maintain academic expectations and to help the student avoid confusion. Such contact may be best managed through a Case Manager. Ongoing dialogue at home around what is happening in the academic situation promotes communication skills and assists with continuity. Such support needs to be scaffolded so that it can be reduced as soon as it is possible to do so. It must also be recognized that such support may be needed for an extensive period, perhaps more than one or two academic years or indeed in some forms and in some cases through the entire post-secondary experience.

A frequently recommended accommodation is access to assistive technology and laptop computers or other note-taking and communication devices. Both screen reading software and voice recognition software may be recommended to support reading and writing skills. The skills may need to be supported not in that the student has reading fluency or word recognition problems, but that they suffer from fatigue. This fatigue results from the constant struggle in which the student is engaged in processing their sensory environment and the inexplicable social world around themselves. The students may need the assistance of
auditory support (text to speech) to supplement their “tired eyes” (York U, Mentoring Program, CCDI presentation, May, 2011)

Also frequently recommended is the need to provide support during transition periods. This includes planning for transitions, visualizing and discussing transitions with the student and the possible employment of an EA or other support person throughout a transition activity. A special instance of a transition that may require support is the work experience or work placement. The student will require the same type of assistance with accommodating to the work placement transition as to the initial classroom transition. A work coach may be required to scaffold this type of transition.

Testing accommodations provided may include, extra time, distraction reduced environment, oral or scribed tests, and clarification or paraphrasing of test questions. Tests may need to be broken into sections so that they can be accomplished over a period of a couple days. Writing with the use of a computer may be necessary in light of some of the motor issues experienced by some students. A consequence of this need for some students experiencing ASD is the need to use a familiar word-processing program and keyboard. Test centres may have difficulty with such an accommodation. To not provide such for these students is to require them to deal with a change or transition that causes further anxiety and impedes their performance.

A reduced course load is often recommended, with as little as one course per semester being a possibility to accommodate the issues that the student may have in assimilating information (social, anxiety and executive function issues) as well as issues in responding (output) to academic requirements. Reduced course load affords the opportunity to individually structure timetables, making it possible to tailor start and end times and to build-in periodic breaks during the day.
Course accommodation may be necessary. Usually, a student who for whatever reason cannot finish a course in one semester is offered the opportunity to do more work in the next semester (on top of their regular courses for the semester). Providing such an opportunity adds to the stress the student is experiencing and may cascade into failure. Alternatively, a student may accomplish ¾ of a course and due to difficulties related to their disability, be unable to finish the course and receive a failing grade. We offer the student the opportunity to repeat the entire course. This is perceived by the student experiencing ASD as punishing (Did they not do very well on the ¾ of the course that they attended?). Very often they are unmotivated to repeat material that they have already mastered and may drop out.

Consideration should be made of program accommodations that would allow a student to take part of a credit in one semester and finish the same credit in a subsequent semester. This may involve courses being offered in a modular fashion so that a student can take ¾ of a course in one semester and finish the course by doing the final ¼ in a subsequent semester.

Note taking support including recording of lectures, copies of instructor’s notes (if available) in advance of the class, and being provided with an in-class note taker may be required.

Students with ASD may also require extra time to complete assignments and projects and are often supported by an Educational Assistant or Social Intervenor in the classroom. Social issues and executive function issues may interfere with ability to complete assignments within given time-lines. It is important that students work toward becoming able to cope with such requirements, but it is equally important that institutions and their support staff recognize that students will require scaffolded supports to be able to approach such a goal and indeed may never fully reach the goal of complete independence.

General orientation programs, and orientation specifically geared toward the student with ASD
are recommended. A number of such programs are beginning to be provided by various institutions. Some involve single day experiences where students are introduced to services and supports generically available to students experiencing a disability; to ASD specific programs that bring students on-site to their campus of choice, immerse them in the learning environment, help them to connect with support services, introduce them to professors, involve parental input and explicitly discuss the potential issues faced by students experiencing ASD.

Applied Behaviour Analysis (ABA) and learning to provide individualized instructional supports through Differentiated Instruction are both helpful approaches for staff to learn. The employment of Universal Design for Instruction or Universal Learning Design are helpful approaches for Professors and support staff. Elements of Direct Instruction may also be useful. As some students experiencing ASD have some difficulty with ambiguous messages, it may help to be explicit in what the learning expectations are that have been set for these students. This explicit approach needs to be incorporated into curriculum and pedagogy on a day-to-day basis. Faculty and staff may need instruction and guidance in learning how to implement these approaches with this population.

The need to have a physical location where students could go to reduce sensory input (sensory friendly, calming, or “time-off” rooms, not ‘time out’!) is a necessity. These rooms allow the students to remove themselves from stressful environments before becoming overwhelmed and escalating into behavioural outbursts. Anecdotal reports from students and staff indicate that often the DSO is the default location for students to go to attempt to find such relief. As the need for these “time off”s occur at unknown intervals, hanging out in the reception at the DSO may not be the most appropriate setting to accomplish the 'de-stressing' that these students require. Sensory friendly rooms are a location within the schools where
students could go to calm themselves when feeling stressed due to sensory overload or overly demanding social expectations. These rooms typically have bare walls (no high contrast colours, no reflective surfaces, no windows), noise reduction (soundproof, white-noise machines), uniform lighting (flicker free, no florescent lights), soft flooring, must be relatively odour free and scrupulously clean. They may contain a variety of objects (computer, rocking chair, sofa, yoga mat, etc.) which students could use to further calm themselves.

 Preferential seating may be required in some classrooms to reduce distractions and sensory overload. The student themselves may not be aware of this need and it may be necessary to discuss and identify the advantages of such an accommodation. Sitting in the front may help eliminate visual distractions. Some students interviewed for this investigation stated that the off topic activities of other students in the classes they attended was very disturbing, apart from being distracting. These students could not understand why other students would come to class and then go on Facebook, engage in cellphone conversations, talk off topic with those beside them, or in various ways ignore the professor and the information being discussed.

 Students benefit from clearly structured days with predictable routines along with flexible timetabling to allow for such things as later starts, earlier leavings, and/or periodic breaks.

 Online courses may allow students an opportunity to complete some course requirements, but these delivery methods carry their own set of issues, including organizational and online social issues.

 Students need to be supported appropriately with mentoring or job coaching in placement for co-op or work placement settings to help them to prepare and adjust to the demands of new learning environments and to complete required placement components.
Students need to be provided with the opportunity to leave the class whenever needed to reduce situational stress. Obviously, if the student is leaving class, note taking services need to be available.

Practical work experiences or hands on activities may be of assistance to these students to help operationalize more abstract academic learning.

There may be a need to provide visual supports such as graphic organizers in order to facilitate comprehension and develop organizational skills.

It is helpful to break down tasks in order to make them more manageable and to provide models and examples of finished products. Rubrics for assignments and essays and study guides for exam preparation are ideal and should be provided to help these students understand academic expectations.

Whenever possible it is useful in teaching to build upon the students’ strengths and interests. Often these students have highly developed skills in specific areas. They may also have areas of interest where they are extremely well informed. The use of specialized learning opportunities which can allow students to select programs which focus more on their particular learning strengths and interests may be useful.

Within groups, it is very important that instructors provide clarification of the students’ roles and expectations and monitor the developing social dynamic.

It may be helpful for some students to be provided with clarification of concepts and a reduced number of assignments keeping in mind that the bona-fide exit criteria of the program may not be modified.

Access to general tutors who can repeat, review, and/or clarify concepts which were
presented to students in their classrooms may be required. Instructors may need to provide tutors with direction as the student may have difficulty articulating what it is that they require from the tutor.

Learning strategies/assistive technology training (LSAT) is usually required, focusing on the usual study skills agenda (test taking, note taking, mathematics, reading, oral language, and/or written expression) and executive function issues (memory, planning, organization, self-monitoring, evaluation and time management) as well as specific instruction in social skills and effective methods of self-managing student’s sensory issues. These later issues are outside the usual LSAT areas of competence.

Students need training in how to structure written assignments and develop problem-solving skills.

Training in self-advocacy skills is required. This is also an area where LSAT staff or DSO staff may not have training to meet the needs of this population and may require additional training and skill support to be able to effectively meet these needs. Hiring of trained personnel such as Social Intervenors or Social Coaches may be necessary.

An active partnership involving designated Disability/Access Service staff, students, professors and their families can provide important insights upon which to build an effective support plan. A series of meetings between these individuals and/or a set communication system can be very helpful in overcoming any hurdles that may be experienced by the student.

An alternative lunch space may be required away from the over-stimulation of large crowds. It may also be socially stigmatizing as the student may have eating habits that are outside the norm and which may not be accepted by their peers. This may include a need for separation
of foods, extreme need for eating cleanliness, eating in a peculiar manner, etc. Again, scaffolded supports may be employed to help the student to be able to more readily integrate into the regular lunch space, but given that these issues may be of long standing they may not be easily or quickly dealt with.

Students also utilize “stress fidgets” to reduce their anxiety and enhance their focus. These “stims” serve an adaptive purpose and should be allowed as long as they are not disruptive (e.g. flicking a shoelace, twirling their hair with their fingers, or moving their fingers in their own visual field, etc.). Attention should be paid to behaviours which can be self-injurious such as biting, pressing nails into palms, etc. Students who employ such behaviours should be redirected into behaviours that are benign. As such behaviours are probably a reaction and coping behaviour in relation to stress, action should be taken to identify the stressors and eliminate them. The goal should not necessarily be to eliminate benign behaviours. If the behaviour is somehow disruptive of the class, or excessively injurious to the public perception of the student it should be discussed with the student as to how they could modify the behaviour or use another response to the stressful situation.

Issues like wearing dirty clothing and having poor personal hygiene are not usually stress reducing behaviours. They may result as a reaction to stress. These type of behaviours need to be discussed with the student as they can impact significantly and negatively on their peer’s perception of the student and negatively affect the student’s social and academic situation. Some counsellors, on being interviewed about these issues, expressed the opinion that it was not their job to instruct students in the use of deodorant, doing laundry, or deal with nose picking in public. Due to the significant negative effect that such issues may have on a student’s academic experience, institutions must adopt policies on who will address and how such issues will be addressed.
Some behaviours that some students experiencing ASD will engage in are erroneously identified by others and to the student as obsessive behaviours. Rituals that these students may engage in to help reduce tension and anxiety are not obsessions. They are rituals that may have some positive benefit for the student that is obscure to the casual observer. These rituals do not necessarily bear any relationship to the psychiatric condition known as Obsessive Compulsive Personality Disorder. This semantic confusion is not helpful and post-secondary support practitioners need to disabuse themselves of the notion that rituals are obsessions and leave such diagnosis to psychiatrists, psychologists, and psychological associates.

Close monitoring of social emotional needs is often crucial to the success of students with ASD, particularly during transition periods.

ASD Specialists or ASD Coaches with training in social skills, awareness and coping strategies for sensory needs, communication skills, organization, time management, structuring of written assignments, problem-solving, and/or self-advocacy and life skills may be required.

Special consideration should be given to the needs of these students when developing institutional emergency plans. Again, familiarity with such procedures on the part of the student experiencing ASD will help insure compliance and reduce anxiety. In the event of a real emergency this preparation may save lives.

**Instructional Strategies**

Where topic choices are involved, direction may assist the student in starting and completion. Objectives/criteria should be very clearly articulated. Rubrics are extremely helpful.
Clearly define course requirements, the dates of exams and when assignments are due.
Provide advance notice of any changes and ongoing reminders. Provide this information in multiple formats. Verbal, hard-copy and electronic notification should be a standard procedure.

Teach to generalize and to consolidate information. There is a perception that these students have more than usual difficulty in generalization. An example can be drawn from an experience of this investigator in teaching conversational skills to a student experiencing ASD. In a series of office sessions, we covered the mechanics, behaviours, and beliefs behind a one-one conversation and how to bring all of this to bear on successful one-one conversations. It was evident that we were making considerable progress over the period of one semester. An occasion arose where this investigator had missed their morning coffee and begged permission from the student to take five minutes from their session to walk down the hall to the coffee cart and get a coffee. The student was invited to accompany. On walking and talking in the hallway with the student, it became immediately apparent that the behaviours learned in the office did not generalize to the hallway in a walking and moving conversation that needed to take into account other persons in the hall. The change in environment, addition of other persons, and movement, required an expansion and conscious generalization of the principals learned in the office so that they would apply to a different setting. Don’t expect the student to automatically generalize instructions.

Professors should teach the gist, meaning, or patterns in their instructional approach to a concept being covered. Try not to get bogged down in the details. Again, these students may have a tendency to get lost in the forest because they must look at each individual interesting tree. Make sure that your instruction does not feed or exacerbate this possible tendency.

Use scripts and teach strategies selectively. An overwhelming number of strategies will
overwhelm. Overwhelming may start at more than one. Multiple scripts or strategies require decisions around usage. What works where? Without full and explicit instruction in what works where, too many choices may tend to confuse or cause an inability to move forward in a timely manner.

All expectations need to be direct and explicit. Don't require these students to "read between the lines" to glean your intentions. This may not be the student with which you employ discovery learning. Be direct.

Provide direct feedback to the student when you observe areas of academic difficulty. Do not expect the student (regardless of their apparent verbal skills) to be self-aware of areas of difficulty or to be able to adopt corrective strategies without direct instruction regarding the difficulty that is being displayed.

Provide direct feedback to the student when you observe areas of academic strength. These students will respond very well to legitimate recognition of their skills and strengths.

Encourage use of resources designed to help students with study skills, particularly organizational skills. Often these students may resist use of such resources as the process involves change in routine and social involvement. Both of these are situations most of these students would choose to avoid. Practical real examples of utility may help overcome these objections.

Avoid idioms, humorous references, double meaning and sarcasm, unless you plan to explain your usage.

Do not use absolute words in your instruction such as ‘always’ or ‘never’ unless that is exactly what you mean. These students may tend to take you quite literally.
If the student has poor handwriting, use of a computer may be easier for them. Familiarity of the student with a particular keyboard will be an issue in writing.

Use the preoccupying interest to help focus/motivate the student. Suggest ways to integrate this interest into the course, such as related paper topics.

The setting for tests should account for any sensitivity to sound, light, touch etc.

Group assignments must be carefully monitored by the professor, starting from initial group makeup through work assignments, communication, and final presentation. Assist and monitor group work as the difficulties in social interaction may result in students having problems in such settings. They may be left out of discussions and planning. Individual work should be considered when it is a viable alternative to the group setting. It may be a much better assessment of the student’s skills and use of the professor’s time, to provide alternative individual assignments.

Provision of class notes or note taking service may be of assistance to these students

Allow opportunity for student to leave classroom if necessary to deal with anxiety and stress of the classroom situation

A common occurrence is the student who “Always has their hand up in class, is too talkative in class and dominates any discussion time.” A suggested approach for this student involves pointing out the actual number of students in the class and dividing that number into the number of minutes in that class period. “If there 50 people in class what part of that time do you own?” One student was provided with a series of cards for each class. These consisted of a number of “Go” or “Stop” cards. In one class they might have two “Go” cards followed by a stack of “Stop” cards. Whenever they wished to talk they needed to draw a card. If they had only two go cards for that particular class that defined the number of questions or comments
that they were allowed for that class. This particular visual representation of class interactions allowed was characterized by one individual as, “It Changed my life.”

**Clear directives should be used when…**

a student invades your space or imposes excessively on your time
giving assignments or specifying revisions to submitted work
the student's classroom comments or conversational volume become inappropriate

Give early and clear feedback around difficulties that you perceive in academic/skill attainment with specific suggestions regarding tutorial assistance required to assist the student

Directives/instructions/information for student should be delivered in a multimodal format, verbal, written, graphic, hardcopy and electronic. Repeat as necessary.

Clear, detailed directives should be used when referring to revisions that need to be made to a piece of writing.

When giving feedback/instruction, have the student make a "to do list" of what needs to be changed

Number the changes needed to be made on their writing so they have an order to follow

If modelling writing rules, write them on a separate sheet for future reference

Keep instructions simple and direct

Ask students to repeat instructions in their own words to check comprehension
An example that I know regarding the importance of clarity of instruction and mutual comprehension is illustrated in the following story. A young student was making a visit to his family doctor. In the course of his investigation the doctor decide that he required a urine sample. He gave the boy a container and asked him to go into the bathroom and "Make water." After some time the youngster returned to the doctor with the container filled with tap water. He told the doctor, "I looked everywhere in that bathroom and there was no hydrogen or oxygen to be found." The doctor then gave the boy another container and told him to, "Go pee in the bottle."

An example of a more academic variety might go as follows: (Student arrives at your office at 1:40). "We have only 20 minutes to work together. At 2:00, I'm going to ask you to take my suggestions home and start making changes to your paper. Write down my suggestions as I give them to you so that you can use them to make changes. I will also note on your paper where changes are necessary. Come to my office tomorrow afternoon at 3:00 and show me what you've done in making changes to your paper following the suggestions that I have given you."

**Programs To Note and Possibly Emulate:**

There are initiatives in Ontario at the colleges and universities that are worthwhile. What is lacking is a complete and comprehensive program. Some examples of such comprehensive programs can be found nearby in the USA. These programs range from private for profit support services through not-for-profit college programs totally organized around the disability needs of the student, to University extra cost enhanced services programs.
The **College Internship Program (CIP)** is one of the oldest services. The location visited for this discussion was located in Albany, New York. CIP has a different approach to providing for the needs of the student experiencing ASD. With locations throughout the USA they offer comprehensive supports, but no courses. Programs like the College Internship Program (CIP) involve staff who are teaching “social thinking” (a kind of CBT-like thought restructuring and theory of mind instruction around social interaction), personal counselling and support, health and wellness (nutrition/diet/food prep, exercise/activity, stress/anxiety management, and social interaction), academic advisement, ranging from culinary class residential/independent living skills, cleaning, apartment and self-care skills to academic counselling/support, liaison with college faculty, organizational support for assignments, group study hall, individual tutoring, career counselling, advising, travel training, general counselling, social thinking re-framing group and individual counselling, liaison with academic program and tutoring, liaison with parents, executive function training, and life skill training (budgeting, cleaning, shopping, apartment sharing, etc.). Aside from the life skill training, post-secondary institutions should probably be thinking along these lines if they truly wish to meet the needs of students who experience ASD so that they may have an equal chance of success in post-secondary. These issues are at the heart of the disability.

The College Internship Program (CIP) provides an extensive array of supports that is external to any college or academic program. It is an impressive collection of support services. There are also planned and supervised weekend activities. CIP recognizes the executive function issues experienced by these students and works explicitly to help them to deal with these issues. CIP staff look at the student and skills that the student has. CIP assesses and helps the student to get what they need to achieve their goals. Being clear on goals and helping
them to accept the services that they need is a big part of the work CIP does with their students.

CIP sees communication with professors and parents as essential. Students are supported in this exercise. They push their limits socially as well as elsewhere. The CIP staff talk with each other and there is a sense of shared purpose. It truly seems to be a holistic approach. Staff work closely with each other, the student, their academic staff and the student’s family (parental contact is twice a month communication one call and one email from program). Budgeting is a skill area that requires much attention. Along with all of the counselling, life skills and academic support, students are encouraged to have creative outlets. In all of their interaction with students there are appropriately scaffolded supports.

CIP recognizes that placement can be a source of chaos and anxiety for the student experiencing ASD. Support staff go into placement situations and support students as necessary.

On anxiety, one student commented, “Anxiety is my life.” They went on to say, “You have to learn not to take it personally.” CIP attempts to address the pervasive anxiety in the life of an individual experiencing ASD through activities such as meditation, yoga, aerobics, fencing, and ballroom dancing to name a few. There is a cooking club, shopping, and cooking together is encouraged. CIP does not try to explicitly teach social skills, but does engage students in a social thinking CBT type of activity. The program is individualized for each student. Program staff at CIP are well trained with everyone having at least an MA or more in academic preparation. Highly skilled staff are seen as essential.

One of the issues identified by CIP was the challenge of carryover of skills over breaks (four month summer). Another issue is affordability. CIP can cost in excess of $70,000 per year
Another factor that must be acknowledged (raised by CIP and others) is the nature of the relationship between the parent and the student. There is no question that for most of these students their parent and their family are their greatest supports. There is also no question, that there is a natural separation and development of an independent and separate identity on the part of the student. We should also not be so arrogant that we impose our mainstream cultural ethos of the modern western nuclear family on this specific situation. In situations of disability and need for ongoing support and family involvement, a subculture of mutual support and interdependence exists and has as much value and relevance as the modern western nuclear family “norm”. This area is open for and requires research. Having said that, it is also a fact that there are issues of independence and individuation that may need to be addressed. These are exacerbated by the extreme difficulty of being either a parent of a child experiencing ASD or being the child who is experiencing ASD. Family stability in these situations can be questionable with all the accompanying fallout from those issues. It is also very probabilistic that the family with a student experiencing ASD may have other family members who themselves experience ASD. These family members may be siblings or parents of the student. There are obvious difficulties that may arise in these situations either regarding the parents having to deal with the needs of two or more individuals having the challenges inherent in ASD or the parents themselves having to deal with these challenges in that they themselves experience ASD.

All of this makes the relationship between the institution and the parent of the student all the more problematic. The institution cannot just say, “These students are adults and as such we just do not have any contact with parents.” Although tempting in that it is perceived as the legally, and somehow inexplicably the moral course of action, ignoring or prohibiting contact
with the parent is an abrogation of the responsibility of the institution to give the student the best service relative to their particular disability. In the instance of the individual experiencing ASD the parent can be an essential source of information relative to what works and does not work in an educational setting and they can be a great source of support in helping the institution to support the student in a structured and scaffolded manner. The caveat being that the relationship with the parent on the part of the student may be difficult based on history and current development and that the parent may themselves have the ASD difficulties that colour communication and social interaction. Such historical baggage and current issues in communication must be considered in attempting to work with the student and their family. Agreed upon contact methodologies may help in the support of the student. On-going communication between the team working with the student can help provide a consistent and reassuring environment within which the student can best undertake learning.

CIP staff stressed that residential executive functioning support is required for students in residence. They may not have the executive functioning skills to be able to do what is necessary in a residential living situation. CIP provides supports and advocates for roommate meetings if necessary. Students at CIP are required to live in the 2 bedroom apartments that CIP arranges for them. There is an on-call person available at all hours for residential issues. Planned weekend activities include cooking, games, movies, cultural activities, sports, airshow, apple picking, shopping, etc.

One of the staff at CIP put it succinctly in terms of supporting students experiencing ASD. “In the beginning we need to do it for them, but then, we need to help them do for themselves, but you have to take people where they are and move from there.”
Landmark College

As an example to watch and potentially to follow, Landmark College in Putney Vermont has an approach that provides one of the most comprehensive supports to both academics and living for the student experiencing ASD. Landmark differs from most other support programs in that the entire Landmark education, from academics through residence is programmed around the disability needs of the student. For students with a diagnosed disability the entire cost of the Landmark education is considered a medical expense for income tax purposes.

Landmark accomplishes this fully integrated support program by effectively implementing UID and UDL principles, combined with faculty who are well trained in the neuropsychological needs of their learners. Each learner’s needs are considered in the development of the curriculum and the application of the UID and ULD principles. Landmark also attempts (much like the CIP) to establish relationships with students so that they feel connected and supported. Unlike CIP, the student Landmark staff to student ratio is much larger, but still much smaller than at most other institutions. I heard again and again from Landmark students how a relationship with a counsellor made the difference in their staying at Landmark and their success at Landmark.

Landmark has an ASD advising group which meets once a week. The college offers a three day orientation specific to the needs of the student experiencing ASD. A cohort approach is employed for ease of social interaction and support. It is not unusual for you to see a table of students who first came to the three day orientation still together at lunch in the cafeteria a year later.

Landmark also looks at the social emotional needs of students and does not blindly or mechanistically put students together for no reason other than their diagnosis. Student's
needs and desires, likes and dislikes are considered and they are very intentionally matched
with another student for residence housing purposes. This matching will not necessarily be
with another cohort member. Many students interviewed for this report expressed a desire to
be with students who understood and accepted the behavioural, communication, and social
manifestations of their disability. Others expressed something along the lines of: ``I have been
placed with other Aspies all my life and I do not want to be forced to socialize with them.``

Landmark confronts the issue of working with parents by acknowledging that the parents of
these students have invaluable information to share regarding what works and what doesn’t
work in relation to their son or daughter. This is not to say that there was not some feedback
from many of the institutions surveyed during this study regarding the change in some
student’s behaviour and demeanour in the absence of their parents. That proviso aside,
Landmark conducts extensive interviews with parents. In addition to getting information
regarding the student which may not show up in any psycho-educational or school report, the
college is attempting to determine the expectations of the parent, what they would like to have
done or expect to have done, with no promises that it will be done. This process allows for a
discussion of specific expectations and can go a long way toward defusing volatile
misunderstanding about what services and supports will be delivered. These kinds of
misunderstandings were common complaints from DSO staff interviewed for this report.

Landmark has formalized professional development for faculty. There is an expectation that
faculty and staff have an understanding of disability and student needs that allows the faculty
and staff to imbue this understanding into their actual work with the students and into their
day-to-day interaction with the students. This professional development is backstopped by a
research department that is constantly striving to understand the disabilities and the
developing field while communicating those findings to the faculty and staff. I can honestly say
that the understanding displayed by the faculty I have heard speak on these issues at Landmark of the neuropsychological basis of the disability, the consequent effect on observable behaviour, unobservable internal process, and the impact on academics, rivals or surpasses that of many of my Psychologist or Psychological Associate peers.

Landmark, like many other programs including the CIP, believes in adequate supports for their students matched individually to the student’s needs. This support is not static or limiting for the students. It is a reasoned, scaffolded, support system which aims to meet the needs of the student while simultaneously striving to build independence. The college is concerned with stretching the limits of their students so as to achieve growth. This of course involves change which is anathema to most students experiencing ASD. It is, however, the vehicle of growth and learning. One of the methods used by Landmark is the service trip. Students can be involved in service trips of various durations (one to a few weeks) to places like Costa Rica where they engage in interaction with local agencies on a project of value to the local community and in other educational activities. CIP employs outings ranging from white-water rafting to overnight trips to large metropolitan areas to experience a social event. CIP also works very explicitly on developing self-care skills ranging from nutritious meal preparation to the paying of monthly bills.

Landmark asks their first year students to participate in a first year learning how to learn course. Many colleges and universities offer what sound like similar courses. The apparent difference with Landmark is that they teach the students about learning from the neuropsychological understanding of their disability and how people learn specific to their disability. The result is that the students and the faculty have the same knowledge base for understanding and implementing effective learning practices specific to an understanding of the disability and the UID and ULD principles that would best address the learning needs of
that disability.

The learning strategy and supportive assistive technologies which can help in the delivery of the effective learning are seamlessly integrated. There does not seem to be the awkward and unwieldy separation of learning strategies and assistive technologies which seems to be the goal of many other post-secondary administrations.

Landmark’s history was in language, LD, ADHD, brain injury and now ASD. All of this prior learning and experience contributes to the capacity and capabilities needed to allow them to start meeting the needs of students experiencing ASD.

Class length may be a factor for the student experiencing ASD. Assimilation and consolidation of information in the face of competing sensory, social/communication and anxiety issues may be slow and fraught with difficulty. One of those difficulties may be the length of the instructional period. Students interviewed for this report indicated that classes in excess of 2 hours consecutively in one subject area, made it more difficult for them to assimilate and consolidate the information being presented for those classes. They were more likely to do poorly, and fail or drop those classes.

Proportions of students experiencing ASD were issues highlighted to me by staff at most institutions with which I had contact. Private institutions pondered what is the best number of students that they should accept so that they can continue to offer quality, effective programming and support for these students while still utilizing highly trained staff at a reasonable cost to the student? Public institutions had similar concerns, but not having the ability to limit intake, their concerns centred on staff to student ratios in disability support services. There was a perception articulated that the students experiencing ASD could be extremely draining for the primary disability support staff involved in their support. It should be
noted that this perception may be related to the institution systems available above and beyond the disability support service provider to support the students. Parents of individuals experiencing ASD can attest that being the ‘sole support’ for just one student can be a daunting experience. Attempting to be that support for 50 to 100 of these students is undoubtedly overwhelming and a direct road to staff burnout and service ineffectiveness. To avoid such outcomes, institutions need to ensure that staff are properly trained in understanding and support of this population. Beyond the primary disability service person or counsellor involved with the student, there need to be many ancillary services and supports built into the fabric of the institution that both support the student and share the load with the primary support staff. The Landmark model of fully trained professors and integrated supports or the CIP model of small numbers of students fully supported by a large number of highly trained staff both speak to this issue.

Landmark, as well as CIP and almost all other institutions interviewed for this report, sees anxiety and executive function issues as major aspects of the struggle of the student experiencing ASD. Landmark strives to keep things predictable. They recommend being as up front as is possible with students. Put the notes out there. Put the assignment rubrics out there. There is nothing to be gained by ‘hiding’ how a student will be assessed. What is intuitively obvious to us may not be so to someone (the student experiencing ASD) who has communication issues central to their disability profile. The more detail, the better. Persons who can help and how they can help need to be identified. There cannot be the presumption that just because students were told that a service or support is available that they know how to access that support or who to go to or when they should go. All of this needs to be explicit, and repeatedly put in front of students in multiple formats.

Professors need to be intentional about how to structure groups. Group work is one of the
potentially most difficult academic activities for these students to participate in and to experience. It encompasses all of their disability issues, from communication, through social interaction, executive functioning skills, anxiety and possibly even sensory issues. No professor should assign any such activity without considering all these disability related issues and planning proactively with the student for the possible contingencies that may develop. First and foremost should be the consideration of the value and suitability of the group activity in achieving the learning outcomes.

Small steps in planning on the part of the professor can make the learning experience much less anxiety provoking for a group of students who constantly struggle with high levels of anxiety. Something as apparently simple or straightforward as speaking in class can be a tremendously anxiety provoking issue for the student experiencing ASD. This is not to say that this activity is to be avoided at all costs. On the contrary, scaffolded supports can be implemented that will allow the student to accomplish the speaking in class goal. A first step might involve taping a response for in class presentation. Foreknowledge of a speaking in class request can be made known by the professor and the student can prepare for this. A particular question could be provided by the professor and the student then can be prepared and answer that question.

Landmark College has made the conscious decision that they are a learning community. They maintain a college journal of research and practice. They have made the decision that there is a partnership between parents, the college, and the student. They know that at the end of 4 years there are only going to be 2 of those partners left.

Landmark has identified that counselling cannot be limited for this population to 4 to 10 sessions. These students may need continual and ongoing support. Access to this counselling must be seamless and immediate. This is not a population that has effective or highly
developed executive function skills. They will not generally anticipate and plan for dealing with a problematic situation. That is a state to be aspired to, but is mostly honoured in its absence. Instead, these students encounter problems requiring counselling support in full blown crisis mode and require support now, not in three days or in three weeks. In three weeks with their executive functioning issues they will come for their appointment on the wrong day or they will forget the appointment altogether.

This is not to suggest that the issue has gone away or was of no import. If the student survives the unresolved issue they will suffer the inherent anxiety of an unresolved crisis and lurch on to the next crisis until they become overwhelmed and are not able to continue. They stop attending, fail, or have a behavioural outburst that in retrospect is perfectly predicable and potentially completely avoidable if they had received the support that they needed when it was needed.

Inappropriate behaviour on the part of the student experiencing ASD is an issue that has been identified as problematic by most institutions. There is a question being raised as to what behaviour can be accommodated or even tolerated. It is unusual, but even one instance of a student encountering legal issues due to behaviour on campus is too much. Almost every service provider has their story of one instance of such an occurrence or very near miss. It has been the personal experience of this observer that the executive function, social, and communication issues of a particular student can be misinterpreted by uninformed staff as aggressive, antisocial, even psychotic behaviour and can lead to cascading difficulties and ultimately a disruption of the learning situation requiring the removable of the student concerned. Dr. Cathy Pratt, Indiana Resource Center for Autism. 'Supporting Appropriate Behaviour in Students with Asperger's' provides the following insight: “While there are few published studies to direct educators towards the most effective behavioral approaches for
these students, it appears most evident (given the heterogeneity among these individuals) that effective behavioral support requires highly individualized practices that address the primary areas of difficulty in social understanding and interactions, pragmatic communication, managing anxiety, preferences for sameness and rules, and ritualistic behaviors.” Staff involved in assessing behaviour must understand what it is that they are seeing and respond accordingly.

Landmark College, with their knowledge of the neuropsychology of the disability, sees that inappropriate behaviour must be looked at from the genesis of that behaviour. Is the behaviour malicious, or is it a predictable outcome of a developmental deficit elicited by environmental pressures? There are two obviously completely different behaviours here (malicious vs. developmental deficit) that must be addressed completely differently to accomplish growth, maintain institutional standards and responsibilities, and to achieve natural justice.

As part of their support services Landmark has a CBT group for students experiencing ASD. They also have what they referred to as “Social groups for people who hate being social.” CIP also provides individual counselling for each student.

There is no DSO at Landmark. That may seem like an inexplicable and contraindicated situation for an institution so involved in the delivery of DSO type services to students with very real and involved needs. The answer of course lays in the integrated approach of Landmark to meeting the needs of students. Students approach professors first and arrange their accommodations themselves. I was informed that as of March this year, students have made a total of 1 formal accommodation request. All other requests have been provided through the direct student contact with their professors. The admittedly somewhat cumbersome process employed by most institutions whereby students must make
appointments with a DSO, and go through a process of developing an “Accommodation form” which may take multiple weeks to accomplish (if ever with the executive function difficulties of some students) is avoided.

A student panel at Landmark provided some further insights into how they approach working together (students, parents and college) to achieve student success. One of the items that became obvious was that the students are allowed to change counsellor if they do not seem to be a fit with their current counsellor. The students themselves referred to how “well prepared” staff and faculty seemed to be in their ability to deal with the student’s learning issues. They referred to Landmark as the "Harvard of LD Schools". They felt that “Teachers are always there for me.” There were comments like, “This is a community.” Everybody knows me.” “They are really committed to helping you.” “Here you have peers no matter what your learning difference.” “Here you get the support no matter what your need.”

These comments were made in the context of students who had experienced other post-secondary learning institutions. What they found at Landmark did not exist at these other institutions. One student summed up the feelings of the students as to what they received at Landmark that they did not get at other institutions. “The people at Landmark gave me love and respect.”

These comments echo the type of comments that were heard from the students at CIP and at other institutions. The relationship with staff was a paramount consideration for the students and a necessary support. It was expressed by one student at Landmark College as constituting the best of the integrated supports.

As most of the students at CIP had attended other institutions prior to their CIP experience, they were in the position of being able to compare and contrast their prior experiences with
the CIP experience. A characteristic identified by one student was that the services at CIP were immediate and complete. You could always get to the person you needed when you needed them. Services at other institutions that they had experienced were fragmented and bureaucratic. What you needed or who you needed was either not available or was not what you wanted.

Students at other larger public institutions also expressed this need for close support and communication. One student expressed that the difference in her current situation as contrasted with her previous institution was that currently she was in residence and this is what made it work for her. Such a statement puzzled this observer as often there were expressed needs and issues by both staff and students that related directly to the difficulties of living in residence. On enquiry, the student explained that what made it work for her in her current residence situation was that she could meet with her residence counsellor at almost any time and almost immediately.

**Marshall University, West Virginia Autism Training Center**

**Marshall University** has one of the longer running programs, again different from Landmark College with supports not fully integrated into academic programs, and different from CIP in that the university does offer its own courses and the supports to assist the students with ASD being in a separate program.

The following is taken from material provided by Marshall to explain their program.

“The College Program for Students with Asperger Syndrome was developed in 2002, by the West Virginia Autism Training Center at Marshall University.”
The College Program exists to offer appropriate academic, social and independent living supports to individuals with autism spectrum disorders, so that they may have a successful college experience and learn skills necessary to enter a competitive workforce.

Many individuals with Asperger syndrome or high functioning autism can achieve great success, but most require individualized supports to reach their goals. This innovative, person-centered program is structured to ensure the right supports exist, and are in place.

Through the process of Positive Behavioral Support (a proactive, collaborative and assessment-based process) the ATC College Program staff support students in identifying and reaching their goals for college. Each student, along with his or her family, participates in person-centered planning prior to the first semester, resulting in:

* A PATH (Planning Alternative Tomorrows with Hope), and
* MAP (Making Action Plans)

Plans are developed through a team approach, and provide a framework for supports designed to assist students in reaching goals that may lead to competitive employment and independent living upon graduation.

Faculty, staff, and tutors receive training related to Asperger syndrome, and specific information about the unique characteristics and learning style of the participating student.

**Academic supports include:**

(a) Course advising, based on the learning strengths, abilities and interests of each student
(b) Students, program staff and team members working together to determine reasonable accommodations beneficial to each student

(c) Individual and small group tutoring, or assistance with organizing and accessing tutoring services

(d) Strategies designed to teach students organizational skills

(e) Consistent, periodic interaction with professors

**Social supports are:**

(a) Developed to meet individual needs and interests

(b) Varied, with support staff providing assistance for student involvement in campus organizations, clubs and extra-curricular activities

(c) carried out both in an individual manner, and through The Discovery Group, a skills-building class

**Independent living skills are:**

(a) Designed to teach effective adaptive living skills

(c) Provided to assist students as they navigate through the day-to-day needs of a college lifestyle

(c) Available for supporting students as they become involved in campus and off-campus communities

Posted by WV ATC at [Wednesday, May 14, 2008](http://mucollegesupport.blogspot.ca/2008/05/about-marshall-universitys-college.html)

Retrieved May 14, 2012 http://mucollegesupport.blogspot.ca/2008/05/about-marshall-universitys-college.html
As can be seen from this material, the program at Marshall has many of the same characteristics found at both Landmark College and the CIP program. It does not explicitly involve the professors and staff in the programming for the student as does Landmark, but it does provide in-service training for these individuals and each student has an individual support person to help them negotiate the academic and social situation, as in the CIP program.

**College Achievement Program (CAP), Denver,**

Another program of note is the **College Achievement Program (CAP), Denver,** a private for profit support program for students enrolled in post-secondary courses.

Their promotional materials state:

“The College Achievement Program (CAP) is a differentiated, holistic support program focusing on academic success and independence for students after high school. CAP students work with specialists—individually and with their student cohorts—on academic and/or social and independent living skills. Students receive support through text, email, and phone reminders; one-on-one meetings; and coordinated communication among students, instructors, and parents. CAP has varied levels of support available to meet the specific needs of students.

The **Academic Support Seminar** focuses on the academic skills necessary for success in higher education. Students are co-enrolled in the Academic Support Program and in a community college, four-year university or vocational program. Examples of seminar topics include writing/reading for college, note taking, test taking, study strategies, career prep and self-advocacy.
The **Life Skills Seminar** focuses on the skills necessary to be independent after high school. Meant to provide support for students who intend to enroll in higher education at some point, the curriculum works to hone day-to-day skills necessary for independence, including money management, cooking, transportation, career preparation, goal setting and self-advocacy."

The full program involves 2 hour weekly seminars in the various topic areas and 1 hour weekly of mentoring support supplemented by regular phone and email support as well as coordination with the post-secondary program. Although having previously focused on student experiencing learning disabilities, the program is developing their expertise in meeting the needs of students with ASD.

This CAP program seems to share many of the characteristics of the Marshall program without the provision of academic courses. It does not have the classroom integrated support of Landmark College or the all-encompassing nature of the CIP.

**US College Autism Project (USCAP)**

Another program that may merit further investigation is the US College Autism Project (USCAP). This reporter had difficulty obtaining information regarding this program despite a number of attempts to make contact. The individuals who replied to requests gave the impression that they would only discuss the program after a commitment had been made to invite a program representative to actually start working with an institution. Requests for curriculum details, costs, and contacts at institutions that had adopted the USCAP were not answered by the time of the writing of this report. Having said that, the website materials
available that outline the USCAP are intriguing and have some aspects that may be of interest to program planners and support staff at various institutions.

It appears that the USCAP attempts to 'localize' a program for a particular institution by bringing in “experts” to research what resources are available to the institution in their community and in the institution itself. These experts then help the institution develop a program for their students. This is a one day exercise. There is then some form of on-going unspecified support from the parent organization of USCAP, the US Autism & Asperger Association, to continue to help the institution meet the needs of their students. This USCAP appears to be a private for profit program. The following is descriptive information obtained from the USCAP web-page.

“USCAP TRAINING AND CURRICULUM TOPICS

US CAP offers a tailored program of support that is implemented in three distinct components. First, members of the US CAP team will explore local resources and conduct an initial interview and consultation with the college or university to understand their existing program and to learn about their unique needs. Then, US CAP will bring in experts to conduct a one-day intensive workshop to train and implement the new program. Finally, follow up and support from USAAA, over time, will continue to connect students, faculty, staff and outside resources to meet the needs of college students on the autism spectrum. With this model, the US CAP ultimately creates an opportunity for individuals on the autism spectrum to have a successful college experience and a meaningful and productive transition to the workplace.

Despite adequate cognitive ability for academic success in college, many individuals on the autism spectrum find post-secondary education an insurmountable hill to climb. Often gaining admission without ever identifying themselves as individuals with autism/Asperger’s
Syndrome, these students go unnoticed by their professors until their sensory, social, learning styles and organizational challenges combined with fatigue cause them to fail. Many students affected by autism spectrum disorders never finish college and fewer still transition successfully to the workforce.

The US Autism & Asperger Association creates an alliance and partnership with the college while the US CAP provides services to make sure that the training program is implemented and remains successful.

The US CAP program bridges services between autism support experts in the community with colleges and universities, and individuals on the spectrum through the recognition of a “recommended by” USAAA referral network and includes formal training and consultation services.

**CURRICULUM TOPICS**

While each program is uniquely tailored, a list of the most commonly covered topics follows:

- The Autism Spectrum: Continuums of Functioning
- Critical Health and Wellness Challenges and Interventions in ASD
- Strength and Interest-Based Learning: Turning Obstacles Into Opportunities
- Networking: Success in College and in Life
- The Positive Self-Advocate
- Writing and Implementing a Successful Accommodations Plan
- Student Mentors: Training Siblings, Friends, Classmates and Significant Others to Support Individuals on the Spectrum
- Time for Change: Implementing and Evaluating the New ASD Program
- Bridging the Gap: Disability Services and Programs, Professors diagnosed
with ASD, students diagnosed with ASD, students services departments, and local community support services

- Preparing for the Future: Transitioning to Life After College
- ASD Staff and Their Unique Role In Program Implementation
- From Education to Implementation: Combining Student and Professor Advocates, Physicians, College Support Staff and Local Community Professionals to Implement the US CAP program

The tailored program will educate college staff, teaching assistants, students, the local community and others on identifying and meeting the needs of college students on the autism spectrum. The goals for this program are to increase awareness about the challenges facing college students on autism spectrum, to increase college graduation rates and to improve successful transitions to the workplace. “

Kerry’s Place and Autism Ontario

A final initiative to mention is a local Ontario initiative headed by Kerry’s Place and Autism Ontario. In early May, 2012, they placed a survey on their Facebook page and emailed Kerry’s Place associated persons asking for responses regarding the need for, items to be covered, and expected costs of a York Region Ontario post-secondary support program. It is my understanding that Kerry’s Place and Autism Ontario are not for profit entities. This too is an initiative that bears watching.

Conclusion:
One of the greatest difficulties encountered by these individuals is the lack of coordinated and complete services. One consistent comment by those students who were unsuccessful in conventional college and university programs is that although there were support services in their community and in their institutions, these services and supports, although well meaning, were not adequate. The students required well-coordinated and integrated services that spoke to their academic needs, to their social-emotional, executive function, and functional living needs, as well as their vocational and career aspirations.

Academic needs are more than just notes, assistive technology, organizational assistance, and possible tutoring. These students require help to come to know the physical layout of their prospective campus. They need to be repeatedly shown where to go and who to see, how to use the transit, where to eat and the location of the bathrooms. The key to this is REPEATEDLY. Familiarity will help reduce stress and anxiety. Navigating course selection, timetables, computer systems, emails, Blackboard, OSAP applications, counsellor, accommodations, meeting professors, skills assessments, pre-tests, orientations, etc., all require guided, ongoing assistance. Most institutional support programs are not currently equipped to offer this level of ongoing academic, organizational, environmental, and socialization support. Academic support may be necessary in helping the student to identify and use the supports that they need. Clear repeated instruction and rubrics are necessary to help reduce academic confusion for the student.

Social-emotional and functional living needs are equally encompassing. Individuals need to be taught how to deal with the potentially overwhelming stress and anxiety of their lives. They require support in their social interaction, food choices, clothing, and hygiene. Everything from individual counselling (CBT, supportive counselling, Mindfullness), to yoga, meditation, exercise, food preparation, social groups, etc. need to be offered as support. Social skills
training utilizing evidenced based programs such as the UCLA PEERS program (young adult version) need to be introduced to our post-secondary campuses.

Staff working with these students at all levels, support, academic and administrative, need to be trained so that they are able to deal with the needs of the student experiencing ASD and indeed anticipate those needs so as to be able to minimize the developing situations that will overwhelm the student and preclude them finding success.

Institutions need to come to terms with the potential resource provided by joining with the parent and student to come up with assistance and support for the student.

The need for coordinated and comprehensive supports for these students cannot be overstated. Without such comprehensive supports these students run the real risk of falling through the cracks in the system. This quotation from a staff member at CIP in a 2009 article: 'Bridging the Gap', commenting on her time spent in a 'regular' college with 'regular' supports makes this need clear:

“...In my 8 years at a private 4-year college [Menlo College] prior to coming here, I saw students on the spectrum attempt the neuro-typical college experience,” says Janet Miller, Program Director at CIP Berkeley. "But they came and left for lack of the broad supports they need in all areas-- academic, social and apartment or dorm living."

Failure for these students comes with all the possible consequent negative outcomes: mental health issues, involvement with the legal system, unemployment, involvement with the social services support system, and a squandering of resources and future potential.

To quote an email communication from a parent of a student with ASD experiencing success at post-secondary (due in large part to the supports that the student has received at post-secondary albeit in another province outside Ontario), “Why (in Ontario) bother having all the
education supports (in elementary and secondary school) when the ball is dropped just when the best students have the chance to move forward and improve their lives. You either have continuity of support and an end game (Taxpayers) or you do not...and these students cannot have a "partial fix"....to allow this to continue to happen is grossly irresponsible government on all levels."

These students with ASD represent an immeasurable resource for the future. They may be another Einstein, Dylan, Gore, Asimov, Gates, or Jobs. We owe it to them not just to be in compliance with the human rights code, but we owe it to ourselves in simple self-interest, to give these students every chance to grow and be the successful contributing individuals that they can become.

Aspects of programs like the Mentorship program at York University, the fully integrated academic and support approach of Landmark College, or the separate but equally all-encompassing supports of the Marshall University program, the private for profit programs of the CIP or the CAP, all show us the elements that can be effectively utilized to bring successful supports to the student experiencing ASD.
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Submitted by:

Kevin Reinhardt, MA. C.Psych.Assoc., Member of the College of Psychologists of Ontario, Counsellor, Seneca College, Toronto, ON. May, 2012