

Guide to Support High Functioning and Gifted Children with Autism in Education

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Guide to Support High Functioning and Gifted Children with Autism in Education



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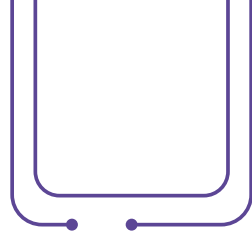


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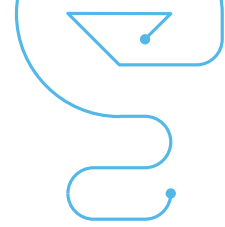
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Introduction



A person diagnosed with autism faces various constraints such as social, physical, or emotional, within a spectrum known as Autism Spectrum Disorder (ASD). ASD, a neurodevelopmental disorder, is often characterized by deficits in social interaction and communication.

High Functioning Autism: Like “mild” autism, high functioning autism (sometimes shortened to High Functioning Autism-HFA) is an unofficial term that’s become more commonly used. At one point (before 2013), the term was used to distinguish “autism” from “Asperger syndrome.” The formal distinction made by practitioners before 2013 was that people with HFA had, or have, speech delays while people with Asperger Syndrome have normal speech development.

The other category discussed here are the Gifted Children with Autism. Educators often use the term “twice-exceptional” (2e) learners when referring to children who are simultaneously in a gifted program and special education program. These individuals show an extreme level of intelligence with a profound understanding of relationships and computation of numbers, words, music, physics, or any particular field of specialty study. These extraordinary individuals are not as common in relation to the other types of autistic individuals. However, it should be noted that special care must be taken to appropriately provide a mentally stimulating

enough environment for these uniquely gifted children to thrive and best learn how to apply their given gifts.

Three areas often found challenging for all people with autism are sometimes known as the triad of impairments:

- 1 Social impairment (challenges in relating to other people)
- 2 Communication impairment (difficulties in recognizing verbal and non-verbal communication channels)
- 3 Rigidity in thinking, language, and behavior.

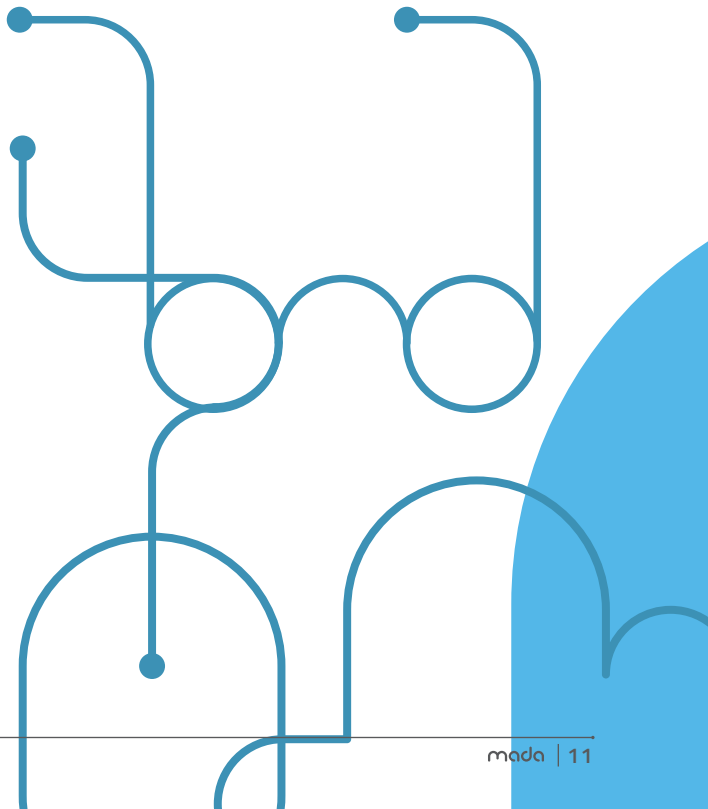
Many studies have investigated applications of technology as assistive therapeutic tools for autism, namely, computer technology, (Assistive Technology, Accessibility), Virtual Reality (VR), Video Self Modeling (VSL), and Robotics systems.

When professionals or parents refer to different types of autism, they are often distinguishing autism from one of the other pervasive developmental disorders outlined in the standard reference published by the American Psychiatric Association named the Diagnostic and Statistical Manual (DSM-5).

Mada's mission to ensure that access to the latest and most important Assistive Technologies are available in Qatar for the education of children with Autism Syndrome Disorder (ASD), specifically High Functioning Children with Autism (HFA) and the gifted children also referred as twice exceptional children.

As a community and as a nation – Qatar’s focus for caring for individuals with ASD to help them become an integral part of society and to feel safe and respected.

The national autism plan that is being developed in Qatar will have a major impact on improving the lifestyle of children with autism, their families, and caregivers. It is the hope that the success of these programs will eventually develop into it a model for other GCC countries.





Autism

Types of Autism Spectrum Disorders

- a High Functioning Autism
- b Asperger Syndrome
- c Pervasive Developmental Disorder
- d Mild Autism
- e Pervasive Developmental Disorder Not Otherwise Specified -PDD-NOS
- f Severe Autism
- g Rett Syndrome
- h Broad Autism Phenotype
- i Gifted Children or Twice-Exceptional

Supporting the Exceptional Gifted Child

One concept of “giftedness” is to identify the exceptional individual. The child who is gifted is very rare. Antidotal statistics show one in a hundred thousand or one in a million dependant on the global region. A second key concept is “twice exceptional.” A gifted child may sometimes find significant barriers with expressing their abilities in traditional academic settings. Often they have a specific learning disability in areas such as reading, writing, or math. Some may also have ADHD or autism spectrum disorders (ASD) as part of the complexity of their personality.

Within the autism spectrum, a lot of attention is aimed to look at the behavioral and communications challenges that are common to this group. Because these behaviors can be very obvious, they often are in the forefront of challenges parents, and educators are

frequently faced with. There is no question that spectrum behaviors require a greater need of intervention. As they are most likely to create distress for the child and for the children around them. But awareness of other differences must also be given due consideration.

Gifted Children is not something that can solidly be diagnosed and therefore is not easily identified in children. Most identified as gifted can exhibit a broad range of characteristics found in these children. Often times gifted children will demonstrate a larger gap between the physical age and their mental capacity age. These gifted children are also often overly sensitive to their physical and emotional surrounding environments

The following table summarizes characteristics commonly seen in the Gifted Child.

Strengths	Deficits
Superior vocabulary	Poor social skills
Advanced ideas and opinions	High sensitivity to criticism
High levels of creativity and problem-solving ability	Lack of organizational and study skills
Extremely curious, imaginative, and inquisitive	Discrepant verbal and performance skills
Wide range of interests not related to school	Wide range of interests not related to school
Penetrating insight into complex issues	Difficulty with written expression
Specific talent or consuming interest area	Stubborn, opinionated demeanor
Sophisticated sense of humor	High impulsivity

Distinguishing a Gifted Child from a Child with Asperger's Syndrome

Children with Asperger's Syndrome are truly unique and represent a portion of the Autism population. They are highly verbal, have obsessive interests in certain subjects, have exceptional memories, usually have above average IQ's, are hypersensitive to sensory stimuli and often experience social isolation. An even smaller part of the Autistic community are those children identified as the Twice-Exceptional or Gifted Children. Gifted Children can manifest the same Asperger Syndrome behaviors as well. However, even though children with Asperger's Syndrome manifest behaviors that are very similar to gifted children, upon closer examination, the motivation for the behavior is quite different.

The Minnesota Council in the USA for the gifted and talented published a side by side table comparing the attributes of gifted children and children with Asperger's syndrome. It is important to keep in mind that both characteristics are often shared between the two. This can make it challenging to identify the two groups even for a seasoned trained professional.

This table below may be helpful in identifying those traits that may be particular to each group.

Gifted children

Asperger's syndrome-children

Memory & Attention

Excellent memory for facts and information about a variety of topics

Typically accurate recall for names and faces

Dislikes rote memorization tasks although he/she may do it well

Intense focus on topics of interest

If distracted, is likely to return to a task quickly with or without redirection

Superb memory for facts and detailed information related to selected topics of special interest

Poor recall for names and faces

Enjoys thinking about and remembering details, facts, and figures

Intense focus on primary topic of interest

If distracted by internal thoughts, redirecting to task at hand may be difficult

Speech and Language Therapy

Extensive, advanced vocabulary

Communicates understandings of abstract ideas

Rich and interesting verbal style

Engages others in interests

Asks challenging questions

Expressive language/speech pattern of an older child

Elaborates with or without prompts

Advanced use of words with lack of comprehension for all language used

Thinks and communicates in concrete and literal terms with less abstraction

Uninviting verbal style

Style or content lacks reciprocity and engagement of others in their personal interests

Repeats questions and information

Understands and engages in sophisticated and/or socially reciprocal humor, irony, and sarcasm

Understands cause/effect or give and take of conversation / able to communicate distress verbally

Pedantic and seamless speech

Little or no elaboration with run-on speech

Misunderstands jokes involving social reciprocity

Has difficulty understanding give and take of conversation

Communicates distress with actions rather than words

Social and Emotional

Able to identify and name friends; enjoys high social status in some circles

Aware of social norms

Keenly aware that he/she is different from peers

Spontaneous sharing of enjoyment, activities, interests, or accomplishments

Engages others in conversation

Aware of another's perspective and able to take and understand others' viewpoint

Follows unwritten rules of social interactions

Shows keen social insight and an intuitive nature

Usually demonstrates appropriate emotions

Demonstrates significant difficulty and lacks understanding of how to establish and keep friends

Indifferent to social norms of dress and behavior

Limited recognition of differences with peers

Little or no interest in spontaneous sharing of enjoyment, activities, interests, or accomplishments

Shows significant difficulty initiating or engaging others in conversation

Assume others share his/her personal views

Unaware of social conventions or the reasons behind them

Lacks social insight

Aware of others' emotions and recognizes others' feelings easily

Able to read social situations and respond to social cues

Shows empathy for others and able to comfort a friend in need

Demonstrates inappropriate or immature emotions and flat or restricted affect

Limited recognition of others' emotions

Misreads social situations and may not respond (or even know how to respond) to social cues

Does not typically show empathy or concern for someone in need

Behavioral

May passively resist but will often go along with change
Questions rules and structure

Stereotypical behaviors (e.g., hand or finger flapping, twisting, or complex body movements) not present

When problems arise, he/she is typically distressed by them

Actively or aggressively resists change; rigid

Adheres strictly to rules and needs structure

Stereotypical behaviors (e.g., hand or finger flapping, twisting, or complex body movements) are present

When problems arise, parents or teachers are distressed by them while student may be unaware of distressing situation unless personally affected

Motor Skills

High-coordinated

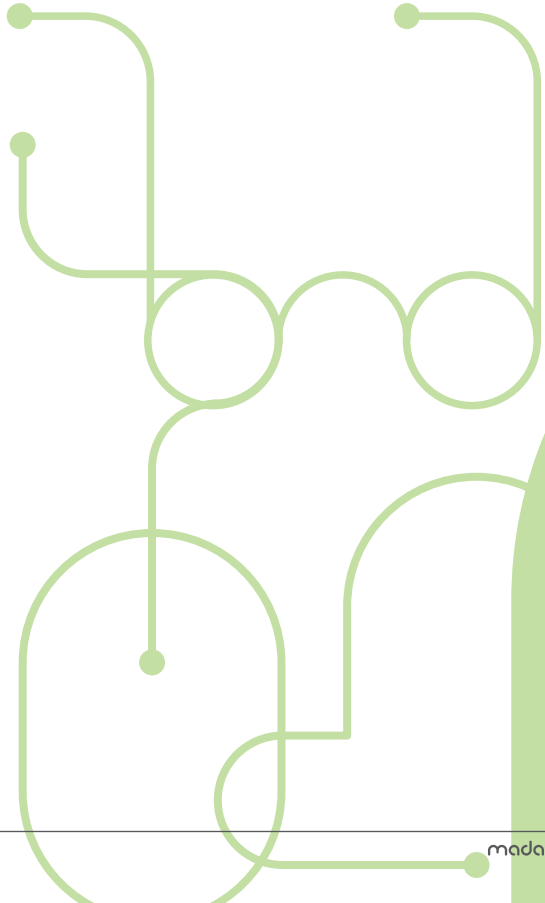
Interested in team sports

Demonstrates appropriate development of self-help skills

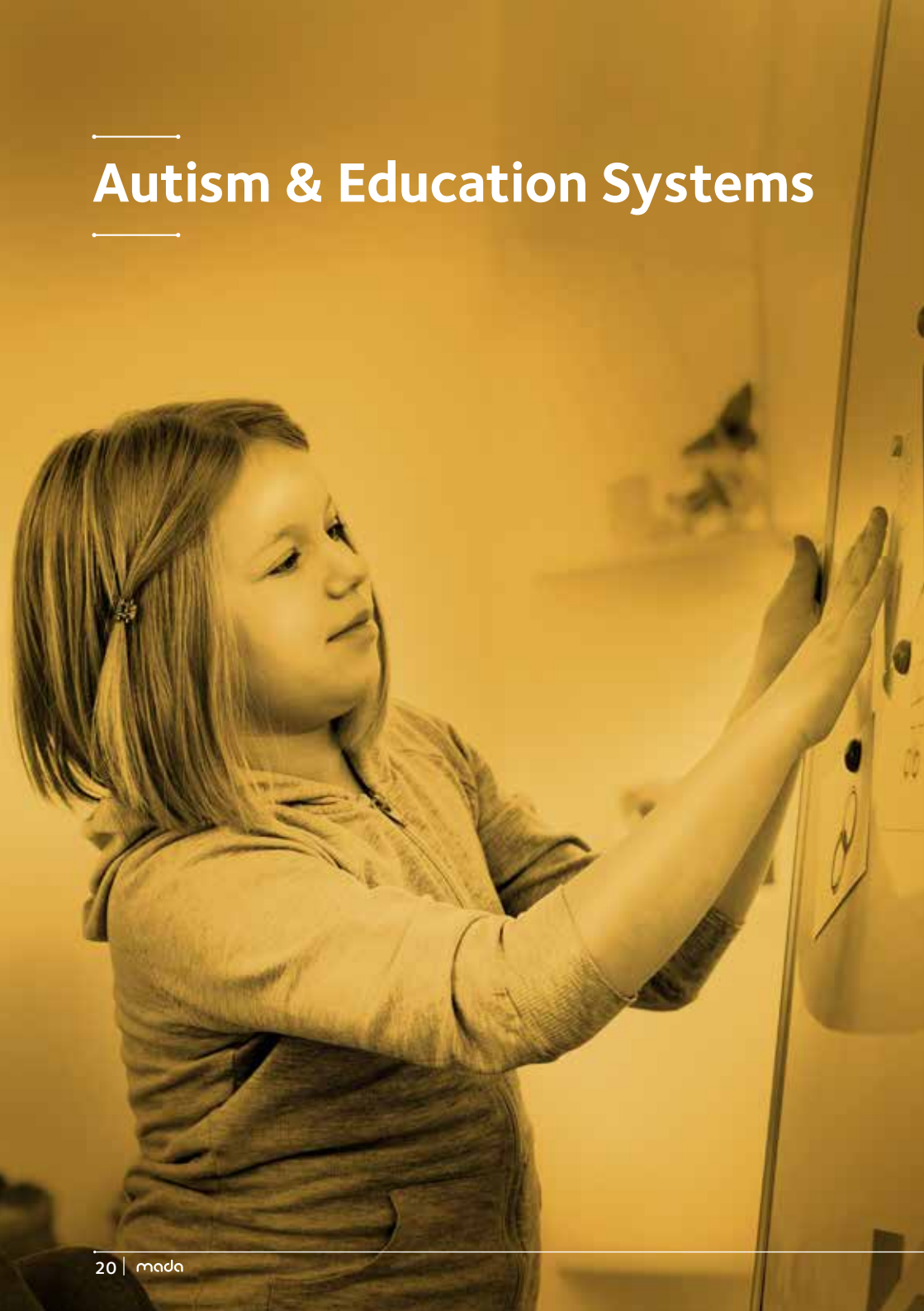
Lacks age-appropriate coordination

Avoids team sports

Delayed acquisition of self-help skills



Autism & Education Systems



Proper education is an important part of the development of every child's life. Unfortunately, too many children with autism are not getting the education and support they need. The positive news is that there are specialist schools and methods available that can provide the proper environments that allow these HFA and Gifted Children to thrive.

Educating High Functioning and Gifted Children with Autism

The Rights of High Functioning and Gifted Children with Autism

- ① A Child's Right to Public Education
- ② Free Appropriate Public Education (FAPE)
- ③ Least Restrictive Environment (LRE)
- ④ Special education Services provided through the office of special education and gifted students at the ministry of education and higher education in Qatar

Individualized Education Plan for High Functioning and Gifted Children with Autism Disorder

In recent years, with increasing regularity, children have been diagnosed with autism or autistic spectrum disorders, including high-functioning autism or Asperger's Syndrome and in the more rare cases as Twice-Exceptional children. Students who are non-verbal need special-education settings, but when it comes to educating those students who are high functioning yet still on the autistic spectrum, it can often be harder to find the appropriate learning environment due to their specific needs both in and out of the classroom.

How High Functioning & Gifted Students Learn

Students in the high-functioning autism spectrum may seem gifted in certain areas, and many of these children are very bright. They often have above-average intelligence, and they may also show talents such as a well-developed vocabulary or the ability to do the complex math.

Many students with HFA have difficulty communicating about their wants and needs. Even though they are identified as gifted, and their vocabularies may be sophisticated; they may otherwise struggle with the practical aspects or use of their language or basic interpersonal communication skills.

Methods for Teaching Children diagnosed Gifted and/or HFA

Teaching students who are autistic can be an intensive task. It will often involve a team of professionals and many hours a week of directed specific instruction with therapy sessions to address the child's behavioral, developmental, social, and/or academic needs.

This can prove to be problematic for schools as each child will have a specific set of unique characteristics that must be addressed as part of their education. The challenge with this level of specificity is that it prevents a standardized set of best practices to be created pertaining to the circumstances of the identified Gifted Child. These set of practices will have to be customized on a case by case basis for this very small select number of individuals identified as Gifted Children.

The categories of specialist necessary will vary from child to child as some may require sensory training or be trained in basic interpersonal communication skills while others may need to address social, behavioral issues. This also has to be implemented

while having high level of education instructors that will continually be stimulating their intellect to maintain the appetite of these hyperintelligent children.

Additional Basic Teaching Methods Often Used with HFA & Gifted Children

- ① Discrete Trial Teaching (DTT) or the Lovaas Model
- ② Floortime, or Difference Relationship Model (DIR)
- ③ Picture Exchange Communication System (PECS)
- ④ Pivotal Response Treatment (PRT)
- ⑤ Relationship Development Intervention (RDI)
- ⑥ Social Communication/Emotional Regulation/ Transactional Support (SCERTS)
- ⑦ Training and Education of Autistic and Related Communication Handicapped Children (TEACCH)
- ⑧ Verbal Behavior (VB)

Universal Design Learning for High Functioning and Gifted Children with Autism

The Universal Design Learning framework provides educators with guidance about where to expect the most variability in learning. It also offers educators suggestions on how to provide options that will accommodate a wide range of learning needs.

Multiple means of representation (Perception, Language, expressions, and symbols, and Comprehension).

Various Methods of interaction & expression (Physical action, Expression and communication, and Executive function).

Multiple means of engagement (Recruiting interest, Sustaining effort and persistence, and Self-regulation)

Classroom Management for Special Education Learning

Classroom management, whether it is general or special education, requires special considerations for this group of students identified as High functioning & Gifted Children with Autism.

① Traditional Strategies

② Nontraditional Strategies

Curriculum Considerations for High Functioning & Gifted Children with Autism

Ensure each student reaches his or her full potential. This requires individualized and comprehensive educational programming customized to the individual, rooted in evidence-based practices. Curricula considerations include both what is taught and how it is taught. This must be done with the understanding that it may vary case by case per the individual personalities and levels of intellect related to their subjects they are gifted in.

Components of a Comprehensive Curriculum

Comprehensive curricula include the following: (Focus Areas for Intervention, Environment, Structure and Support, Assessment Frameworks, Goal Development and Prioritization, Instructional Strategies, and Instructional Format).

Inclusion Opportunities for High Functioning & Gifted Children with Autism

Teaching students how to form relationships, understand the feelings of others, and develop appropriate social skills is just as important as academic learning when considering the future potential of the individual. Inclusion is the practice of placing individuals with High Functioning and Gifted Autism into settings and situations with their peers without disabilities.

Components of Successful Inclusion

Component for Successful Inclusion

Teachers are trained in a wide variety of teaching methods to address diverse student need.

Adequate supports are provided so skill development is integrated into the general education classroom activities.

Adequate supports are provided to the student with ASD to foster peer interaction.

Team members collaborate and support the inclusion opportunity.

Strategies and Skills

Priming, prompt delivery, daily schedules, mini-schedules, systematic instruction, peer mediated interventions, Augmentative and Alternative Communication (AAC).

Environmental modifications, visual supports, schedules, structured activities, small group instruction, self-management strategies

Peer mediated interventions, peer buddies, Lunch Bunch, visual supports, integrated related services personnel, adult support

Parent involvement, parent-teacher conferences, homeschool communication book, team meetings, parent training, paraprofessional training

Common Challenges at home & school in Teaching HFA & Gifted Children

Fear of new situations and change, Inflexibility, Slow processing and responding, Sensory overload, and Limited understanding of social expectations are a few elements that will be challenging for these HFA and Gifted children to adjust to.

These behaviors are common examples of what teachers may see

and hear when they work with students with HFA. What teachers often do not recognize, however, is the underlying confusion and anxiety that may be experienced by these children. This feeling of fear even affects those children who speak in a facile manner, masking their perception of the environment as an ever-changing world of inexplicable events, people, and expectations. This is particularly true of children in the early school years, when they move from in-home programs or small preschool classes to the much larger world of elementary schools and to classrooms with many more children and rules.

Inclusive Classroom Settings for HFA & Gifted Children:

Strategy1: Priming the Child for School Experiences.

It is important to start discussing the idea of going to school and what that would be like to meet other individuals, expectation of interaction, maybe even drive by the school, so the student can become a familiar with the location.

Strategy2: Creating a Comfortable, Understandable Environment

It is critical that the school has created a safe and comforting environment the student can easily identify with and assimilate into.

Strategy3: Ask, How else can we do that better?

Always review an environment or situation and ask How can we do this better?

Strategy4: Recognizing & Meeting the Need for Extra Processing Time.

Because HFA and Gifted Children process information and surrounding differently, always be sensitive to the time allowed for them to become accustomed to a new person or situation.

Strategy5: Reducing High Levels of Stimuli in surroundings likely to produce sensory overload.

It is Key to make sure that the environment the student will be in most of the day is stable for the characteristics for the student as well and being free from obvious trigger stimuli, (bright lights, sounds, etc...

Strategy6: Teaching children simple methods to manage sensory overload.

Either simple breathing exercise or closing eyes, plugging ears or standing still. These simple, practical methods can easily be employed a student to self-curb sensory overload

Strategy7: Use of a cognitive-behavioral approach to the teaching of social skills.

There are many books and online resources to review this methodology.

Strategy8: Teaching social skills through activities for all the students.

Simple classroom social exercises, performed daily will help the HFA & Gifted Child learn the basics and start to feel more accustomed in social situations.

Collaboration and Strong Partnership between Home and School

Establishing a strong partnership between home and school is essential to making the inclusion of students who are HFA & Gifted successful. These students often have difficulty with generalizing a newly learned skill to another environment, so if skills taught at school are not reinforced at home (and vice-versa), the student may be unable to generalize the skills he or she acquires in the classroom. Therefore it is imperative that the proper and agreed reinforcement methods are consistent both at the school and at home so the behavioral characteristics can be altered to be more socially acceptable. For this reason, a firm partnership and understanding must be made between the parents at home and the educators at school for the students to be set on a path of success.

Recommendations about Appropriate Learning Environments

Working with the learning and emotional differences of children with HFA can create challenges in any setting, but accurate evaluations and appropriate supports are instrumental in determining the most appropriate educational program and achieving school success. Furthermore, it is important that parents and educators recognize that, regardless of the nature of the educational program selected, that program becomes a living, dynamic process of support requiring continual attention and adjustment over time. As such, these adjustments often require periodic updates of previous evaluations, or new evaluations and services that meet the changing needs of an ASD or HFA child as he/she develops and grows.

Going beyond methods in Autism Education

Understanding of ASD is an essential starting point for developing education of students who are HFA & Gifted. Another relevant method for all students is with following the “Training and Development Agency for Schools” (TDA) ‘Pillars of Inclusion’ for planning and teaching students with ASD.

This “out of the box” thinking can allow for other options to be considered when doing the initial school assessment of the student to best match the child with the appropriate program.

Challenges with standards Implementation

Researchers have identified challenges for practice and policy in the implementation of the standards of education. Below is a list of these current globally recognized challenges being evaluated.

- a) When best practices of ASD is examined by research that is indicated by strong empirical data, the larger existing gaps in knowledge need to be addressed and resolved before the standards of an effective best practice can be established for HFA & Gifted Children education programs.
- b) We need further research on the fidelity or faithfulness regarding the successful implementation of generic practices currently being used, and particularly the specialized methods for the HFA & Gifted Children programs.
- c) We need to evaluate whether school staff are choosing the best measures or consistently monitoring students who are HFA & Gifted.

- d) We need to find better monitoring for the effectiveness of the outcomes of education and social care professionals working jointly for the benefit of the students who are HFA & Gifted.
- e) We need to evaluate the ways in which mutual partnerships between schools and families have beneficial effects for children and young people with HFA and who are Gifted in terms of learning, behavioral or “well-being” outcomes.
- f) We need more research to develop and disseminate good practice on accessing within both mainstream and specialist schools.

Information & Communications Technology



Benefits of Using ICT for ASD Children who are HFA & Gifted

Providing a secure learning environment in which stimuli remains stable, and events are predictable.

Acting as an intermediary in communicating with others.

Developing social skills and facilitating group work.

Providing structured skill practice and supporting basic literacy and numeracy.

Assisting the student in organizing their thoughts and time more effectively.

Helping students develop fine motor skills

Why Use Assistive Technology in the Classroom?

1. Better understand their environment
2. Improve communication skills
3. Increase social interaction
4. Build better attention skills
5. Expand motivators
6. Improve organizational skills
7. Keep up with the classroom curriculum
8. Increase independence

AT's to Improve Reading/Language Arts for Students with HFA

Two specific teaching strategies recommended for use in the general education classroom to improve reading/language arts for HFA students included question-generation and retelling. Other strategies include teaching students for planning, revising, and editing; use instructional collaboration in planning, drafting, revising, and editing compositions; and teach students how to combine sentences to make more complex sentences. Additional suggestions included visuals such as photographs, charts, and visual cues as well as picture schedules using words, pictures, or both attached to Velcro allowing to replace and remove items.

There are two computer programs designed to assist with poor writing skills, Self-Regulated Strategy Development (SRSD) and Dragon NaturallySpeaking. Also suggested was a simple word processing program such as WordPad.

AT's to Improve the Quality of Education for HFA learners

There are several types of assistive technologies that can improve the quality of education for HFA learners. By implementing the following devices in education, we can help ensure that students with autism can develop the social and language skills needed to succeed in life:

A - Speech-Generating Devices

Because children with autism often have difficulty developing language and social skills, educators and peers may struggle to understand them. Speech-Generating Devices (SGD) are designed to bridge this communication gap and improve the development of such skills. SGDs encompass a wide range of assistive technologies,

and many of them have practical applications for students with the disorder in the classroom.

One common type of a SGD is simply a tablet with an app that incorporates “matrix training.” Such programs present images for phrases and terms that the student already knows. When the user needs to communicate, they can select the icons in the correct order to convey their message. The app will then “speak” the desired message through a synthesized voice.

The fear that children may become too reliant on this technology has led some educators to have reservations, but this concern is unfounded. They have been proven to promote speech development, and studies indicate that students across the autistic spectrum have benefited from using SGDs.

B - Portable Word Processor

As students with HFA and ASD may have difficulties with fine motor skills, writing can be challenging. Their writing may be difficult to read. They may have organizational problems. Writing by hand may simply be stressful. Portable word processors whether that be a tablet with a keyboard, a laptop, or other keyboarding device can help these learners.

As public schools become more tech-savvy, these devices should become increasingly accessible. Many classrooms already have designated tablets, laptops, or desktop computers for regular use. Because these devices require less precise fine movements, and errors can be corrected at any time, they can benefit learners with HFA. They also allow students to reorganize notes at a later time, making it easier to study and retain information.

C - Visual Aids

Videos, photographs, symbols, and even written words can act as types of visual support. Any teacher should strive to incorporate visual aids throughout instruction. Not only does this practice benefit predominantly visual learners, it can greatly assist students with autism spectrum disorders. While even high-functioning learners frequently have short-term memory deficits, visual aids can help students retain information and make decisions.

Some applications include:

Using symbols to organize and memorize information, such as the sequence of a narrative

Timetables to help pupils anticipate and follow their daily routine

Choice boards that allow students to make decisions, since remembering a long list of options may present a challenge

An “emotional thermometer” that allows children to identify their feelings and respond appropriately in education, visual aids are essential. For pupils with autism, they can lead to dramatic improvements.

D - Assistive Listening Systems

When it comes to processing information — mentally sorting the important from the unimportant students with ASD may struggle. Auditory overstimulation issues are commonly associated with autism. This is largely due to distraction; the noisy bustle of a classroom can be chaotic to these learners. While earplugs or headphones can help during assessments, they are of little use during active instruction.

Assistive listening systems can help. While they are typically used by people with hearing loss, they can also be used by those with autism.

These devices improve the speech-to-noise ratio by separating speech from background noise. This can help users focus on the words of the instructor, rather than on the noise of fidgeting students and scrawling pencils.

E - Smart Glasses

Unlike the other items on this list, smart glasses are a technology that educators and counselors can use when interacting with students who have autism. The practical applications of this device in this context were explored by Rush University¹, where a study was performed to determine if Tobii Pro smart glasses could analyze children to assist with earlier diagnoses and developing more effective treatments.

Only an expert is ordinarily able to determine if a child is exhibiting signs of autism. When using smart glasses and software to monitor social communication behaviors, however, anyone can detect such signs. For educators looking to accommodate children with autism, this could prove to be enormously helpful; when students begin to improve their language and social skills, there should be an observable change in behavior which smart glasses can track. Gauging a student's progress in this manner is unprecedented, and these glasses should prove to be a boon in the future.

As the world celebrates the diversity of individuals on the autism spectrum this month, parents and educators can rejoice in the fact that new generations of students do not have to view autism as an "obstacle." There are a wide range of tools available to help each student realize their potential.

The Potential of Virtual Reality Technologies for HFA & Gifted Children

The inspiring ways of using virtual reality to help children with autism. With the help of virtual reality, researchers are exploring alternative solutions and a wide variety of subjects.

Recent experiences show that virtual reality can be a motivating platform to safely practice social skills for children with ASD.

Virtual Reality Technologies

- a Supporting children with autism learn how to drive
- b Helping children on Autism spectrum improve social skills
- c Inspiring kids with autism
- d Understanding autism with virtual reality

Adaptive Virtual Reality Training in Arabic

Currently, The VR App combines voice with speech recognition to create a new way to learn in the Arabic language. For example, there is VR app called (Chatbot) to make a conversation anytime with Arabic Chatbot; this App is designed to be a virtual conversational partner, a computer program advanced as an intelligent conversation to speak Arabic in real time.

This App launched by Mondly platform and allows children who are HFA & Gifted the opportunity to experience lifelike conversations with virtual characters in their native Arabic language.

Arab Universities on the Road to Virtual Reality

Department of VR at Qatar University is closer to achieve more intuitive human interaction with computer systems and simulations. This will open the door for the development of new applications that provides the user with easy and natural way to interact with the computers. Virtual Reality (VR) uses immersive technology to make people feel that they are present in a virtual world, or environment.

Other several major universities in Arab countries especially in the Gulf have invested in the concept, either for programs and staff or for all departments to use in their teaching and research, Effat University has a virtual reality research center; King Abdullah University of Science and Technology.

By increasing cooperation between the MADA community center and Qatar University will make it easier to set up joint Virtual Reality projects to promote teaching children with Autism.

Also potential cooperation with Microsoft Gulf to set up a workshop that uses virtual reality to help kids with autism prepare to enter the educational environments.

Video Modeling - VM

Video modeling (VM) focuses on observational learning. Several studies have used video modeling strategies to teach social, behavioral, and functional skills. Basically, VM consists of an individual watching a video of a model that engages in a positive behavior to be learned.

Video Modeling in Practice

- 1 Teaching Becomes Flexible and Fun
- 2 Learning with Less Stress and Anxiety
- 3 Learning and FUN – the “Real” Secret Behind Video Modeling Success.

Case Study for modeling video in Arabic

GEMINI a web-based program focuses on one concept at a time, utilizing an approach called discrete video modeling to teach language in multiple languages including Arabic language, reading, and social skills. The specialist teachers need a plan to write a script in Arabic, or to create Video Modeling – Video Self Modeling for a particular child with HFA in Arabic language.

Robots to Help Children with HFA & Gifted Children

The field of robot technologies and education is rapidly evolving, the focus on educational service robots and educational robotics has become more widespread.

Now researchers are aiming to develop robots to help children with autism in ways humans can't.

The Design and development of Robot-Enhanced therapy for children who are HFA & Gifted will help the therapist to improve the child's social interaction skills, such as turn-taking, imitation, and joint attention.

Case Studies:

DREAM project, Kaspar the Social Robot, and AISOY1 Emotional Robot Educational Services Robots in Arabic for Autism

Research has found that autistic children are more comfortable interacting with Robots than humans. A Qatar University (QU) research is in the process of deploying social robots to treat autistic children to help them overcome their social and learning challenges.

Qatar University, CENG Department of Mechanical and Industrial Engineering in coordination with global experts working now to develop pilot project that aims to provide the framework to design social robots as teaching and training aid for children who are HFA & Gifted.

Instructional Software

“Instructional Software” highlights on Social Skills Training (SST) programs for children with HFA and ASD, with an emphasis on critically evaluating efficacy and highlighting areas of research.

Instructional Software – Individual

FaceSay™ Software is the Social Skills Software

VizZle™ Visual Learning Software is an innovative, research-based program aimed at supporting the academic, social, and communication needs of learners with autism.

Instructional Software – Collaborative

“NoProblem!” A Collaborative Interface for Teaching Conversation Skills to Children with High Functioning Autism Spectrum Disorder.

Theory of Mind: Increasing social engagement in children with high-functioning autism spectrum disorder using collaborative technologies in the school environment.

Mobile Technology and Electronic Tablets. Benefits:

Adapting evidence-based interventions to mobile technology

iPads have been used in general education classrooms

Promote higher level thinking and problem solving through engaging apps

Programs address a range of behaviors

Functional communication (Proloquo2go)

Play dialogue

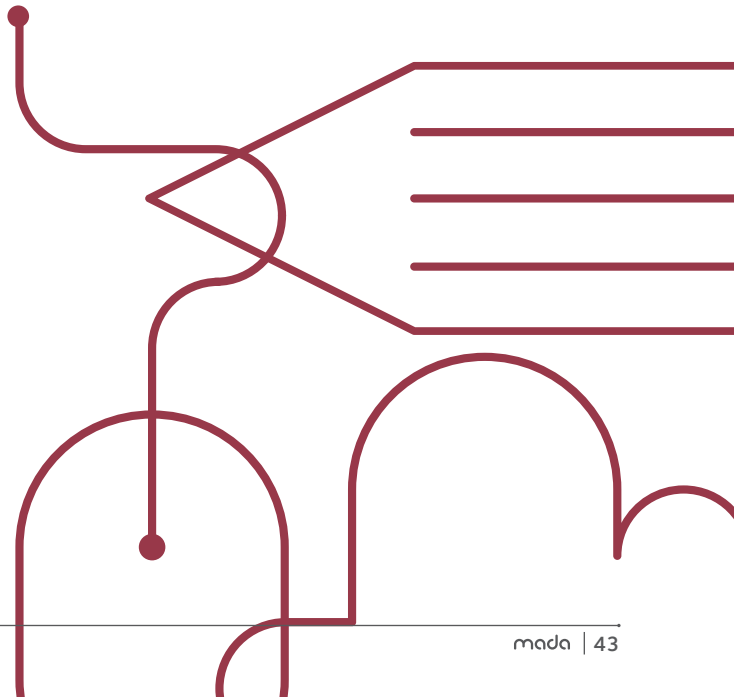
Emotion recognition

Mobile Technology – Effectiveness

- 1 Research demonstrates moderate effects
- 2 Further research is required to determine the efficacy of social skills programs utilizing mobile technology
- 3 Naturalistic setting
- 4 Multiple activities
- 5 Multiple platforms – not restricted to a specific device

Future Research and the Potential of Language and Communication Apps for ASD

Attitudes to iPad and tablet interventions. An important advantage of iPad-based interventions is that they are often preferred by children with ASD, iPads may result in greater engagement and time on task. Research to date supports this: interventions delivered with an iPad result in greater engagement and reduced challenging behavior during the intervention period compared with interventions delivered by teachers and therapists





HFA & Gifted
Children
Awareness

Families in Qatar are becoming more aware of the importance of social integration and increasingly are seeking support and services to help their children develop the skills they need be able to participate in the community and lead a fruitful life.

Awareness among the community, increased understanding about ASD among healthcare professionals and more services being available for people with ASD are cited as reasons behind the change of attitude.

Awareness is Action

Increasing information of a wide variety of HFA & Gifted Children and ASDs topics, including:

- 1 Symptoms of autism
- 2 Effective intervention through Applied Behavior Analysis (ABA) therapy
- 3 Educational models for students with autism
- 4 Strategies for successful inclusion of children with autism
- 5 Strategies to support families living with autism
- 6 Community integration of individuals with autism

To Improve the Lives of All People with HFA & Gifted ASDs

Empower parents and caregivers with quality information and resources.

Provide targeted educational programs to families, professionals, and the broader community.

Support inclusion for people on the autism spectrum

Campaigns and events to reach of all people within the Qatari community.

Mission of awareness is to spark positive change by increasing education and understanding of autism in Qatar to help ASD people to reach their full potential.

Key Actions for Civil Society to Raising Awareness

Contribute to enhancing commitment of government and raising national awareness.

Contribute to creating and sustaining national network of civil society organizations and advocates.

Contribute to public education and sensitization on the needs and rights of people with HFA & Gifted ASDs.

Contribute to monitoring the implementation of laws, policies, and plans related to HFA & Gifted Children and other developmental disorders, and the quality of education and care services.

Contribute to and support evidence generation, by informing and participating in research, in partnership with research institutes, NGOs, and international organizations.

Contribute to resource mobilization for sustainable efforts.

Light it Up Blue – Autism Awareness Campaign

Here are some basic tips to make a successful autism awareness campaign

1. Make a concrete list of goals you would like to achieve then come up with a strategy and action plan.
2. Fully research your cause.
3. Determine your audience and divide them into different target groups.
4. Invite a celebrity with autism to join the cause.
5. Strategically plan the date of your campaign.

For example, “World Autism Awareness Day” that was appointed on the second of April of each year as per the initiative of Sheikha Moza Bint Nasser ten years ago at the UN General Assembly and it was unanimously approved by all countries.



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Recommendations & Guidance

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The following are recommendations for Education of High Functioning & Gifted Children with Autism:

Propose close cooperation between families, agencies, universities, and the community in the State of Qatar.

Facilitating family and school collaboration with sensitivity to the range of the impact that HFA & Gifted Children may have on the family system.

Identifying various agencies and community systems that support students with HFA & Gifted Children in the home, community, and work settings.

Assessing family preference for level of support in advocating for their children and provide appropriate assistance.

Communicating and advocating for the needs of students with HFA & Gifted Children to emergency responders, and other individuals and groups in the community.

Education and leading cross-system planning and collaboration efforts.

Designing instructional programs with attentiveness to legal mandates and family considerations.

Collaborative efforts and networked forms of expertise are increasingly needed in the Special Education for teaching students who are HFA & Gifted.

The development of special education is through explicit learning strategies, skills, technological capacities for the individuals who are HFA & Gifted with social learning activities through learning communities with collaborative learning models.

Consider assistive technology as an intelligent tool for supporting individual with High Functioning Autism and Gifted Children, as well as collaborative learning among different individuals; there are multiple ways to expand potential in every student.

Students who are HFA & Gifted learn best when they are placed in a learning environment that is sensitive to their pre-existing structures, and that is flexible enough to adapt teaching strategies to individual needs.

Formative assessment can be seen as an essential element of those personalized learning approaches, as it is characterized by the continual identification of and responses to students needs.

Assistive Technologies and Accessibility have become more important in today's world to acquire access to learning. it is unquestionable that the use of ICTs accessibility and assistive technology itself needs to be a goal of today's schools in the State of Qatar.

Development of planning to support High HFA & Gifted children in Education in Qatar

The development and planning in accordance with the following recommendations:

Develop comprehensive, user-friendly, plain-language resources to provide and support parents of children who are HFA & Gifted with information about special education programs.

Develop and implemented a process for parents and students who are HFA & Gifted to raise concerns regarding programming for educational needs.

Develop and conducted ongoing training sessions throughout the school year, including transition of students into a regular classroom (Elementary) or academic program of study; and focus on developing and implementing Individual Educational Plans (IEPs).

Provide schools staff with learning opportunities to support a shift in attitudes and practice to create a more inclusive environment.

Develop a plan for home programs to ensure support is provided in the regular classroom.

Provision of communications support to schools (administration and staff) for explaining changes to parents and community members.

Summary and Strategic Recommendations

Create joint coordination committees to address HFA & Gifted Children in cooperation with relevant ministries, universities, NGOs, INGOs, family members of those Children who are HFA & Gifted, self-advocates, service providers, public stakeholders at the national level in the State of Qatar.

Provide ultimate independence, productivity, and inclusion as key components, and to address wide-ranging issues and challenges faced by people who are HFA & Gifted and their families to integration into Qatari society.

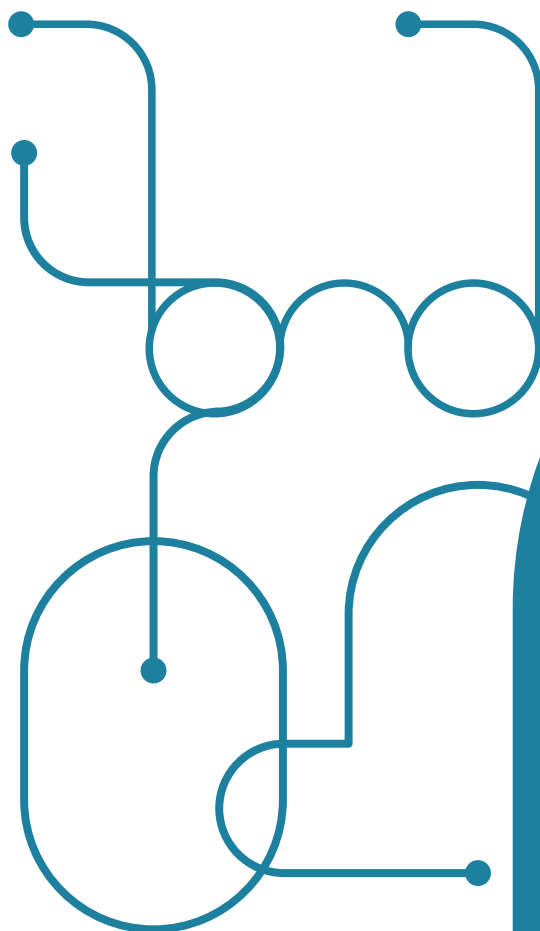
Develop and update strategic plans, programs, and policies for education of children and adults who are HFA & Gifted at the national level in the State of Qatar, and monitor, regional and international activities in research.

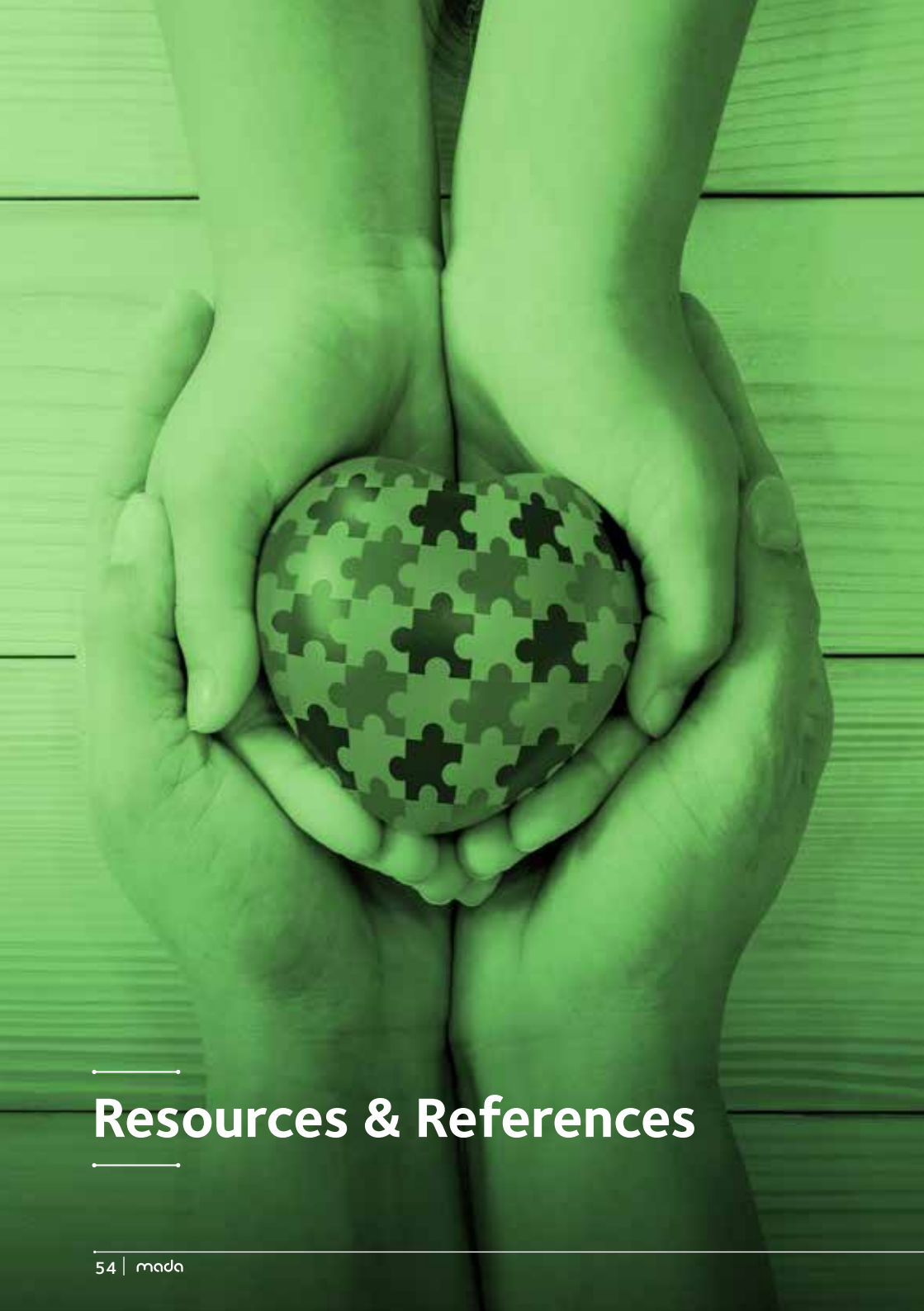
Provide innovative research, evaluation, and policy analysis in areas of importance to the field of education for HFA & Gifted Children. For example, coordination with (Assistive Technology Center - MADA and Shafallah Center, etc.).

Communicate, disseminate, and raise awareness, share information and research findings with families of HFA & Gifted Children, to minimize disparities in education, enhance educational opportunities, develop work skills, enrich daily living and promote community inclusion.

Use emerging technologies to bolster learning, employment, and community participation for all persons who are HFA & Gifted.

Establish a global partnership framework to address education of students who are HFA & Gifted. This partnership will help to coordinate a sustainable response for Arab region in terms of policy reform, service development and delivery, research, and dissemination of evidence-based practice.





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