Evidence Based Early ID & Intervention Practices for Young Children & Their Families

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Content Based On:

You?

Characteristics of young children with ASD
- Early Identification
- Quality Features of Early Intervention Programs
- Measuring Progress through Goal Attainment Scaling
- Evidence Based Practices
- Parent Implementation of evidence based practices
- Action plan

By the end of the day...
- Identify practice for effective early ID
- Identify key quality features of early intervention programs
- Construct a Goal Attainment Scale
- Identify Evidence Based Practices for infants, toddlers, and preschoolers with ASD
- Know 2 online resources for learning more about the implementation of EBPs

Characteristics of Young Children with ASD
Adult Outcomes

…nearly 80% still live at home, have no jobs or postsecondary contact with the future, and many experience decreases, and many employers lack coverage.

- Paul Shattuck

Well placed efforts = Can make a HUGE difference

Autism Spectrum Disorder (DSM-5)

- Developmental disability
  - Not recognizable at birth
  - Typically lifelong

- Complex disorder
  - Many areas affected

- Wide range of impairment
  - Mild to severe across areas

Identified Prevalence of ASD
ADDM Network 2000 - 2010

<table>
<thead>
<tr>
<th>Surveillance Year</th>
<th>Birth Year</th>
<th># of Sites Reporting</th>
<th>Prevalence per 1,000 Children (range)</th>
<th>This is about 1 in x Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>1992</td>
<td>6</td>
<td>6.7 (4.5 - 9.9)</td>
<td>1 in 150</td>
</tr>
<tr>
<td>2002</td>
<td>1994</td>
<td>14</td>
<td>6.6 (3.3 – 10.6)</td>
<td>1 in 150</td>
</tr>
<tr>
<td>2004</td>
<td>1996</td>
<td>8</td>
<td>8.0 (4.6 – 9.8)</td>
<td>1 in 125</td>
</tr>
<tr>
<td>2006</td>
<td>1998</td>
<td>11</td>
<td>9.0 (4.2 – 12.2)</td>
<td>1 in 110</td>
</tr>
<tr>
<td>2008</td>
<td>2000</td>
<td>14</td>
<td>11.3 (4.8 – 21.2)</td>
<td>1 in 88</td>
</tr>
<tr>
<td>2010</td>
<td>2002</td>
<td>11</td>
<td>14.7 (14.3 – 15.1)</td>
<td>1 in 68</td>
</tr>
</tbody>
</table>
**Snapshot: ASD in the US**

1 in 68 children overall (at age 8)
- 1 in 42 boys
- 1 in 189 girls
- 1 in 81 white children
- 1 in 81 Asian/Pacific Islander
- 1 in 93 Hispanic children

1 in 3 with ASD also have Intellectual Disability

**Who is at Risk for ASD?**

- Children with a sibling who has ASD. Sibling recurrence (Ozonoff, et al. 2011)
- More than 1 older sibling – 32.2%
- Males
- Older parents
- Premature birth
- Low birth weight
- Family history of autoimmune disorders
- Parents with history of psychiatric conditions
- About 10-20% of children with ASD also have an identifiable genetic condition like Down syndrome or Fragile X

**Early Developmental Concerns**

*Children with ASD*

89% had documented developmental concern before age 3 years

(CDC, ADDM 2014)

**Parents Struggle for Answers**

**What does ASD look like?**
Red Flags

Remember – Takes more than a Red Flag

Even more than 2 Red Flags

Videos: Guiding Questions

What did you notice?

What is atypical?

What would be typical of a child at the ages shown?

How might this affect learning and development?

Infant/Toddler from 5 months . . .

http://www.youtube.com/watch?feature=player_embedded&v=QMyJoOIqoQI
What did you notice?

What is atypical?

How might this affect learning and development?

Videos: Guiding Questions

Response to Name

Impact of ASD on the Family

Early Intervention is Key!

Challenges to Early Identification

19 month old twins – What do you see?

Lack of support from other family members and community (know something is not going right)

Navigating system to get help –
  - Just getting recognition of a problem is often a challenge
  - Hard to get intense intervention
  - Long waits for diagnosis

Significant stress on parents and entire family

Siblings may also have difficulties, or must act as “caretaker”

Intense and complicated needs of child

Emotional and financial costs of identifying problem and getting support

Bombarded by options of interventions

ASD symptoms and behaviors change with development

Development is affected by having ASD

Our early efforts are likely to change a child’s developmental trajectory.

Reluctance to diagnose very young children.

Symptoms more varied and sometimes less apparent.

Possible negative effects of “labeling” on the young child and family such as:
  - change in the parent-child relationship,
  - reduced expectations for child, and
  - limited access to typical experiences.

Clinicians concerned about effect of incorrect diagnosis early in life.

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Benefits of Early Identification of ASD

- Assists parents in replacing unfocused worry with mobilized efforts to learn about the disorder and find help for their child.
- Average age of first concern – 14-15 months
- First concerned about language or social skills
- May not share concerns initially
- Child care providers can validate parental concerns through surveillance and screening and can support them in obtaining a diagnosis.
- Early identification leads to early intervention
- Profiles of learning strengths and weaknesses different from others with DD
- Better outcomes for young children who receive specialized approaches as early as possible

Developmental Milestones Materials


Examples of Autism Screening Tools

- Modified Checklist for Autism in Toddlers (M-CHAT Revised with Follow-up) www.mchatscreen.com
- Pervasive Developmental Disorders Screening Test (PDDST)
- Social Communication Questionnaire (SCQ)
- Screening Tool for Autism in Two-year-olds (STAT)

Early Identification Processes

- Surveillance
- Screening
- Diagnosis

Universal Screening

- Population-based or universal screening – designed to evaluate all children and to identify those at risk for developmental differences.
- Generally screen to identify wide range of developmental problems.
- Examples include:
  - Ages and Stages Questionnaire
  - Denver Developmental Screening Test
  - Infant – Toddler Checklist

Medical Diagnosis & Educational Eligibility

- Medical Diagnosis
  - Completion of a gold standard diagnostic measure (ADOS, ADI-R)
  - Parental history of child’s development
  - Direct observation of child
  - Tied to meeting DSM-5 or ICD diagnostic criteria

- Educational Eligibility
  - Educational definition compatible with DSM-IV criteria for ASD
  - Does not require a clinical diagnosis of autism
  - Based on level of educational disability and need for early intervention or special education services
Assessment for Eligibility Purposes

“Core battery” recommended (Ozonoff, Goodlin-Jones, and Solomon, 2005):
- developmental history
- current functioning in all contexts
- diagnostic testing of the child to assess characteristics of autism
- assessment of (a) cognition, (b) communication/language, and (c) adaptive behavior.

Detecting Concerns & Supporting Families

Listen to parents and other caregivers
- 75% of time parents express concerns, they are right (Glascoe, 2000).
- Accurate regardless of level of education or parenting experience (Squires & Bricker, 1999).
- By time parents express concerns, they’ve already tried “wait and see”
- Families who aren’t ready – denial as hope and coping

What does High Quality Mean?

High Quality Programs for Young Children with ASD

Assessing Program Quality as a Foundation

Program Quality Indicators and Evidence-Based Practices (EBP)

Program Quality
- Contextual features of the program that represent best practices
- Program quality as the house in which practices are employed
Autism Program Environment Rating Scale (APERS)-IT

- Designed to assess quality indicators of programs for infants and toddlers with ASD

Purposes of the APERS
- Coaching & Consultation
- Professional development
- Program evaluation

Features of APERS-IT

- APERS – IT is still in development
- Organized by domains (7) and subdomains; currently has 69 items
- Each item scored (1 to 5) with anchor descriptors at 1, 3, and 5
- Applicable in home-based and center-based programs
- Results can be summarized by scores or graphs

Practice: Self-Assessment

- Individually read each item on selected APERS-IT self-assessment items. Use handout of intervention strategies domain
- For each item, check the box that corresponds with the statement that best describes how you provide early intervention services.

Practice: Self Assessment Identifying Strengths and Areas for Growth

- Individually identify 1 to 2 of the 6 sub-domains that are areas of strength for you and circle the sub-domain title.
- Individually identify 1 to 2 of the 6 sub-domains that are areas for growth for you and draw a box around the sub-domain title.

VIDEO – Observation in Home
Toddler in Child Care Center

Jason is a 2 year old with ASD who just began attending a child care center. He is a quiet toddler who loves to “rough house” with his father and mother. Jason has limited verbal abilities, has feeding issues, and has limited interactive play skills. His parents would like to see him play with other toddlers and communicate more.

- Pay attention to: physical environment, communication, imitation, engagement, and play.

VIDEO – Observation in Center

High Quality Programs

- Communication (child needs and impact on family)
  - Teaching family specific EBPs for requesting during play

- Social Interaction (child needs and impact on family)
  - Providing access or information to structured play groups
  - Supporting family’s interactions with child during routines

- Behavior (child needs and impact on family)
  - Helping family develop plan for address community members concerns about child’s behaviors

Start/Stop/Continue

- What do I need to
  - Stop doing
  - Continue doing
  - Start doing

Objectives

- Design high quality outcomes and benchmarks for toddlers with ASD
- Create outcomes related to the specific needs of toddlers with ASD (e.g., social, behavior, play, communication)
- Establish Goal Attainment Scales for toddlers with ASD
  - Create benchmarks that document progress
  - Organize benchmarks into an assessment for attaining outcomes
- Discuss data collection systems for assessing toddler’s performance related to benchmarks

Scaling and Measuring Outcomes for Infants and Toddlers with ASD
An IFSP Problem

Toddler, TW – age 30 months – has 4 IFSP outcomes

At an annual IFSP meeting, Mom and Dad ask,

“How much progress has our son made this year?”

How does the team assess all of these skills? How can IFSP teams easily summarize?

“Achievement measurement approaches are necessary and crucial for monitoring progress and measuring outcomes of essential skills for students in special education, such as those with autism.”

(Rubin et al. 2012)

A Solution!

Goal Attainment Scaling (GAS)

GAS is a tool to help assess and progress monitor fundamental outcomes targets essential to the success of learners with ASD, such as social-communication, adaptive, play, and behavioral skills.

What is Goal Attainment Scaling?

• a method for measuring amount of progress made on an outcome or benchmark
• compatible with measurable IFSP outcomes
• allows progress to be easily summarized across multiple outcomes, domains, or children
• supports intervention design and implementation
• used in conjunction with data collection procedures

GAS SHOUT OUTS

• GAS helped me…
  ▪ understand what the next steps were for my son
  ▪ write better outcomes
  ▪ tie strategies and adaptations to the outcome
  ▪ change how I serve infants and toddlers and families

SECTION 2: FOUNDATIONAL COMPONENTS OF DEVELOPING A GAS

Measurable IFSP Outcomes → Data Collection → GAS & Intervention design
Advantages of Measurable IFSP Outcomes

A measurable IFSP outcome is necessary for appropriate GAS development and use. Other advantages of well-written outcomes include:

- help teams pinpoint priorities for toddlers
- provide foundation for accurate progress monitoring
- guide intervention development and evaluation
- are legally defensible

Components of a Measurable IFSP Outcome

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>Specific</td>
<td># of times</td>
</tr>
<tr>
<td>With whom</td>
<td>Observable</td>
<td>Amount of time</td>
</tr>
<tr>
<td>Supports provided</td>
<td>Measurable</td>
<td>Percent</td>
</tr>
<tr>
<td>High v. low structure</td>
<td></td>
<td>Consistency</td>
</tr>
</tbody>
</table>

“When this event occurs, the learner will do this behavior(s), at this rate or level of proficiency.”

OUTCOME EXAMPLE: ANDREW

Which outcome is a highly measurable outcome?

OUTCOME EXAMPLE 1: Andrew will play more with his brother.

OUTCOME EXAMPLE 2: During a simple turn-taking game (using a ball) with his brother and given a verbal prompt, Andrew will hand the ball to his brother, 4 out of 5 opportunities.

A Highly Measurable Outcome

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>During a simple turn taking game (using a ball) with his brother and given a verbal prompt,</td>
<td>Andrew will hand the ball to his brother,</td>
<td>4 out of 5 opportunities.</td>
</tr>
</tbody>
</table>

DATA COLLECTION: ANDREW’S OUTCOME:

During a simple turn-taking game (using a ball) with his brother and given a verbal prompt, Andrew will hand the ball to his brother, 4 out of 5 opportunities.

<table>
<thead>
<tr>
<th>Date</th>
<th>Gives Ball to Brother</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/15</td>
<td>1, 0, 0, 0, 0</td>
<td>I put my hand over his the first 3 times and said “Drake’s turn.”</td>
</tr>
<tr>
<td>1/16</td>
<td>1, 0, 0, 0, 0</td>
<td>Same</td>
</tr>
<tr>
<td>1/18</td>
<td>1, 0, 0, 0, 0</td>
<td>Used hand over hand</td>
</tr>
<tr>
<td>1/19</td>
<td>1, 0, 0, 0, 0</td>
<td>Pointed to brother said “Drake’s turn”</td>
</tr>
<tr>
<td>1/21</td>
<td>1, 0, 0, 0, 0</td>
<td></td>
</tr>
</tbody>
</table>
Outcomes

- **Outcome 1:** When Mom calls “Jeff” in a typical conversational tone, Jeff will respond by stopping what he is doing and turn his head toward the speaker with supports 3x/day at home.

- **Outcome 2:** Jeff will use an appropriate attention getting strategy with prompts to indicate he wants something from the kitchen. Then, when presented with two preferred food or drink choices, Jeff will use a gesture to indicate what he wants 2/3 opportunities at home.

- **Outcome 3:** Sharon will participate in the clean-up routine by completing 50% of the clean-up for 2 out of 3 activities.

- **Outcome 4:** When playing with toys that are closed ended, Sharon will complete all steps of each toy for 3 out of 3 toys.

How to Develop a GAS

- Select learning objective/benchmark with a defined continuum of outcomes.
- Identify outcomes that reflect the five points on the continuum.
  1. Identify the current level of performance.
  2. Finalize expected level outcome
  3. Draft two benchmark
  4. Draft final benchmark (exceeds outcome)

Meet Joey:

Joey is a 2-year-old young boy who has autism who lives on a farm with parents. They live close to extended family and there are many similar age cousins. Joey’s interests: water play, being outside.

- Strengths: Joey eats most foods, extended family support parents, many peer opportunities
- Challenges: Joey doesn’t nap or sleep through the night, doesn’t sit down for family meals, parents would like to see him participate more in family routines

**CASE EXAMPLE:**

Joey’s IFSP team, including his family, met. Joey is a good eater, but not at the table. Mom and Dad find it very exhausting to watch Joey and try to have family time together. It is especially difficult on weekends when the extended family dine together. The family likes to eat outside on the patio for Sunday dinners. When eating outside, Joey tries to run down to the creek and will not eat as well as he does when he is inside.

The IFSP team wrote the following outcome:

**From Outcome to Observable and Measurable Outcome**

IFSP Outcome: Joey will join the family for meals at the dinner table on the weekends.

- What will this look like? How will we know when Joey is and is not meeting this outcome?
- How long do we want Joey to do this?
- How often do we want Joey to do this?
- What is a reasonable expectation of success?
Case Example: Joey's Data

<table>
<thead>
<tr>
<th>Date</th>
<th>Mom &amp; Dad/</th>
<th>Time at Table (min)</th>
<th>Notes (e.g., ate, played, what helped, what was hard?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/27/11</td>
<td>Mom &amp;/or Dad Extended</td>
<td>2min</td>
<td>Ate for a min with airplane in his hand used airplane to move Joey to table for another min with mom giving airplane after every bite</td>
</tr>
<tr>
<td>5/28/11</td>
<td>Mom &amp;/or Dad Extended</td>
<td>1min</td>
<td>What do we do when dinner is not ready but he's ready to eat? Had to put food on table but mom wasn't ready to sit and help</td>
</tr>
</tbody>
</table>

SECTION 3: STEPS IN THE GAS PROCESS

Step 1: Review IFSP outcomes
Step 2: Determine present levels of performance
Step 3: Develop each outcome into a goal attainment scale
Step 4: Implement EBPs and evaluate

GAS Process Step 1. Review IFSP Outcomes

Review the toddlers IFSP outcomes with parents, early interventionist, and service coordinator. Identify priority outcomes or skills to target.
- must align with the annual IFSP
- must be observable and measurable
- must be agreed on by family and team
Make modifications to IFSP as needed

GAS Process Step 2. Determine Present Level of Performance

Ensure present levels are:
- highly observable and measurable
- accurate, using clear procedures for measurement
- reflective of the level of performance
- inclusive of any current prompting strategies, settings, persons, materials, etc. that may affect present levels of performance.
- summarized through meaningful data collection.

GAS Process Step 3. Scaling the Outcome

Establish a five point range of performances:
- Current level of performance (present level)
- Initial objective (benchmark)
- Secondary objective (benchmark)
- Expected level of outcome (annual outcome)
- Exceeds outcome

Considerations when scaling outcomes

<table>
<thead>
<tr>
<th>Dimension</th>
<th>GAS Score</th>
<th>Generalization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Frequency of skill</td>
<td>Lowest</td>
<td></td>
</tr>
<tr>
<td>Frequency of prompting</td>
<td>Highest</td>
<td></td>
</tr>
<tr>
<td>Form of prompting</td>
<td>Physical</td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td>Structured / One context</td>
<td>Unstructured / Many contexts</td>
</tr>
<tr>
<td>Person</td>
<td>An adult</td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>One set of materials</td>
<td>Variety of materials</td>
</tr>
<tr>
<td>Developmental sequence of skill</td>
<td>Lowest</td>
<td></td>
</tr>
</tbody>
</table>
PRESENT LEVEL OF PERFORMANCE (BASELINE)

During mealtimes Joey gets up from the table and comes back to it to take one bite at a time.

INITIAL OBJECTIVE

During family dinners, Joey will sit at the dining room table either eating or quietly playing with a toy for at least 5 min for 2/3 dinners.

SECONDARY OBJECTIVE

During family dinners, Joey will sit at the dining room table either eating or quietly playing with a toy for at least 10 min for 2/3 dinners.

EXPECTED LEVEL OF OUTCOME

During weekend dinners with extended family, Joey will sit at the dining room table either eating or quietly playing with a toy for at least 5 min for 2/3 dinners.

EXCEEDS OUTCOME

During weekend dinners with extended family, Joey will sit at the dining room table either eating or quietly playing with a toy for at least 10 min for 2/3 dinners.

Joey enjoys water and water play indoors and out. He engages in water play by himself. He does not participate with the family as they take care of the garden.

When watering the garden with mom or dad, Joey will follow a 3 step visual sequence (Step 3. When handed a can, water 3 plants so that each plant receives water) with verbal prompts as needed for 3 out of 4 times.

When watering the garden with mom or dad, Joey will follow a 2 step visual sequence (Step 2. Walk to garden plot while holding can filled with water; Step 3. Water 3 plants so that each plant receives water) with verbal prompts as needed for 3 out of 4 times.

When watering the garden with mom or dad, Joey will follow a 3 step visual sequence (Step 1. Hold child size can while parent fills with water; Step 2. Walk to garden plot while holding can; Step 3. Water 3 plants so that each plant receives water) with verbal prompts as needed for 3 out of 4 times.

When watering indoor plants or the garden with mom or dad, Joey will follow a 3 step visual sequence (Step 1. Hold child size can while parent fills with water; Step 2. Walk to garden plot while holding can; Step 3. Water 3 plants so that each plant receives water) with verbal prompts as needed for 3 out of 4 times.

Data Collection:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Your turn...

GAS ACTIVITY 2: Scaling an IFSP outcome

Step 1: Find a small group (2-3).
Step 2: Identify target toddler
Step 3: Identify one priority outcome.
Step 4: Develop the GAS for the priority outcome for toddler.
Step 5: Discuss practical data collection procedures, potential evidence-based practices, potential challenges, etc.
**Essential Elements for GAS**

- Measurable IFSP outcomes
- Support toddlers and providers with IFSPs
- Progress monitoring with teams
- Intervention design and implementation

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**Start/Stop/Continue**

- What do I need to
  - Stop doing
  - Continue doing
  - Start doing

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**Identifying, Selecting, & Implementing Evidence Based Practices**

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**Why we chose focused interventions?**

- We had our audience in mind – teachers and early interventionists
- Flexibility of use of EBP to address individual needs of students. Not all students benefit from a given comprehensive treatment model.
- Build on the infrastructure that exists in programs and schools (IEPs/IFSPs).
- Assist teachers/interventionists improve on their use of strategies that are widely used: prompting, reinforcement, visual supports, etc. (Fidelity)
- Demonstrate that use of EBPs can be applied universally

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**What are EBPs?**

Focused interventions that:

- Produce specific behavioral and developmental outcomes for a child
- Have been demonstrated as effective in applied research literature
- Can be successfully implemented in educational settings

(Odom, Coletti-Klingenbarg, Rogers, & Hatton, 2010)

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**Previous Research Reviews: NPDC & NAC**
**Article Review Process**

- Title Review: 29,101
- Abstract Review: 3,439
- Article Review: 1,085
- Final Check: 540

446 acceptable studies

**Studies Focusing on EI/ECSE**

- 446 Acceptable studies
- 192 Early Childhood studies
- 30 EI
- 187 ECSE

**Age of Participants in Studies**

- 0 to 2
- 3 to 5
- 6 to 11
- 12 to 14
- 15 to 18
- 19 to 22

**Outcomes**

- Social Communication
- Challenging Behaviors
- Joint Attention
- Play
- Cognitive
- School Readiness Skills
- Pre-Academic/Academic
- Motor
- Adaptive

**Update on EBPs for Infants, Toddlers with ASD and Families**

- 27 EBPs identified
- AFIRM WEBSITE [http://afirm.fpg.unc.edu/afirm-modules](http://afirm.fpg.unc.edu/afirm-modules)

Developing learning modules for the 27 evidence based practices.

**Evidence – Based Practices (2014)**

- Antecedent-based interventions
- Cognitive behavioral intervention
- Differential reinforcement
- Discrete trial training
- Exercise
- Extinction
- Functional behavior assessment
- Functional communication training
- Modeling
- Naturalistic interventions
- Parent implemented interventions
- Peer mediated interventions
- Picture exchange communication
- Pivotal response training
- Prompting
- Reinforcement
- Response interruption/redirection
- Scripting
- Self-management
- Social narrative
- Social skills training
- Structured play groups
- Task analysis
- Technology aided inst/intervention
- Time delay
- Video modeling
- Visual supports
**Evidence – Based Practices Validated for Infants & Toddlers**

- Antecedent-based interventions
- Cognitive behavioral intervention
- Differential reinforcement
- Discrete trial training
- Exercise
- Extinction
- Functional behavior assessment
- Functional communication training
- Modeling
- Naturalistic interventions
- Parent implemented interventions
- Peer mediated interventions
- Picture exchange communication

**Evidence – Based Practices Foundational**

- Antecedent-based interventions
- Cognitive behavioral intervention
- Differential reinforcement
- Discrete trial training
- Exercise
- Extinction
- Functional behavior assessment
- Functional communication training
- Modeling
- Naturalistic interventions
- Parent implemented interventions
- Peer mediated interventions
- Picture exchange communication

**What are Not - EBPs**

- Probably more than any disability, or unique set of abilities, autism has been shrouded in a treatment mystique
- Treatments are more diverse than any known disabilities
- Treatment claims range from amelioration to recovery
- Defense against the dark arts!

**“Cutting Edge Interventions for Autism” (Seri & Lyons, 2011)**

- Antifungal treatment
- Aquatic therapy
- Auditory Integration Therapy
- Chelation Removal of Toxic Metals
- Craniosacral and chiropractic therapy
- Dietary interventions
- Hyperbaric oxygen therapy
- Medicinal marajuana
- Neuroimmune dysfunction and antiviral therapy
- Sensory gym
- Traditional and indigenous healing
- Stem cell therapy
- Transcranial Direct Current Stimulation

**What We Know**

- Current research shows that as many as 1/3 of parents have tried complementary or alternative medicine treatments, and up to 10% may be using a potentially dangerous treatment
- Such as:
  - Chelation
  - Hyperbaric oxygen therapy
  - Miracle Mineral Solution (MMS)

**How do we talk to families about EBPs and other CAM treatments?**

- **EBP**
- **No Evidence of Benefit or Harm**
- **No Evidence and Likely Impact Family Resources**
- **Known to be Harmful**
Evaluating Options – Questions for Parents to Ask

- What is the purpose of the practice? How will my child benefit? For how long?
- What do I have to benefit? How long must child be involved to benefit?
- Has this practice been scientifically studied? How do I know the results?
- Potential harm – physical, psychological to child?
- Family cost – time and money? Is the cost fair/reasonable?
- How are practitioners trained?
- Any legal actions current or past against those promoting this practice?
- If I choose this practice, what alternatives am I not pursuing?

Adapted from: http://www.autism-society.org/living-with-autism/treatment-options/evaluating-options/

Talking to Families about EBPs

- What are EBPs?
  - Difference between EBPs and programs (e.g., ABA practices vs. Discrete Trial program)
- Why EBPs?
  - We know they work
  - We know we can implement them effectively
  - We can see if child is making progress and shift if needed
- Where to find EBPs?
  - Coming up...
- How to use EBPs?
  - Coming up...

EBP – Self-Check

- Take out EBP list and EBP definitions
- Check off those that you use and feel confident you are implementing effectively
- Circle those that you aren’t using but would like to learn how to implement
- Write 3 of the ones you want to learn about

Start/Stop/Continue

- What do I/my team need to
  - Stop doing
  - Continue doing
  - Start doing
- What do I/my team need to learn?
- What resources do I/we have?
- What resources do I/we need?
- Who can coach me/us through implementation?

The EBP Process

- Select EBP
- Implement EBP
- Assess Progress

The EBP Process

- Select EBP
- Implement EBP
- Assess Progress
Think About:
Child _______________________________
1 priority outcome ______________________________

When Selecting EBP Consider:
Child & Family Characteristics
Clues found in Outcome

EBP

EI Provider/Team Characteristics
Other Resources Available

Aiden will engage in 3 different play sequences by following 3 step sequence independently for 3 out of 4 opportunities.

- 2 year old
- Early intervention in home
- Enjoys cars in stereotypic ways
- Follows a model

EBP(s):

- EI provider has great interactions with Aiden
- EI provider is TEACCH trained
- Creates nice materials like task boxes
- Dad excited to implement anything and everything at home

When Selecting EBP Consider:
Child & Family Characteristics
Clues found in Outcome

EBP

EI Provider/Team Characteristics
Other Resources Available

Joey will be in bed (no wandering or opening/closing drawers) by 9:30 for bedtime routine of reading with Mom or Dad on 5 out of 5 week nights. Lights go out and Joey is quiet by 10:00.

- 2 year old
- Early intervention in home
- Very active boy
- Enjoys book reading – he delights in the pictures

EBP(s):

- EI provider has a strong, positive relationship with family
- EI provider and SLP work together to support family
- SLP has strong skills in developing visual supports
- Mom is very motivated to change bedtime dynamic
- Parents are welcoming of interventionists into their home as long as helpful for Joey

When Selecting EBP Consider:
Child & Family Characteristics
Clues found in Outcome

EBP

EI Provider/Team Characteristics
Other Resources Available

Upon seeing a desired item or activity that Jacob has limited access to, Jacob will spontaneously name the item (example - say “yogurt”, “gummy”, “pillow”, “swing” or “jump”) before receiving a small portion or 45 seconds of the activity at least 20 times a day 7 out of 7 days a week.

Liam will take turns with his brother playing with cars and basketball hoop with mom or dad prompting 2 times a day for 3 out of 7 days per week.

Jory will *stop* what she is doing within 5 seconds of being told to do so 5 out of 10 times a day without prompting.

With items in sight but out of reach, Jaime will sign, say or exchange a picture from a notebook or folder for 5-10 reinforcing items spontaneously at least 15 times per day, 6 of 7 days per week.

Throughout the day, between periods of direct 1:1 interaction, Gaetano will engage in independent, constructive play, entertaining himself for 10 minutes 3 of 5 times.
Child: ______________________
Outcome: ____________________
EBP(s): ______________________

The EBP Process

Select EBP
Implement EBP
Assess Progress
- Student
- Implementor

Processes for Implementing EBPs
1. Measurable Outcomes
2. Identify prerequisite/foundational EBP
3. Determine setting for implementation
4. Implementers
5. Materials needed
6. Collect baseline data
   - Toddler outcome
   - Fidelity

Now What?
How do you know what you don’t know?
How do you fill in that gap?

When learning something new...
► Do It Yourself
► Training
► Coaching

DIY
Evidence-based Practice Resources

- EBP Briefs (http://autismpdc.fpg.unc.edu)
- Overview
- Evidence Base
- Steps for Implementing
- Implementation Checklist
- Sample Data Collection Forms (optional)
- Afirm - AFIRM WEBSITE
  http://afirm.fpg.unc.edu/afirm-modules
- Autism Internet Modules (http://www.autisminternetmodules.org)
- EI Specific Resources (http://autotoddler.fpg.unc.edu/)

Example: Step-by-Step Directions

How to Use...

Self
Team
Family

How to Use EBP Guide

Example: Implementation Checklist

Afirm Learning Modules

http://afirm.fpg.unc.edu/node/137
Autism Internet Modules

ASD Toddler Learning Modules

How to Use...

Self
Team
Family

ASD Toddler – Parent Guides

Parent & Practitioner Guide to Prompting

Prompting is...

When learning something new...

Do It Yourself
Training
Coaching
1. **Planning**
   - Choose skill/behavior
   - Collect baseline data
   - Make specific decisions related to EBP

2. **Implementing**
   - Check your fidelity of implementation related to that EBP

3. **Monitoring**
   - Collect data on child/family progress and your/parent’s implementation

---

**Who uses prompting?**

- Verbal, verbal, verbal
- Physical, physical, physical
- No wait time
- Inappropriate prompts
- Not catching errors
- Response to learner not immediate
- Prompts not faded effectively

---

**Goals of Prompting**

An efficient and effective way to provide instruction to toddlers with ASD that:

- maximizes their success and increases their generalized use of target skills
- is based on errorless learning (procedures designed to reduce incorrect responding as learners acquire new skills)

Prompting often used in conjunction with EBPs, such as time delay & reinforcement and are an integral part of other EBPs (e.g. Naturalistic interventions, PRT)
Target Skills Addressed

- Discrete skills
- Chained skills or skills that require multiple steps
- Examples:
  - Imitation of gestures or movement,
  - Requesting objects, toys, etc.
  - Teaching play and self-help routines

Deciding on a Prompting Procedure

**Least to Most**

- Using target skill, but not consistently
- Had skills but now is not using them
- Appropriate for:
  - Discrete skills
  - Chained skills
  - Response classes
  - Imitating adults or peers
  - Imitating social interactions

**Graduated Guidance**

- Easily embedded within ongoing routines and activities
- Only chained behaviors with a physical component
- Putting on coat to go outside
- Washing hands
- Requires adult to make decisions about location and intensity of prompt during the “trial”

Steps for implementation – least to most

- Physical – hand-over-hand (full or partial)
- Gestural – gesture signal
- Model – show what to do (full or partial)
- Visual – pictorial/written cue/object
- Verbal – spoken words/signs
- Controlling prompt – one that results in learner doing behavior correctly
What did you notice?

- What were the prompts used?
- What was the hierarchy?
- How would you do differently?

Graduated Guidance Example

Sorting Colored Blocks

Collecting Data – Discrete Skills

Table 1-A. Example Data Collection Sheet for Discrete Skills. Target skill: Requesting crackers at snack by handing photo of cracker box to adult. Target stimulus: Box of crackers on table and empty bowl. Key: + = correct; - = incorrect; 0 = no response, P = prompted, UP = unprompted

<table>
<thead>
<tr>
<th>Trial</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>3</td>
<td>UP</td>
<td>-</td>
<td>0</td>
<td>- +</td>
</tr>
<tr>
<td>Summary</td>
<td>0 correct</td>
<td>0 correct</td>
<td>0 correct</td>
<td>3 correct</td>
</tr>
</tbody>
</table>

Collecting Data – Chained Skills

Table 1-B. Example Data Collection Sheet for Chained Skills. Target skill: Washing hands. Target stimulus: Box of crackers on table and empty bowl. Key: + = correct; - = incorrect; 0 = no response, P = prompted, UP = unprompted

<table>
<thead>
<tr>
<th>Trial</th>
<th>Level 1 (Independent)</th>
<th>Level 2 (Verbal)</th>
<th>Level 3 (Model)</th>
<th>Level 4 (Physical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>3</td>
<td>UP</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Summary</td>
<td>Correct</td>
<td>Incorrect</td>
<td>No response</td>
<td>No response</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>12.5%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Collecting Data with Families

- Least amount of effort for the most information gained
- Parent’s preferred mode most likely to work
  - Tally Sheet
  - Testing you
  - Diary
  - Taking video and you mark
  - App
- Search engine for apps: https://www.autismpeaks.org/autism-apps

Common Problems and Solutions

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child consistently makes errors at the final level in the prompting hierarchy.</td>
<td>The practitioner/parent selects a new, more controlling prompt that will ensure that the child uses the skill correctly.</td>
</tr>
<tr>
<td>Child consistently makes errors at an intermediate level in the prompting hierarchy.</td>
<td>The practitioner/parent (a) increases the number of levels in the hierarchy (use an additional prompt), (b) selects a new type of prompt, or (c) examines the difficulty of the task.</td>
</tr>
<tr>
<td>Child consistently waits for a prompt instead of attempting to respond to the independent level after several sessions of instruction.</td>
<td>The practitioner/parent differentially reinforces prompted and unprompted correct responses. OR eliminates reinforcement for prompted correct responses.</td>
</tr>
<tr>
<td>Child consistently fails to respond at any level, including the final level.</td>
<td>The practitioner/parent finds a more powerful reinforcer.</td>
</tr>
</tbody>
</table>

Adapted from Wolery, Ault, & Doyle (1992)
Avoid Prompt Dependence

Prompt Dependence
- Child does not respond until a prompt is delivered by adult.
- Avoid the following:
  - inconsistent target stimulus
  - Not waiting for a response from the child before prompting,
  - unnecessary prompts
  - not effectively fading the use of the prompts.

Fading
When high levels of prompting are used, toddler may appear to be learning but may be prompt dependent.
- Fading should be determined by monitoring toddler’s unprompted and prompted correct responses
- Reduce/fade prompts and/or increase wait time gradually and systematically from most to least
- Reduce/fade prompts as quickly as possible

Parent Implementation & Prompting
- Why might prompting be challenging for parents to implement?
- How might you address these challenges?

PII Strategies
- Coaching with self-reflection and feedback
- Written information
- Direct instruction
- Video analysis
- Role-playing feedback
- Modeling the practice

Start/Stop/Continue
- What do I/my team need to
  - Stop doing
  - Continue doing
  - Start doing
- What do I/my team need to learn?
- What resources do I/we have?
- What resources do I/we need?
- Who can coach me/us through implementation?
Reinforcement

Promoting

Naturalistic

Who uses reinforcement?

Common Uh-Oh’s

- Staying on primary reinforcer
- Reinforcer not actually motivating
- “He doesn’t like anything”
- Not giving immediately
- Not changing schedule
- Reinforcer always available

2 Types of Reinforcement

Positive Reinforcement

- Present reinforcer after a learner uses a target behavior
- Primary (e.g., food, liquids, comfort) or secondary (e.g., verbal praise, highly preferred activities, stickers, toys)
- Primary reinforcers often naturally reinforcing
- The value of secondary reinforcers must be learned by pairing primary reinforcers with other types of reinforcement

Negative Reinforcement

- Removal of a stimulus (i.e., something that is aversive to the learner) after child uses a target behavior or skill.
- Learners work to get rid of something that is unpleasant to them.
- Often used to teach skills to replace challenging behavior
- Often used when positive reinforcement not proven effective for a toddler

Key to Reinforcement

Reinforcement is most likely to be effective when it:

- Immediately follows the target behavior
- Give reinforcer
- Remove mildly aversive situation
- Fits the target behavior
- Is meaningful to the child with ASD
- Is used in conjunction with other reinforcers
Steps for Implementation – Positive Reinforcement

Determining what reinforces a child

Identifying Positive Reinforcers

Primary
• Satisfy a physical need
• Food, liquids, sleep

Secondary
• Objects or activities the child has grown to like

Natural
• Naturally-occur as a direct result of using the target behavior
• Provided more easily and available to learner after target skill/behavior learned.

Reinforcer Assessments

Creating preference lists (e.g., reinforcer checklists, reinforcer menus);
Observing the learner;
Interviewing family members;
Interviewing other practitioners.
Avoid Satiation!

Menu of reinforcers
- After conducting reinforcer sampling observation and/or informal/sight observation keep a list of the reinforcers identified.

Pair reinforcers
- If the child uses up a reinforcer too quickly or uses only one type of reinforcer, then both should be used.

Teach during several short sessions
- Several short sessions helps to ensure that the child doesn’t lose all of the reinforcer before he has enough opportunities to practice the skill.

Avoid using edibles, if they must be used, use a variety.
- Avoid using the same reinforcer, choose a new one.

Schedules of Reinforcement

- Continuous Reinforcement
  - reinforcement of all instances of target behavior
- Intermittent Reinforcement
  - reinforcement after some but not all instances of target behavior
- Fixed/Variable Ratio
  - Reinforcing every x number of behavior/skills
- Fixed/Variable Interval
  - Reinforcing after same/different times

Which One?

- Buying a scratch lottery ticket and winning
- Checking for the mail when the mailman is extremely unpredictable
- A charity makes an average of 15 phone calls for every donation received
- Checking the oven to see if cookies are done when baking is time is known
- Calling a garage mechanic to see if your car is fixed yet
- Your paycheck

Common Problems and Solutions

Potential Reason
- The reinforcer of value to the child?
- How do you know?
- The reinforcer is turned over?
- Is the reinforcer of value to the child?
- Is the schedule of reinforcement inconsistent with what the child needs?
- Are you unsure if the reinforcer is working?

Possible Solutions
- Conduct reinforcer sampling to identify reinforcers that the child prefers and ones that he or she doesn’t.
- Only use the specific reinforcer when expecting the child to use a specific behavior skill. For example, if using an edible like crackers only have them available when working with the child on the specific skill. Don’t provide crackers for snack time before working on skill.
- Shift from primary reinforcer to secondary reinforcer as soon as possible and pair them from the beginning.
- For example, if using an edible like crackers only have them available when working with the child on the specific skill. Don’t provide crackers for snack time before working on skill.
- Shift from primary reinforcer to secondary reinforcer as soon as possible and pair them from the beginning.
- The child doesn’t move the candle or the spooner from the beginning. Do not move the candle or the spooner from the beginning. It is easier to move the candle or the spooner from the beginning.

Monitoring Progress

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Task</th>
<th>Reinforcer</th>
<th>Reinforcer</th>
<th>Level of Difficulty</th>
<th>Level of Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/13/15</td>
<td>10:00</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
<tr>
<td>7/13/15</td>
<td>10:15</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
<tr>
<td>7/13/15</td>
<td>10:30</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
<tr>
<td>7/13/15</td>
<td>10:45</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
<tr>
<td>7/13/15</td>
<td>11:00</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
<tr>
<td>7/13/15</td>
<td>11:15</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
<tr>
<td>7/13/15</td>
<td>11:30</td>
<td>Yell</td>
<td>Bell toy</td>
<td>Bell toy</td>
<td>Beginner</td>
<td>Low</td>
</tr>
</tbody>
</table>

Parent Implementation & Reinforcement

- Reinforcer isn’t available until used to work on skill/behavior
- Reinforcer is available when child uses target skill/behavior
- Child has opportunity to work on skill/behavior so that she can be reinforced
- Reinforcing the target skill/behavior
- Not reinforcing the non-preferred skill/behavior
**PII Strategies**

- Coaching with self-reflection and feedback
- Written information
- Direct instruction
- Video analysis
- Role-playing feedback
- Modeling the practice

---

**Video**

- How was reinforcement used?
- How were PII strategies used?
- Feedback for mom?
- Feedback for EI provider?

---

**Who uses naturalistic strategies?**

**Naturalistic**

**Common Uh-Oh's**

- Over-leading
- Not finding opportunities to manipulate environment
- Not finding opportunities to embed practices throughout child's day
- Over-prompting
- Under-prompting
- Not reinforcing immediately

---

**Goals of Naturalistic Practices**

- A collection of practices that include:
  - environmental arrangement,
  - interaction techniques,
  - behavioral strategies.
- Implemented in the natural environment during daily routines and activities to facilitate generalized use of target skills.
- Designed to address a toddler's target skills by using their interests to guide instruction
- Used to build more complex skills that are:
  - naturally reinforcing and
  - appropriate to the interaction.
Target Skills Addressed

Naturalistic intervention is most often used to facilitate the following language/communication skills:

- expressive vocabulary,
- speech intelligibility,
- gesture use,
- shared attention, and
- turn-taking.

Examples of Target Skills

1. Connor will use a point to request items that have been placed on a high shelf.
2. Anna will request a snack by saying “snack”, or approximating the type of snack “ap” for “apple” or pointing to her snack.
3. James will initiate play with his mother or sister by saying “mama” or “Ana”.

Identifying Contexts for Intervention

- Naturalistic intervention takes place:
  - throughout the day and
  - within the context of daily routines/activities.

Find Opportunities

- Take one of the IFSP Outcomes
  - Are naturalistic interventions appropriate to work on outcome?
    - Why?
    - Why not?
  - If yes, identify 3 opportunities for parents to implement naturalistic interventions
    - Where would you start? Why
  - RETURN at 3:30 from Snack 😊

Steps for Implementation – Naturalistic Interventions
Some Key Steps

Arranging the Environment to Elicit the Target Skill

Early interventionists use and coach parents to use environmental arrangement strategies:

- choosing motivating materials/activities;
- managing teaching materials in a way that encourages toddlers to communicate; and
- arranging the intervention context to encourage the use of the target skill and maintain the toddler’s interest.

Motivating Toddlers to Communicate

- Motivating materials:
  - have multiple parts (e.g., legos, shape sorter)
  - are added onto another activity (e.g., adding animals to blocks, favorite blanket to play with dolls),
  - require adult/peer assistance (e.g., having lid on bubbles, placing pencils on high shelf), and
  - encourage turn-taking (e.g., throwing a ball, card games).

Managing and Distributing Materials

- To encourage toddlers to communicate, materials should be managed by a communicative partner (i.e., provider, parent, sibling).
- The communicative partner is the “keeper of the goods”

Examples:
- Providing too few paintbrushes
- Having sibling pass out snack to family, but waiting for toddler to request
- Others?

Arranging the Intervention Context

Early interventionists arrange and coach family to arrange the intervention context to promote use of target skills.

Examples:
- Placing preferred items/materials visible, but out of reach (e.g., clear bin of match box cars on high shelf)
- “Forgetting” to provide a necessary item for an activity (e.g., not turning on Thomas the train, missing bubble wand)
- Including novel materials into a familiar activity (e.g., different animals in water table)
Naturalistic Interventions In Action

- What did you notice?
- What aspects of Naturalistic Interventions were implemented?
- What could have been enhanced, changed...?
- How could the interventionist use this moment to coach the toddler’s mom?

PII & Naturalistic Interventions

- Parents may need support recognizing opportunities in their routines/activities
- Parents may not notice how much they anticipate and meet their child’s needs
- Coach parents in allowing child to have needs and to communicate these
- Parents may need coaching with immediacy
- Prompting and responding with request
- Other likely issues?

Using Data to Monitor Toddler Progress

- Language samples
- Frequency data

Let’s Put it Together
Watch for Evidence of Each

Prompting
Naturalistic
Reinforcement

PII Strategies

- Written information
- Direct instruction
- Role playing feedback
- Video analysis
- Coaching with self-reflection and feedback

Video

- What EBP?
- What PII Strategies?
- What feedback to mom?
- What feedback to EI provider?
When Selecting an EBP Consider:

- Child & Family Characteristics
- Provider/Team Characteristics
- Clues found in GAS
- Other Resources Available

Planning with Parents

1. Share information about the EBPs
   - Based on learning style
   - Provide examples (show video, parent guide)
   - In multiple formats
2. Opportunities for parent to ask questions
3. Plan for use of PII Strategies during Parent’s Implementation of EBP
4. Plan for when/how to provide feedback

Develop a Parent Plan

- Parent Plan for (Child’s Name)
- ITSP Outcome (Target Skill):
- Activities or Activities:
- Practice:
- How will I prepare to use the practice?
- How will I work with my team to implement?
- What might be difficult or hard?
- How will I work with my team to address those things that may be hard?
- How will I know it is working or needs to be changed?

Develop Data Plan

- Data on Child’s Skill/ Behavior
  - Type depends on target skill:
    - Anecdotal notes
    - Frequency count
    - Rating scale of frequency of behavior
    - Duration
    - Video examples
    - Parent’s ability to collect information
  - Duration
  - Video examples
  - Parent’s ability to collect information

- Data on Parent’s use of EBP
  - What’s working
  - What’s not working
  - Examples – only able to do at night, relying on one form of prompting, reinforcer not working for child

Sample Forms

- What EBPs?
- What PII strategies?
- What feedback would you give mom?
- What feedback would you give the EI provider?

Video
When learning something new...

amous)

Do It Yourself

Training

Coaching

http://autismpdc.fpg.unc.edu/coaching-resources

Make an Implementation Plan

Share your plan and your first 3 actions

1.

2.

3.

Handout

Gratulieren

Logia

Merry Christmas

Thank you

Dank

Merci

Diky

Zdziekuje

Nahamu

Thank you

Dank

Merci

Diky

Zdziekuje

Nahamu

Handout