

Dinosaurs, ASD, and Social Skills



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TODAY'S WORKSHOP OBJECTIVES

This program is designed to help you...

- Understand how pairing social skills interventions with key interests such as dinosaurs can enhance social skills development.
- Explore new avenues for bringing autistic teens into higher levels of self-appreciation and solidarity in the autism community and their community as a whole.
- Celebrate the strides made by students on the autism spectrum as they seek to represent the scientists of tomorrow.
- Explore the factors that can lead to group identity formation and how these students met challenges that can translate to future social and vocational success.
- Examine multisystemic approaches for inclusion and integration of individuals on the spectrum across social, educational, and vocational systems.



Abstract



- This project qualitatively and quantitatively examined the efficacy of two similar social skills group facilitated in tandem by skilled psychologists and paleontology educators in a joint effort at the Academy of Natural Sciences of Drexel University, sparked by Autism Inclusion Resources. Results indicated that although modest improvements were reported by participants in their social skills with standardized measurement, more substantial benefits were noted through qualitative observations and reported experiences. It was concluded that social skills groups with common-interest themes such as dinosaurs and paleontology can be motivating and valuable for individuals diagnosed with ASD. Replication of similar groups is recommended at other children's museums and related venues.

Goals of Program

- Why did we want to do this?
- Primary Goal: Use interest in paleontology (science) to leverage development of social skills in teens on the autism spectrum
- Secondary Goals:
 - Gain experience in disclosing and describing social difficulties and strengths so that they feel normalized/validated in expressing a range of skills and needs.
 - Develop greater self-awareness that then allows them to seek out others to assist them socially, and to reciprocally assist others, (whether on the spectrum or not), leading to increased self-advocacy in a social context.
 - Help the group develop an identity as comprised of talented, interesting, interactive, creative minds of varying strengths and abilities—superstars in their own areas of interest—engendering higher self-esteem and greater solidarity as "Aspies".

What did we do?

- 2 cohorts
- 8 sessions, 1 hour each
- 8 kids, 12-14 years of age, Aspergers/ASD diagnosis
- Participation was free and a family membership to the Academy of Natural Sciences given to each child who completes the group.
- School transported participants to the Academy of Natural Sciences at the beginning of the school day, and they return prior to the end of school. School staff accompanied participants throughout.



What did we do?

- Social skills data collected: Social Skills Improvement System assessment filled-out by child and his/her teacher and parent before the group begins and after it ends to measure progress.
- Group social learning primarily facilitated by Carol Moog and Eric Mitchell (clinicians); Jason Poole (paleontologist), Timshel Purdum, and Allison Krisch contribute educational appeal and content (and general awesomeness :)



Theme of Program

- Process of Paleontology:
 - How do we know what we know about extinct animals.
 - What is the process that a paleontologist goes through to find, excavate, prepare, and recreate a fossil species.
 - What it is like to prepare for and go on a paleontology dig/field site?
- Social group process:
 - What social skills are needed to successfully navigate a dig, and how do they relate to everyday social skills?
 - What different team members/roles are there in a paleontological dig crew?



Possible team member roles

- Coordinator/leader:
 - helps team prepare for the experience
 - Helps them stay on target.
 - Helps get supplies together (ie helps teacher)
- Recorders:
 - keeps records for the team.
 - Important for scientists to maintain accurate records so they can revisit their research over time.
 - Can include a journal of the day, drawings, videos and photographs
- At a dig site:
 - Excavators—digging the fossils/preparing them for shipment.
 - Supply managers—helps ensure all supplies are ready and available to team as they need them.
 - Safety supervisor—makes sure everyone is following rules and performing all the activities safely (wearing goggles, treating supplies with respect especially tools or heavy objects).
- Back at the museum:
 - Preparators—clean fossils for study or presentation to the public. Help make casts to use in the museum.
 - Exhibit designers—help develop displays based on the fossils. Research students—work with the paleontologist to study the fossils. Reconstruct the skeleton/animal to study it.



Day 1: Introduction and getting started

- Evaluation forms
- Introductions, meeting, nametags, expectations
- Coach participants about the nature of the “trip preparation”
- Establish the initial task activity
- Facilitate a discussion in which they can speculate
- Practice putting up a tent and packing a backpack.
- Forming and norming

Day 2: At the Dig Site

- Set up the nature of the group work/support of each others’ resources and needs
- Sensory explorations for sharing
- Sensory “superstars” describe taste, visual representations, touch, etc.
- Strengths of Aspies/Auties
- Gathering data before you dig using photos and iPads
- Need to engage their natural scientific curiosity
- Mapping the site and photographing

Day 3: Getting the Fossil Home


- Jacketing activity when fossil is out of the ground
- Protective factors: we need to establish (jacket) relationships/ “social jackets”
- The importance of knowing what we need and communicating that
- Plaster jacket with foil and burlap and plaster sheets as a team
- Jacket shark teeth – to take a fossil home
- Dealing with issues around textures of foil, burlap, and plaster

Day 4: Fossil Preparation/Lab Tour

- Lab tour: Explore through touch and other senses
- Clarify the rules of the lab and boundaries in relation to life
- Small spaces and cramped conditions: Role-play
- Discuss loud noises and dust, with identifying protection if needed
- What rules can’t be broken? Safety? Personal respect?
- How do we make it through new social situations?
- Supplies and safety.


Day 5: Studying the Fossil

- How to study fossils
- Handling skulls
- Neurodiversity vs. biological diversity
- Theory of mind with skulls
- Dinosaurs are not the only things with fossils
- Handle and observe skulls
- Reflection/role-play
- Taking pictures/video




Day 6: Extinct Animal Behavior

- Video for a time capsule before you "became extinct"
- If you can't see it, how do you know how it lived?
- Determining dino behavior from fossils
- Drawings from our "dig" and fossils in dino hall
- Tape on the floor using footprints to have students solve a mystery of what happened
- Being alert for possible noise/sound issues, and what to do about it



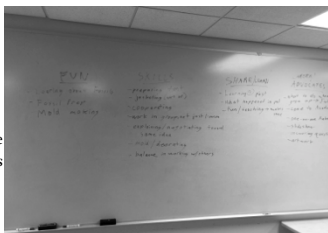
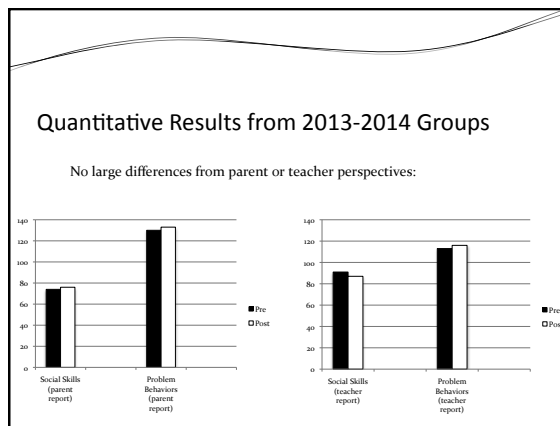
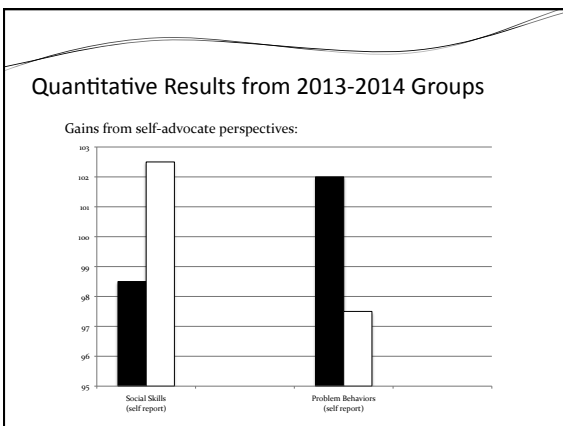
Day 7: Sharing and Mounting

- Make 1/2 cast of a specimen to take home and keep.
- What experiences have you had with these materials? What is helpful?
- How to partner? Some are fine with the messiness and the other are not?
- How to work together without judgment
- Breaks and task demands around activity



Day 8: Finishing up and Reflections

- When the unexpected occurs: teachable moments
- How did we use gloves, earplugs, sunglasses, blankets, vests, quiet spaces when needed?
- Love of dinosaurs versus anxiety
- Working as a group, buddy system
- Adjourning: How would you discuss this experience with others?
- Social capital and applying "Backpack" of skills to real life
- Advocating for self and others

Qualitative Results

OVERARCHING THEMES

1. Logistical Preparations
2. Accommodations
3. Clinical/Education Team Balance
4. Peer-Based Cohesion Model vs. Authority-Based Cohesion Model
5. Role Power Through Task Analysis
6. Group Process Development
7. Generalizability To Other Settings



LOGISTICAL PREPARATIONS

- letters were prepared and sent
- having social skills development emerge, rather than being the explicit focus
- clinicians, by way of introductions, created a short video
- <http://www.youtube.com/watch?v=QmoHjIEkruU&feature=youtu.be>
- <http://www.youtube.com/watch?v=pEdpVLEzkkCQ>
- established certain rules and rituals to cut down on the possibility of distractions
- museum walk-through prior to the first session
- held our boundaries on group size and series length
- syllabus of the science curriculum and activities within social skill arena



ACCOMMODATIONS

- sensory processing issues and sensitivities
- decorate their own name badges with a drawing by our paleoartist
- minimal explorations throughout the museum's spaces
- creating and modifying the curriculum based on interest and arousal levels
- having plastic gloves available
- freedom for sensory breaks if needed
- modifying protective clothing
- students who opted out: found roles to involve them
- defensiveness quickly transformed into acceptance and greater relaxation



CLINICAL/EDUCATION TEAM BALANCE

- connected, reciprocal process
- mirror to the group's own development
- social skills work was designed to be woven into the concrete activities
- educators introduce and outline the tasks of the session's activity
- clinicians quickly take over with discussions of role analyses and definitions of strengths, table membership shifts, questions about sensory issues, etc.
- reciprocal "dance" of fluidity, flexibility, relatedness, and humor



PEER-BASED COHESION VS AUTHORITY-BASED COHESION MODELS

- foster peer identity rather than traditional authority-based teaching
- peer-peer learning and group ownership
- divergent instead of convergent, accidental instead of intentional
- normalize students' behaviors by including their offers
- peers began to identify the strengths of each other
- peers played off of each other, rather than playing to the authority
- Pokemon, Yugioh, etc. recognized as part of the cultural and social language
- fossil curriculum to open discussions about the neurodiversity (ASD and neurotypicals)
- building group identity and solidarity
- growth in sensitivity and awareness of each other
- listening and learning from them as they made their own discoveries



ROLE POWER/TASK ANALYSIS

- understanding the skills and experiences a dig crew would need
- told the story of what we'd be doing
- deconstructed the specific tasks
- the story served to structure the social context
- students described their personal strengths those of each other
- determine tasks for the dig crew and assign roles
- flexibility when roles needed to shift
- leadership roles defined and accepted
- mutual effort of shared roles and powers



GROUP PROCESS DEVELOPMENT

- identifying as members of a working dig crew
- group identity, reciprocal interactions, noticing of each other, humorous play, helpful comments and behavior, curiosity, flexibility, and engagement
- attending more to the flow of the dig crew process than to content
- verbalized similarities between themselves and fossils
- empathic links between themselves and the animals and between themselves and each other prosocial behavior not taught in isolation, but applied to a valued, concrete, real life
- prosocial behaviors were subtly reinforced by team members when noted
- "Aspie" identity stronger for some than others
- embracing difference more so as the group evolved
- being immersed in fossils/dinosaurs and engaging in interests had a regulating effect

GENERALIZABILITY TO OTHER SETTINGS

- First: alternative choices with regard to sensory accommodations, number of students, limitation in age range, behavioral regulation, boundary consistency, alternative activities and space use
- Second: strengths-based and student-based rather than content-based and authority-based
- Third: preparatory strategies, such as a walk-through and videotaped/ in-person introductions of clinicians and educators to participants.
- negotiating successful transitions
- helpful for staff to observe an effective AS classroom
- each session should note the overarching goal, that day's work tasks and the social skill to be developed

6-months later...
INTERVIEW CLIPS FROM THE DIG CREW!!!

(Eric and Bridget)

Questions?

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Thank you self-advocates!!!!

