

# **Skill Council for Persons with Disability Expository for Autism Spectrum Disorder E006**

## **Definition**

Autism spectrum disorder (ASD) is a complex neuro-developmental condition that impacts an individuals' communication (including language), social interactions and the ability to relate to others; it is also associated with a tendency to repetitive and routinized patterns of thinking and behavior and differences in learning styles.

ASD is a neural condition and is not a psychological condition, nor is it caused by bad parenting or negligent parents. Sometimes ASD is associated with epilepsy and more commonly with anxiety and mood changes, particularly in adult life.

In India, diagnosticians usually rely on ICD 10 (ICD-10 is the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD), a medical classification list by the World Health Organization (WHO). It contains codes for diseases, signs and symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or diseases) or DSM 5 (The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) is the 2013 update to the American Psychiatric Association's (APA) classification and diagnostic tool. In the United States the DSM serves as a universal authority for psychiatric diagnoses) to make a diagnosis. The criteria for the same is as follows –

A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive):

- Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
- Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to a different style of eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication
- Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive):

- Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
- Insistence on sameness, inflexible adherence to routines, or ritualized patterns or verbal nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat food every day).
- Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interest).
- Hyper- or hypo reactivity to sensory input or unusual interests in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

C. Symptoms may be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life).

D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

Intellectual disability and Autism spectrum disorder frequently co-occur; to make comorbid diagnoses of ASD and intellectual disability, social communication should be below that expected for general developmental level. Comorbidity can be defined as the occurrence of two or more forms of disorders/conditions in the same person.

Many adults with ASD have comorbid mental health problems, most frequently anxiety, mood disorders and OCD. Often medical disorders may not be detected early because of impaired communications skills or an unusually high threshold for pain and so caregivers and employers need to be alert to the possibility of an underlying medical disorder if there is a change in a person's behavior for no obvious reason.

ASD has its onset in the first three years of childhood but often a diagnosis is not made until much later and sometimes in adult life. The condition is lifelong, although its manifestations change with development.

About one in 68 children is diagnosed with ASD according to the Centers for Disease Control and Prevention, Global Division, New Delhi; consequently there are about 18 million people with ASD in India alone. Research indicates that ASD is three to four times more common in males than females and appears to be equally prevalent across society and different countries.

The term "spectrum" refers to the wide range of symptoms, strengths, and impairments that people with ASD can show. Just like every other individual, every person with ASD is unique. Some individuals may be non-verbal, others are employed in typical jobs, whilst others may excel in particular areas.

It is useful to remember that sometimes even though a person may look unremarkable, some of his/ her behaviors may appear unusual or strange. These behaviors are not an indication of the person's abilities or skills sets and may sometimes simply be a way of coping with the environment, similar to the habits we see in typically developing people, such leg shaking or closing our eyes to concentrate.

Individuals with ASD have difficulties in communication, which can show themselves in different ways. Sometimes speech is very limited or unusual in content. In other individuals there are obvious difficulties with conversation or small talk, or a tendency to repetitive language. Most individuals with have difficulties understanding some nuances of language and may be literal in their understanding of what they hear or read. Problems producing and recognizing the significance of non-verbal communicative acts (facial expression, eye contact, gesture contribute to difficulties reading social cues and understanding another person's point of view. As a consequence many individuals have difficulty establishing and maintaining a supportive social network and friendships.

Usually parents and teachers are the experts on each individual's strengths and weaknesses, likes and dislikes and can be very helpful in identifying preferred modes of learning.

The employer must be aware of any medications that may be required in emergency situations.

Individuals with ASD may:

- Take language literally. Consequently, they are direct and mean what they say. People with autism may have difficulty with subtle language nuances, implied meanings, or sarcasm. They may seem serious because many may not crack or understand jokes
- Make statements that are completely honest, matter of fact and may unintentionally offend others
- Not be able to clearly articulate their thoughts, and particularly feelings, or ask appropriate questions, regardless of overall language level.
- Speak to everyone in the same manner regardless of social hierarchies such as bosses, supervisors or peers
- Not know how to make "small talk" or appear friendly and interested, but talk at length about areas of interest and not realize and recognize that others may not be interested
- Appear cold or unemotional since they may not smile socially or make polite conversations about personal issues or feelings.
- Be unable to follow conventional social rules and interrupt conversations; talk too slowly/quickly or too loudly/softly or end a conversation simply by walking away
- Find it difficult to make or sustain eye contact, or conversely they may sometimes stare
- Follow instructions or tasks given meticulously; however as a result may appear not to take initiative
- Be unusually sensitive to noise, light, smell, texture and temperature
- Be unable to eat certain kinds of food. The employer should therefore allow the employee to bring food from his/her home, if required

### Severity Levels

Severity Level	Associated Comorbid Conditions	Social Communication	Restricted, Repetitive Behaviours
Level 1 "Requiring minimal support"	Epilepsy, Attention Deficit Hyperactive Disorder (ADHD), Learning Disability, Bipolar Disorder, etc.	<ul style="list-style-type: none"> <li>• Without supports in place, deficits in social communication cause noticeable impairments.</li> <li>• Difficulty initiating local interactions, and clear examples of atypical or unsuccessful response to social overtures of others.</li> <li>• May appear to have decreased interest in social interactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Inflexibility of behavior causes significant interference with functioning in one or more contexts. Difficulty switching between activities. Problems of organization and planning hamper independence.</li> </ul>
Level 2 "Requiring support"	Epilepsy, Attention Deficit Hyperactive Disorder (ADHD), Learning Disability, Bipolar Disorder, etc.	<ul style="list-style-type: none"> <li>• Marked deficits in verbal and nonverbal social communication skills</li> <li>• Social impairments apparent even with supports in place</li> <li>• Limited initiation of social interactions and reduced or abnormal responses to social overtures from others.</li> </ul>	<ul style="list-style-type: none"> <li>• Inflexibility of behavior, difficulty coping with change, or other restricted/ repetitive behaviors appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. Distress and/or difficulty changing focus or action.</li> </ul>

Severity Level	Associated Comorbid Conditions	Social Communication	Restricted, Repetitive Behaviours
Level 3 "Requiring very substantial support"	Epilepsy, Attention Deficit Hyperactive Disorder (ADHD), Learning Disability, Bipolar Disorder, etc.	<ul style="list-style-type: none"> <li>Severe deficits in verbal and nonverbal social communication skills cause severe impairments in functioning.</li> <li>Limited initiation of social interactions, and minimal response to social overtures from others.</li> </ul>	<ul style="list-style-type: none"> <li>Inflexibility of behavior, extreme difficulty coping with change, or other restricted/repetitive behaviors.</li> <li>Great distress/difficulty changing focus or action.</li> </ul>

### Training Tools

Finding gainful work and employment is a vital part of ensuring the general well-being and happiness of an adult with autism. The work could be sheltered, supported or a competitive/open employment depending on the level of support the individual needs and the availability and preparedness of job options. Parental efforts for making children with autism self-reliant by starting small businesses should also be encouraged. If the right amount of support is provided, irrespective of the nature of the employment, most adults with autism would be successful participating members at their work place.

To ensure motivation of the employee and satisfaction of the employer, the relationship between the enabler/employee and the employer needs to be a transparent one. Initiatives such as a 'buddy program' or rewards for the mentor of the person with autism are a great starting point. This would ensure that the person sharing the responsibility for the smooth transition is able to devote his time to the new joiner/intern.

There are avenues for individuals with autism to be part of an everyday picture, if their capacity is identified, understood and developed.

Many business related publications have featured articles on the advantages of employing individuals with ASD. One of the articles was introduced with the statement "Some employers increasingly are viewing autism as an asset and not a deficiency in the work place." In light of the same, some of the frequently highlighted advantages of hiring persons with ASD have been mentioned below.

Many people with Autism are extremely focused on their tasks. They do particularly well in tasks that are repetitive in nature. It is also important to note that they can become hyper specialists in any field and therefore reducing the delivery time of the product. For example – if they are asked to work on an

assembly line, where they perform the same task on each product, they can become highly efficient in the said task.

There are a few pre-employment trainings that could help the said individuals. In order to be achieve a long-term connect, the vocational training setting must resemble that of the actual workplace. This might include arranging for training materials, objects that one might work with, work processes and even ambiance. The students also need to be trained about the specific industry and their safety standards, just like any other trainee.

At the time of induction to the organization, the person with autism could start as a trainee (in most cases). The setup of a **structured traineeship program** is known to be effective to ease the onboarding of persons with autism to the mainstream firms and companies. In a structured traineeship program, the training goes on for a few months and the employees are trained in every aspect of the job. The structured traineeship program helps in overcoming the anxiety that the new employee might feel, in most cases

The curriculum and training methods must be derived from scientific strategies. This shall ensure universal applicability as well as clarity of the information. Tools like modified job applications (including pictures, colors and symbols etc.), initial interaction training and workplace tours must be facilitated or conducted by a job coach/trainer. Training methods like role playing and social scripts are extremely useful to the students.

Job appreciation in a social setting is a very effective method for reinforcing learning skills. This acts as a powerful tool both in the hands of the employer and the trainer.

The trainees must also be trained in personal grooming skills, maintaining personal hygiene and basic social and workplace etiquettes.

Therefore, instead of being made responsible for the entire product, they fare well when made responsible for a particular task to be performed on each of the products. A job possessing the following characteristics is most suited for a person with Autism:

- Jobs that are highly structured (to enable providing clear instructions)
- Jobs that can be repetitive (to make use of the individuals' ability to carry out such jobs with consistent productivity)
- Jobs that may not require high degree of fine motor skills (for those people where this may be an issue)
- Jobs that do not require high level of social skills

The sector experts are of the opinion that the following job roles would be most suitable for employing Persons with Autism Spectrum Disorder:

## Tools recommended for the training of Persons - Expository for Autism Spectrum

### Disorder

Assistive devices may have to be made available at the time of training and during employment. The provision of these devices shall depend on the nature of the job role as well as the individual needs of the employee. The devices (if required) should be selected after consulting with the parents/trainer/job coach only.

Training Tools mentioned below, are Accessible Tools/Appliances/Software, which enable a Person with Disability (PwD) to carry out their training corresponding to the National Occupational Standards (NOS) of the respective Qualification Pack. While the learning outcomes from the Qualification Pack will remain the same, the methodology stated below will assist the trainers to train the trainees in the best suitable way according to their level of functioning. These suggested training tools facilitate the learning process of a Person with Disability to perform at par with their peers in a conducive and enabled environment. These tools can be used in combination or isolation as per the requirement for the NOSs:

Accessible Tools/Appliances/Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
Portable Keyboard	While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in writing due to poor fine motor or motor planning skills, then this tool can be used.	<ul style="list-style-type: none"> <li>• The Portable Word Processor is an alternative to using a laptop or a computer for writing</li> <li>• The text is usually auto-saved and can later be revised and/or sent directly to the printer</li> <li>• Text may also be uploaded onto the computer through any word processing program and edited and</li> </ul>	<ul style="list-style-type: none"> <li>• A desktop or laptop is required for updating the data from the keyboard.</li> <li>• This ensures complete and grammatically correct sentences for a person with fine motor skill difficulties.</li> <li>• A printer is needed if the subject wishes to print a hard copy from the keyboard.</li> </ul>	Any of the following tools may be used: <ul style="list-style-type: none"> <li>• Quick Pad Word Processor</li> <li>• Student Mate</li> <li>• Laser PC 6 Word Processor</li> </ul>

Accessible Tools/Applications/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
		<p>saved as needed. Text from the computer can also be downloaded to the portable word processor</p> <ul style="list-style-type: none"> <li>In addition, a built-in spell check is included to assist students in editing their writing. Word processing allows the user to edit and correct his written work more efficiently than doing so by hand.</li> </ul>		
Writing Software Programs	While teaching any of the NOS'S mentioned above, if it is seen that a person has poor fine motor, motor planning or cognitive skills or a combination of the above; then this tool can be used.	<ul style="list-style-type: none"> <li>Talking word processors (TWP) are writing software programs that provide speech feedback as the student writes, echoing each letter as it is typed and each word as</li> </ul>	The software requires a device such as a laptop/desktop or a tablet.	Any of the following tools may be used: <ul style="list-style-type: none"> <li>OutLoud</li> <li>Intellitalk 3</li> <li>WordTalk</li> </ul>



Accessible Tools/Appliances/Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
		<p>the spacebar is pressed.</p> <ul style="list-style-type: none"> <li>Once any file is imported into the processor, the text can be read aloud to the student. These TWP programs offer other adjustments such as enlarging the size of the text and changing the color of the background and highlighting box to assist students in following along as the text is read.</li> </ul>		
Text to Speech Software	While teaching any of the NOS'S mentioned above, if it is seen that a person has poor fine motor, motor planning or cognitive skills or a combination of the above; then this tool can be used.	This software program is used to convert text from print to audio formats used to address poor reading comprehension, decoding, fluency, etc.	The software requires a device such as a laptop/desktop or a tablet	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> <li>Ivona</li> <li>NaturalReader</li> <li>Zabaware Text To Speech Reader</li> <li>iSpeech Acapela Group Virtual Speaker</li> </ul>

Accessible Tools/Applications/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
Visual Organizers (Electronic/ Non Electronic)	While teaching any of the NOS'S mentioned above, if it is seen that a person has behavior issues and faces problems in task completion/ focus and language/ communication skills then this device can be used.	The organizer contains graphic symbols sequentially laying out events/ activities (may also have auditory cues) used to address behavior issues and develop task completion skills	The device needs to be programmed for the schedule and reprogrammed in case of any changes This enables focus for task completion and confidence in the individuals	Wonkido Visual Organizer
Headphone	While teaching any of the NOS'S mentioned above, if it is seen that a person has issues with extraneous environmental noise leading to overstimulation issues then this tool can be used.	The Noise cancelling headphones minimize extraneous environmental noises	The device can be purchased from the market	Any of the following tools may be used: <ul style="list-style-type: none"> <li>NoiseLESS Earphones</li> <li>Howard Leight Multiple Positioning Earmuff</li> <li>Protection Folding Earmuffs from 3M</li> </ul>
Assistive learning systems	While teaching any of the NOS'S mentioned above, if it is seen that a person has deficits in attention and listening comprehension and auditory overestimation then this tool can be used.	Assistive learning systems comprise of a speaker worn transmitter and listener worn receiver or near placed speakers	The device can be purchased from the market	Ventura Educational Systems
Personal Digital Assistant and Touch Screen	While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty	<ul style="list-style-type: none"> <li>A touch screen allows persons with ASD to navigate and</li> </ul>	The device can be purchased from the market	Any of the following tools may be used: <ul style="list-style-type: none"> <li>Smart-phones</li> </ul>

Accessible Tools/Applications/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
	<p>in grasping objects, such as a mouse; then this tool can be used.</p>	<p>interact with the computer by replacing mouse actions with a tap or touch on the screen</p> <ul style="list-style-type: none"> <li>• It provides flexibility and confidence to a person to perform work to the best of their ability</li> <li>• A PDA may also include other tools such as appointments, calendar, to-do list, address book, calculator and a menu program.</li> </ul>		<ul style="list-style-type: none"> <li>• iPod /Tablets</li> </ul>
Alternative Keyboards	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in typing and using the normal keyboard, then this tool can be used.</p>	<ul style="list-style-type: none"> <li>• Alternative keyboards are particularly useful for persons with ASD as they make use of large, well-spaced, color-coded keys. Large keys are easier to press and the colors help with easier identification. For example,</li> </ul>	<p>The device needs to be a part of or downloaded on a desktop /laptop /phone</p>	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> <li>• WordBoard Keyboard</li> <li>• MyScript Stack Handwriting Keyboard</li> <li>• Keeble &amp; Keedogo Plus</li> </ul>

Accessible Tools/Applications/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
		<p>in some keyboards, consonants are colored differently from vowels</p> <ul style="list-style-type: none"> <li>• They can be used in the same way as a regular keyboard and help individuals to identify keys, colors, spaces and various other aspects while working.</li> </ul>		
Augmentative and Alternative Communication (AAC) Systems	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in expressive communication, then this tool can be used</p> <p>The device enables the trainee to understand the related concepts quicker and better</p>	Augmentative communication makes use of visual learning style to help people with ASD express themselves by using pictures, symbols, or drawings	The device can be used as an add-on with a tablet or as a standalone device (Digitized Speech Output Devices)	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> <li>• iPad and Android tablets</li> <li>• Message Mate</li> <li>• Digitized Speech Output Devices</li> </ul>
Word Predictor	While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in writing and editing	<ul style="list-style-type: none"> <li>• The device can be used to predict the next word that the person with autism is</li> </ul>	The software requires a device such as a laptop/desktop or a tablet. It enables faster typing.	<p>Any of the following tools may be used:</p> <ul style="list-style-type: none"> <li>• SoothSayer Word Prediction</li> <li>• ClaroRead</li> </ul>

Accessible Tools/Applications/Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
	<p>of documents, then this tool can be used</p>	<p>about to type. It does this by using a combination of Basic English grammar and a person's personal writing style</p> <ul style="list-style-type: none"> <li>• The word predictor produces a list of twelve possible words to follow the ones already written. This device can be used by a person to save time and increase efficiency.</li> <li>• The features of this software include powerful word prediction, on-screen keyboard, screen reading, lexicon editing and the ability to learn new words as one types</li> </ul>		<ul style="list-style-type: none"> <li>• WriteOnline</li> <li>• Co:Writer, Co:Writer University Edition</li> <li>• Kurzweil 3000</li> <li>• WordQ</li> <li>• Penfriend XP, Penfriend XL, Penfriend W3, Penfriend Portable</li> <li>• Typing Assistant</li> <li>• Read &amp; Write</li> <li>• WordLogic</li> </ul>

Accessible Tools/Appliances/Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
Trackball	While teaching any of the NOS'S mentioned above, this device can be used if it is seen that a person has motor dysfunction due mobility impairment or other disabilities such as polio/ cerebral palsy, etc.	Trackballs are an alternative for a mouse. Instead of having to grasp and drag a mouse across a mouse pad, trackballs use a stationary rolling ball to move the cursor around. This design gives persons with ASD greater control and helps them to position the cursor more accurately. With this device the accuracy, speed and the time allocated for a particular work can be achieved.	The device can be purchased from the market	Any of the following tools may be used: <ul style="list-style-type: none"> <li>• Sanwa Wireless Trackball Mouse</li> <li>• Logitech Trackman Marble</li> </ul>
Monitoring Devices	These devices can be used to ensure the safety of the person at work	These tools include cameras and other surveillance devices that could be used to ensure safety of employees at work	The devices can be purchased from the market	<ul style="list-style-type: none"> <li>• CCTV</li> </ul>

## Assessment Guidelines

A diagnosis of ASD may be made by an experienced professional through a combination of observations and interactions. Wherever possible, it is useful to interact with a trusted family member or friend who has adequate information on current skills, strengths and challenges as well as early development history. At the moment, there are no blood tests, X-rays or MRIs or any other medical tests that can diagnose ASD.

In order to assess the skills of and work with Persons with Autism, the following points must be taken into account:


S. No.	Parameters	Details
1.	Communicate effectively	<p><b>Be direct.</b> While communicating with individuals with ASD, it is important to be direct while communicating. One needs to say exactly what s/he means and identify exactly what is wanted. Everything that the employer wants to communicate must be communicated using verbal communication as persons with disability might have problems with understanding the subtle signs hidden in non-verbal communication such as body language. The more details the employer is able to provide, the better the employee will be able to understand. Employers must avoid using conjugations like ‘but’ and ‘if’ in their instructions and ensure a clear stream of thought. Use of irony and sarcasm in sentences should be avoided.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• <b>Implied meaning:</b> “Are you going to work on the database assignment?” <b>Clear, direct statement:</b> “Please begin your work on the database assignment.”</li> <li>• <b>Implied meaning:</b> “Let’s get lunch later.” <b>Clear, direct statement:</b> “Please meet us in the cafeteria at 12:00pm. We would all have lunch together.” or vice versa.</li> </ul> <p><b>Put instructions in writing.</b> As much as possible, it is important to put instructions in writing, and then follow up with verbal instructions.</p> <p><b>Avoid any indirect pattern of speech, including clichés, implied meanings, and idioms.</b></p> <p>For example:</p> <p><b>Statement with idiomatic meaning:</b> “This assignment is going to give you a run for your money!”</p> <p><b>Statement with literal meaning:</b> “This assignment is going to be challenging.”</p>

S. No.	Parameters	Details
		<p><b>Plan directions/ instructions to be given ahead of time.</b> Although re-learning can be a challenge for everyone, it can be particularly painful for someone with ASD because they may rely on routines. Teaching it correctly the first time will save time and frustration for both the employee and the employer.</p> <p><b>Use only words to communicate.</b> Don't rely on non-verbal communication to get a message across. For example: <b>Message sent with non-verbal communication:</b> <i>Manager notices that a meeting with an employee has gone five minutes beyond scheduled time, and glances at her watch several times.</i> <b>Message sent with clear, verbal directions:</b> <i>"Now that our meeting is over, I need you to return to your work station now because we have work to complete."</i></p>
2.	Set clear expectations	<p>Provide details such as deadlines (time frames, schedules) and outcomes (what it looks like, formatting) For example: <b>Unclear expectation:</b> <i>Please complete the data processing project.</i> <b>Clear expectation:</b> <i>I expect to have the first draft of the data-processing project completed by 1pm tomorrow. It has to be in electronic format so that I can check it and get back to you.</i></p> <p>Don't make assumptions about what employees do or do not understand. Ensure that directions are understood. For example: <b>Assumed confirmation:</b> <i>"Do you understand how to accomplish this?"</i> <b>Confirmation:</b> <i>"Now that I've given you the assignment, what task will you complete first? Second?"</i></p> <p>Provide clear employee instructions regarding communications - email, face-to-face and also tell them how often they should be communicating. Encourage alternative forms of communication, such as texting. For example: <b>Supervisory role is unclear:</b> <i>"We can talk about the project later"</i> <b>Clear opportunity for supervision:</b> <i>"The next time we will talk about the project is during our team meeting, tomorrow at 1:00pm."</i></p> <p>Provide detailed guidance and feedback; focus on behaviors that can be measured. For example: <b>Undetailed feedback:</b> <i>This report is sloppy.</i></p>



S. No.	Parameters	Details
		<p><b>Detailed feedback:</b> The proposal you presented as ready for delivery has numerous spelling and mathematical errors. Examples of such errors should also be provided.</p> <p>Establish long-term and short-term goals for employees. Assign projects in a systematic and predictable manner.</p> <p>Assist employees in assigning priority to assignments. For example, divide large assignments into several small tasks, provide a checklist of assignments, or use a wall calendar to emphasize due dates. Consider developing a cheat sheet for high priority activities, people, and projects. One could also try assigning new tasks only after the current tasks have been completed.</p> <p>By providing mentors and managers of a person with Autism; with incentives for a successful transition into the team, the company can ensure that the managers are able to provide mentoring to the persons while increasing the value of their team’s metrics. This would also enable mentors to divide their time judiciously amongst all their team members.</p>
3.	Understand sensory demands/ stimulation	<p>Most individuals with ASD experience some sensory processing differences. Some individuals may be hypersensitive to certain sounds, sights, smells, tastes, textures, or touch. A particular noise or feeling might produce the same kind of response that fingernails on a blackboard produce in most of us. Some also may crave for certain types of sensory feedback. For example, many individuals with ASD need some kind of movement (rocking or swinging) or deep pressure (from a hug or a heavy blanket) in order to remain calm and focused. Both trainers and employers must be made aware such acute sensory demands from persons with ASD. Individuals with ASD can often exhibit strong focus on one task at a time. They may experience intolerance to distractions such as office traffic, employee chatter, and common office noises like ringing phones and photocopying. Mentioned below are some of the workplace modifications that can be made for individuals with ASD.</p> <ul style="list-style-type: none"> <li>• Pairing visual prompts with verbal ones</li> <li>• Encouraging slow introductions to environments that might be over-stimulating</li> <li>• Permit the use of noise cancelling headset/ head phones / ear plugs</li> <li>• Hang sound absorption panels ( if required and if the workplace demands so)</li> </ul>

S. No.	Parameters	Details
		<ul style="list-style-type: none"> <li>• Use a white noise machine ( if required and if the workplace demands so)</li> <li>• Provide clutter-free work areas and add dividers that block out distractions</li> <li>• Move the work station to a quieter location</li> <li>• Assign an office space with minimal audible distractions</li> <li>• Use space enclosures (cubicle walls)</li> <li>• Approach and individual ideally from the front and not suddenly</li> </ul>
4.	Provide clarity in job descriptions and specification ( to be done by trainers and training providers)	Persons with ASD require clarity and specificity regarding their job at the workplace. It is important to break down tasks into component parts for instruction and training.
5.	Have visual reminders	<p>Persons with ASD benefit from visual reminders at the workplace. Visual information and cues can be used to help train employees.</p> <ul style="list-style-type: none"> <li>• Daily visual schedules and timers can help persons with ASD see clearly what is happening and when. These visual supports can help a person to understand the order of daily events, steps followed in daily living, skills and schedule at the workplace, including any changes in routine that may occur.</li> <li>• Picture cards (Visual cue cards) can be used as a great strategy to help and manage daily change for persons with ASD. If the person is able to use a calendar, one can mark important upcoming events or use a countdown calendar (which allows an individual to view the remaining time for a future event) to the event. Pictures can be shown indicating the new place and people to discuss the change and help persons with ASD understand the transition or change that will be taking place.</li> <li>• Persons with ASD can be made to practice going to the new location or activities related to the event. Making videos with the new place/ person that the individual may be encountering can also be helpful.</li> <li>• Communicate directions/ instructions both verbally and in written to allow referring back to them.</li> <li>• The instructions need to be clearly defined and prioritized. For example: - First do this “typing”, then do this “printing”. Etc.</li> </ul>

S. No.	Parameters	Details
		<p>Snapshots of visual instructions:</p>  <p><i>Illustrative</i></p>
6.	Creating schedules	<ul style="list-style-type: none"> <li>• The schedule of individuals with ASD needs to be clearly defined in the form of a timetable. The type of work schedule and timetable which needs to be created would vary depending on depending on each person's capability.</li> <li>• A person who is able to read and write can be given a time table with activities written in words.</li> <li>• Someone who is not able to read and write can be given shown a miniature object/s against each activity which denotes which activity is scheduled for him/ her.</li> <li>• Someone who can comprehend pictures can be given a visual timetable with just pictures of the activity to identify the flow of activities scheduled.</li> <li>• When a schedule is given to an individual, s/he can either cross off the activities that are completed to move on to the next or he can simply put a colored dot on the activity instruction/ picture in case s/he has difficulty using a pen/ pencil to cross the concerned activity.</li> <li>• A schedule/ time table would need a high degree of customization depending on the capability of the individual.</li> <li>• The schedule can also be a mix of pictures and words or objects &amp; words.</li> </ul>
7.	Provide early familiarity with	<ul style="list-style-type: none"> <li>• The job can be taught in a place that will be familiar to the actual work environment.</li> </ul>

S. No.	Parameters	Details
	the work environment	<ul style="list-style-type: none"> <li>• Before the start of the training, at least 4-5 visits for a couple of hours to the workplace should be arranged. This helps the candidate get comfortable with his/her surroundings and helps increase efficiency.</li> <li>• Before the start of the training clear written/visual information about the job training expectations have to be provided.</li> <li>• There should be clarity about the following points: supervisors, holidays, guidelines for workplace, whom to report to in case of absence, when can the salary be expected, when the lunch break will begin, etc.</li> <li>• Individuals with Autism can be provided with visual maps to help them know their routine better</li> <li>• Once the job has been taught a 100%, it must be generalized for ease of future use.</li> </ul>
8.	Provide supporting positive social interaction at the training center	<ul style="list-style-type: none"> <li>• Scripts to help engage in small talk or to respond to difficult situations</li> <li>• Video modelling of appropriate behavior</li> <li>• A mentor ( if required) can serve as a ‘social translator’ and can guide the employee with autism about which behaviors are socially acceptable and which ones are not,</li> <li>• Adjustments to the individual’s schedule and behavioral training need to be made based on the results of a functional behavior assessment</li> <li>• Relaxation and emotional regulation techniques such as breathing exercises, and self-awareness training</li> </ul>

### Lab Assessment:

For all practical assessments being carried out in a lab, the following guidelines should be kept in mind:

- The person must be familiarized with the general layout of the lab, including the entry, exit points, seating spaces prior to the assessment
- It should be ensured that all equipments required during the assessment are within close reach/easily accessible by the person
- Both written and verbal instructions must be provided
- The instructions of the assessment should be customized to the maximum extent possible, making them more visual/pictorial/graphical to enable ease in understanding by the person
- Information regarding accessible restrooms must be provided to the person

- Special needs and lab accommodation alternatives that maybe required, prior to the assessment must be enquired about
- Extra time to the person for set up and completion of assigned lab work, whenever required, must be allowed
- The person must be familiarized with lab safety procedures including provision of visual lab warning signals
- Laboratory signs and equipment labels in large print, with high contrast, as and when required should be made
- Lab should be kept uncluttered
- Utility and equipment controls must be kept within easy reach from a standing or seated position, for the person
- The person should be allowed to take frequent but brief breaks
- Preferential seating to the person must be given to avoid distractions and minimize extraneous stimuli

### **Computer Assessment:**

Computer Access Technology (CAT) allows people who have trouble using a standard computer keyboard, mouse or monitor to access the computer. CAT includes relatively inexpensive devices like trackballs and small-footprint keyboards as well as sophisticated technologies like automatic speech recognition, eyegaze tracking, and brain-computer interfaces. CAT services are provided by a range of rehabilitation professionals, special educators and vocational rehabilitation counselors. CAT is critical for enhancing the educational and vocational opportunities of people with disabilities. The same maybe used when persons with Autism and ID undergo computer assessment which may consist of the following:

- Typing in entry boxes
- Clicking checking boxes
- Clicking parts of graphics
- Dragging and dropping answer choices into targets on screen
- Selecting answer choices form a drop down menu

The person undergoing computer assessment must be provided support in the following areas:

- Frequent doubt clarification
- Frequent Breaks
- Extended test taking time
- Well organized and concise instructions
- Reading or scribe serviced when required

- Alternative times and locations for test taking
- Enlarged size of questions on screen

### **General Guidelines:**

There are many assessments that can be used with students with Autism Spectrum Disorder (ASD) to assess the level of disability. Different assessments will assess different areas. The below mentioned assessment guidelines would help training providers/ trainers assess individuals with autism. The guidelines are informal in nature. Formal/specific or any other scientific methods to be used would vary from one training provider to another.

As a first step, the potential areas to be studied should be outlined such as:

- Speech sound disorders
- Voice
- Fluency in speaking
- Language and communication
- Cognitive aspects supporting communication and adaptive functioning

The following indicators should be considered for the above mentioned areas:

- Difficulty in social interaction and communication
- Rigid and repetitive behavior such as resistance to change and restricted interests
- Impaired acquisition of words and word combinations
- Unconventional facial expressions, gestures, and emotional expressions
- Vocal development deficits
- Difficulty in reading and summarizing
- Executive functioning deficits such as limited flexibility, poor problem solving, lack of inhibition

For adults with possible autism who have a moderate or severe learning disability, consider a brief assessment to ascertain whether the following behaviours are present:

- Limited interaction with others, and to fulfil needs only
- Rigid routines and schedules
- Marked repetitive activities especially when under stress or expressing emotion
- No change in behavior in response to different social situations

While carrying out an assessment the following parameters should be kept in mind:

- Signs and symptoms of autism

- Development history
- Functioning in day to day life, such as at home or school
- Past and current physical and mental disorders

Apart from the guidelines mentioned above, below are the key points that the trainers should take cognizance of during classroom sessions:

1) Characteristics of Students with Disabilities

- Understand major cognitive, behavioural, and social characteristics of persons with disabilities
- Be familiar with the indicators or behaviours that may be associated with the early identification of disabilities
- Understand impact of conditions and other medications affecting people with disabilities

2) Approach to Learning and Development

- Trainer should understand how deficits in cognitive functioning affect students with disabilities
- Aware of major/variety of approaches to student learning and motivation

3) Planning and Managing the Delivery Method

- Understand how to select instructional content, resources and strategies appropriate for students with disabilities
- Understand how to integrate reading, writing, and mathematics instruction into daily activities for people with disabilities
- Know and understand how to plan instructions for developing social skills of persons with disabilities
- Know and understand how to plan instructions for supporting the development of verbal and non-verbal language and communication skills
- Know how to integrate educational and assistive technology into instructional planning

4) Managing the learning environment

- Study the impact of a safe, equitable, positive and supportive environment on learning
- Implement basic classroom management theories and strategies
- Structure the physical environment in way so as to support learning for students with disabilities
- Select and implement behaviour management strategies appropriate for individual students
- Know and understand how to manage daily routines of students
- Be aware of strategies for crisis prevention and intervention
- Consult industry stakeholders to adapt a learning environment based on their inputs

5) Instructions

- Develop observable and measurable instructional objectives
- Understand and implement strategies for facilitating understanding of subject matter for students with disabilities

- Know how to implement and/or adapt strategies, interventions and resources appropriate to the needs of individual students
- Know how to integrate inputs from parents/caregivers in instructional planning and decision making

#### 6) Assessment

- Understand procedures for evaluating and determining eligibility for students with disabilities
- Know how to use assessment data to develop/modify an educational program to evaluate students' needs and progress, and to adapt the instructions

#### 7) Personality Traits of Trainer

- Trainers need to have an overall understanding of the nature of the disability, general diagnosis, causes, strengths, limitations in order to be able to train individuals
- The trainers should be patient with the candidates and must exhibit an approachable nature during the training
- The trainer should have detailed knowledge about the job role and should be able to break down the training instructions clearly into simpler sentences
- The trainer should have good observation/listening skills
- Trainer should provide individual focus to each trainee during the training and monitor their progress on a regular basis