Information Overload? How to Understand and Use Evidence-based Practices for Students with Autism

MSLBD

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Learning Outcomes: At the end of the session participants will be able to:

1. define EBP and explain its core components
2. identify at least 5 critical questions to guide EBP use
3. List and describe at least 3 free EBP web resources
4. Apply the CUEing framework to plan for choosing, using and evaluating an EBP with a student with ASD

Today's Agenda

- Opening Activities
- Rationale and History
- Terminology/EBP components
- Legal mandates
- EBP reviews and process
- Guiding Questions
- User friendly web resources

Opening Activities

- Who's here?
- Activity 1: Autism Treatments
  - What is real or fake?
- Activity 2: Practices we use
  - Make a list of 3 practices that you have used with an individual with autism
  - Why do you use these practices?

Rationale

- Ethical and moral imperatives
- Legacy of ineffective, overvalued and non-validated methods
- Limited opportunities to make a difference (need for timely use of maximally effective strategies)
- How much time is lost?

Simpson, 2016

Rationale

- The R – P gap
- Evidence-based practice in other fields
- Search for the cure/treatment
- Multiple understandings of evidence
- Individualized education programs

History of ASD Practices

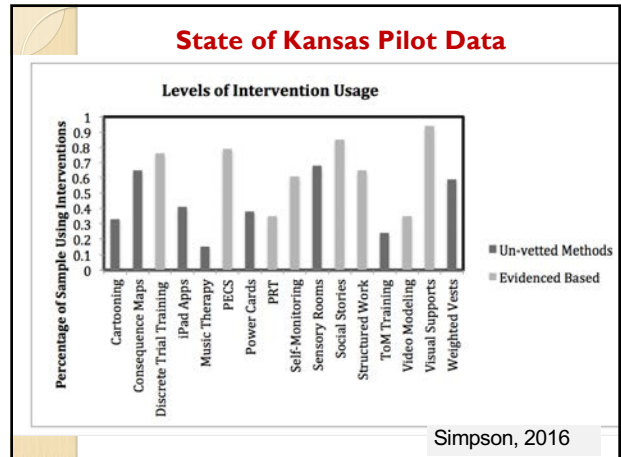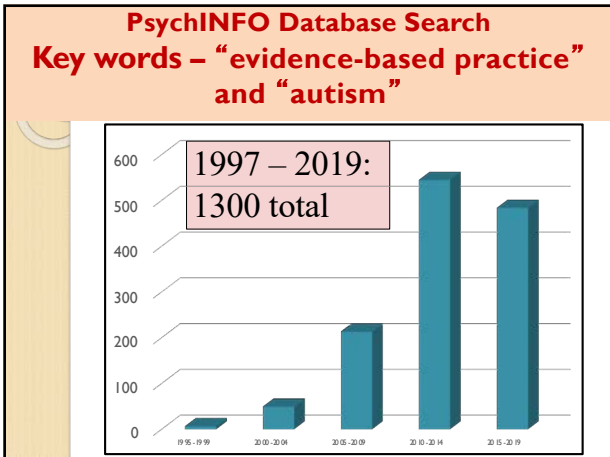Over time, practices were associated with how autism was conceptualized…

- Psychogenic
- Behavioral
- Developmental
- Neurological
- Neurobiological
- Immune
- Spectrum
- Whole body
- Condition/difference
- Other

it's not always linear, it evolves, and it's often mixed

History of ASD Practices

- Educators' decision making strategies, policy formation and judgments of effectiveness of educational techniques:
  - Personal experience and beliefs
  - Common sense
  - Expert testimony
  - Political, spiritual and administrative influence
  - Science
  - other

✓Simpson, 2016

PsychINFO Database Search
Key words – "evidence-based practice" and "autism"

1997 – 2019: 1300 total

State of Kansas Pilot Data

Levels of Intervention Usage

Simpson, 2016

Terminology

- Evidence-based
- Peer reviewed
- Scientifically based
- Research based
- Effective
- Validated
- Established
- Promising
- Emerging
- And others…

- Teaching
- Practice
- Intervention
- Treatment
- Model
- Package
- Training
- Special Education
- And others…

EBP is typically seen in two ways

1. Programs, interventions, methods, etc. that have been proven to be effective by **rigorous research** and review standards (Cook and Odom, 2013)

2. **Process** of integration of best research evidence with other factors, such as clinical expertise, patient values, etc. (Institute of Medicine, 2001)

Prizant called these narrow and appropriate approaches to EBP (2011)

EBP

Learner's preferences, values, etc.

Professional Judgment

Research Evidence

Other Factors
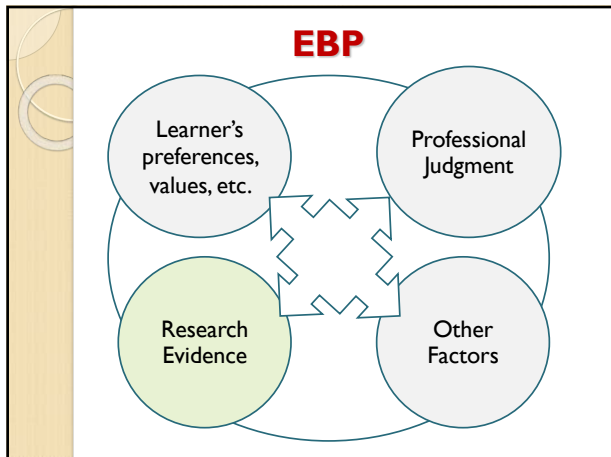
Laws Regarding Practice

- Individuals with Disabilities Education Act (est. 1975, last reauthorized 2004)
  - IEP considerations
  - Aligned with NCLB in 2004
  - Scientifically based research & practice
  - Reauthorization?

Every Student Succeeds Act (ESSA) 2015

- Reauthorization of NCLB
- The term "evidence-based" is used 62 times…
  - Evidence-based interventions, strategies, activities, professional development, programs, etc.
- Use of EB interventions, etc. is required for federal grants
- 4 categories of evidence
  - Strong, moderate, promising, "strong theory"
  - Pros and cons

Other

- Combating Autism Act 2006 →
- Autism Collaboration, Accountability, Research, Education, and Support Act (CARES Act 2014) – possibly reauthorized this year
- State level legislation
- Insurance
- https://www.autismspeaks.org/state-initiatives

Research Evidence?

- Types of research
  - Experimental group design
  - Single case study
  - Other
- Rigor
  - Methods, validity, etc.
- Types of research reviews?

Types of EBP Reviews

- Literature reviews or meta-analyses of one particular intervention or method
- Reviews of a single area/domain
- Broad reviews of a range of ASD practices. These include evaluations of comprehensive programs or focused interventions or both.

Some History…

- Initial
- Lovaas
- Textbooks
- Advocacy
- States
- Major reviews
- Other

Committee on Educational Interventions for Children with Autism – National Research Council 2001

- birth to 8
- diagnosis & assessment
- role of families
- educational goals
- effective interventions
- public policy
- personnel preparation
- research
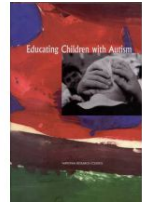
Components of an effective program include…

- Early intervention
- Active engagement in intensive programming
- Full day or equivalent, 5 days week, year round
- 15-20 minutes intervals of planned activities
- 1:1 or small group to meet individual needs

(National Research Council, 2001, p.6)

Focus of interventions include…

- Functional, spontaneous communication
- Social instruction
- Cognitive development
- Play skills
- Proactive approaches to problem behaviors

(National Research Council, 2001, p.6)

Methodology Choices and Students with ASD

1. Programs based on effective methods
2. Provision of appropriate intensity
3. Emphasis on meaningful outcomes
4. Creation of an individualized program
5. Documentation of student progress

Simpson, 2016

Examples of EBP Reviews

- Simpson et al. (2005). ASD: Interventions and Treatment for Children and Youth.
- National Autism Center (NAC). (2009). Evidence-Based Practice and Autism in the Schools.
- Reichow et al. (2011). Evidence-Based Practices and Treatment for Children with Autism.
- Young et al., Centers for Medicaid and Medicare Services (CMS). (2010). ASD Services: Final report on Environmental Scan.

Examples of EBP Reviews

- Wong et al., National Professional Development Center (NPDC). (2010). Evidence-Based Practices for Children, Youth and Young Adults with ASD.
- Weitlauf et al., Agency for Healthcare Research and Quality (AHRQ). (2014). Therapies for Children with ASD: Behavioral Interventions Update.
- Volkmar et al., American Academy of Child and Adolescent Psychiatry (AACAP). (2014). Practice Parameter for the Assessment and Treatment of Children and Adolescents with ASD.

Review Considerations

- Review differences
  - Focus
  - Gender
  - Race/ethnicity
  - Age
  - Other

Let's look at one review…

Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder

Connie Wong, Samuel L. Odom, Kara Hume, Ann W. Cox, Angel Fettig, Suzanne Kucharczyk, Matthew E. Brock, Joshua B. Plavnick, Veronica P. Fleury, and Tia R. Schultz

Wong et al., 2015

- In 2010 the NPDC published its findings of a rigorous literature review
- Deemed 24 focused interventions as EBP across 6 different domains
- Created guidelines, implementation checklists and collaborated with OCALI on web-based training modules

Online Resources

- Ohio Center for Autism and Low Incidence (OCALI)
- AIM   https://autisminternetmodules.org
- ASD Strategies in Action
https://autismcertificationcenter.org

Wong et al., 2015

- 2015 update - reviewed focused behavioral, educational or developmental interventions for children and youth ages birth to 21
- Reviewed literature (1990– 2011) with strict criteria and rated each method as: EBP or other interventions with some support

Wong et al. Findings

- Included information on definitions, outcomes, and participants for:

- 27 **EBP** including reinforcement, prompting, DTT, time delay, modeling, PECS, etc.

- 24 **other interventions with some support** including music therapy, sensory diet, touch therapy, AIT, direct instruction, etc.

- **Activity #3**

Online Resources

- NPDC on ASD https://autismpdc.fpg.unc.edu

- AFIRM Modules https://afirm.fpg.unc.edu

- NCAEP https://ncaep.fpg.unc.edu

What are the anticipated outcomes of the option?

1. Do outcomes promoted by an option match a student's identified needs?

2. Does the option promote significant educational gain or merely address symptoms?

3. How similar is the student to others who have benefited from the approach?

Simpson, 2016

What are the potential risks?

1. Are there health or behavioral risks for the student?

2. Are there risks for parents/families and/or school personnel?

3. What impact will the treatment have on the quality of life for the student and his family?

4. If the treatment/intervention fails, what are the implications?

Simpson, 2016

How will the method be evaluated?

1. How will progress be demonstrated?

2. How frequently will the intervention be evaluated?

3. Who will conduct evaluations?

4. What criteria will be used to determine if a treatment should be continued or discontinued"

Simpson, 2016

What proof exists to support the efficacy of the method?

1. Is the treatment published in peer-reviewed journals?

2. Does efficacy information come from a variety of sources?

3. Are the studies validating effectiveness of high quality?

4. Is empirical validation available, or does support come primarily from personal testimonials?

5. Do proponents claim the option has universal utility?
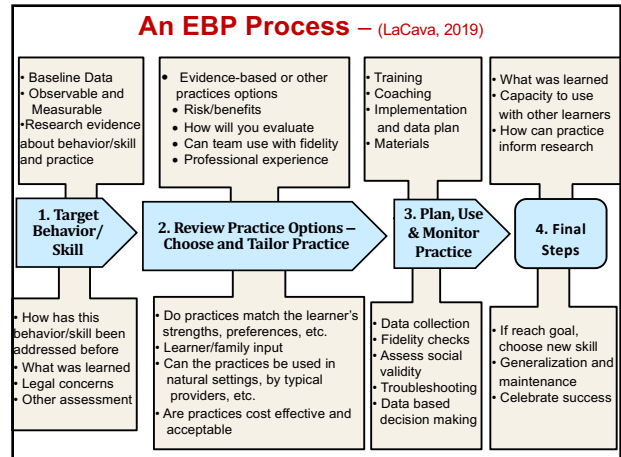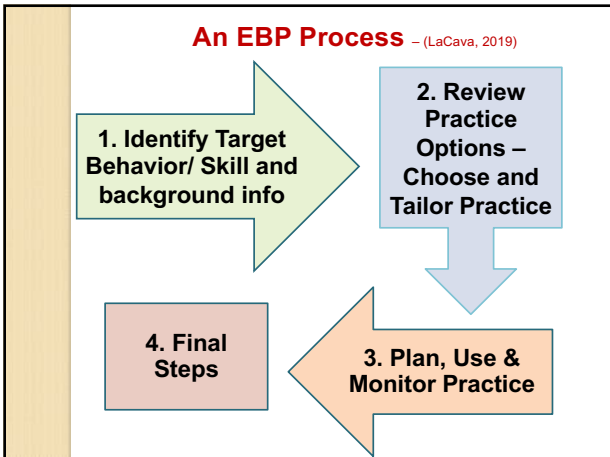
Simpson, 2016

What options would be excluded if a particular method was adopted?

1. How does the treatment rate in terms of restrictiveness and intensity?
2. Are there less restrictive/intensive alternatives that may be equally effective?
3. Are there other options that are better researched than this one?
4. Does the treatment option consider the functional communication and socialization needs of the student?

Simpson, 2016

An EBP Process

- Integrates all of the EBP elements, critical questions to ask, etc. into a process
- Based on the work of: LaCava & Shogren, 2012, LaCava & Simpson, 2016; NAC, 2015; NPDC, 2015; Prizant, 2011; Reichow et al., 2010, Simpson, 2016; Simpson et al., 2005

An EBP Process – (LaCava, 2019)

1. Identify Target Behavior/ Skill and background info

2. Review Practice Options – Choose and Tailor Practice

3. Plan, Use & Monitor Practice

4. Final Steps

An EBP Process – (LaCava, 2019)

- Baseline Data
- Observable and Measurable
- Research evidence about behavior/skill and practice

- Evidence-based or other practices options
- Risk/benefits
- How will you evaluate
- Can team use with fidelity
- Professional experience

- Training
- Coaching
- Implementation and data plan
- Materials

- What was learned
- Capacity to use with other learners
- How can practice inform research

1. Target Behavior/ Skill

2. Review Practice Options – Choose and Tailor Practice

3. Plan, Use & Monitor Practice

4. Final Steps

- How has this behavior/skill been addressed before
- What was learned
- Legal concerns
- Other assessment

- Do practices match the learner's strengths, preferences, etc.
- Learner/family input
- Can the practices be used in natural settings, by typical providers, etc.
- Are practices cost effective and acceptable

- Data collection
- Fidelity checks
- Assess social validity
- Troubleshooting
- Data based decision making

- If reach goal, choose new skill
- Generalization and maintenance
- Celebrate success

Rationale for Practices: Get the Point?

Consider the following EBP factors. How strong are they? How much evidence is there to support their use? What capability is there for you to implement them?

Individualization
Data collection
Supporting theory
Match with learner characteristics
Match with learner strengths
Learner and family input
Professional experience
Intervention fidelity
Natural settings
Risks/benefits
Acceptability
Research
Cost
?

Weakest--Strongest

The CUEing Process Worksheet

Choosing, Using, and Evaluating Evidence-based Practices (EBP) for Students with Autism

Student _____ Date _____
Target behavior/skill _____ Related to IEP Goal ___ BIP ___
Observable and measurable definition of target behavior/skill _____

A. Background Information – answer each question and then add details as needed in the space provided

1. Have you taken baseline data on the target behavior/skill?   YES / NO

2. Have you considered how this target behavior/skill has been addressed in the past (practices used, results, etc.)?   YES / NO

3. Have you considered any relevant legal factors?   YES / NO

4. Is a functional behavior assessment, task analysis or other assessment needed?   YES / NO

B. Choosing EBP

1. Have you reviewed the research evidence for this target behavior/skill?   YES / NO
2. Which reviews have you used, will you use?
   - Evidence-based Practices for Children, Youth and Young Adults with ASD, National Professional Development Center on ASD (Wong et al., 2014)   ___
   - National Autism Center's National Standards Project Phase 2 (2015)   ___
   - Other ___

DRAFT

Research on CUEing EBP

3 Phase study in RI

- Phase 1 = Qualitative study 2018-19
- Phase 2 = Survey 2019
- Phase 3 –focus groups and coaching 2020

Research on CUEing EBP

- Phase 1 = Qualitative study 2018-19
- N = 15 educators in RI
- 7 have completed the study so far
- Used CUEing EBP with at least 1 student with ASD
- All believed the process was valid, that it helped them think about what they do, make decisions, take better data, access resources

Research on CUEing EBP

- Most identified practices used – social stories, video modeling, visuals
- Biggest barriers identified – time, funding, administrative support, lack of training
- Educators suggested making the process worksheet more usable, and putting the document in an online format

Keeping the Door Open for Innovation and Advancement

Balance Current Push for EBP Use and Innovation/Pioneering

Search for New Effective Interventions

Examples:
- ✓ Power Cards
- ✓ Consequence Maps
- ✓ Incredible 5-Point Scale

Simpson, 2016

Online Resources

- National Autism Center
  http://www.nationalautismcenter.org

- Cochrane Collaboration
  https://www.cochrane.org

- What Works Clearing House
  https://ies.ed.gov/ncee/wwc/

- IRIS Center
  https://iris.peabody.vanderbilt.edu/module/ebp_01/challenge/#content

Thank you!

Don't hesitate to share feedback and further questions…

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Activity 1: Autism Practices and Treatments

- Which methods below have been used to treat autism?

- Which of these are just jokes?

Put a check next to the methods that you believe have been used to treat autism. If you don't know what a method is circle it.

1. _____ chelation therapy

2. _____ hippotherapy

3. _____ facilitated communication

4. _____ hyperbaric oxygen therapy

5. _____ gluten-casein free diet

6. _____ auditory integration training

7. _____ weighted vests

8. _____ hug machine

9. _____ Brain Gym

10. _____ bright light therapy

11. _____ antifungal treatments

12. _____ craniosacral therapy

13. _____ camel milk

14. _____ bleach

15. _____ transcranial magnetic stimulation

16. _____ marijuana

17. _____ whip worm eggs

18. _____ hot baths

Activity 2: What Practices Do You Use?

Think about the practices you use with students with ASD. Pick 3 practices you use frequently and write them below. Next, write a rationale for why you use each one.

Practices used	Why you use them
1.	
2.	
3.	

Now think about how much research evidence supports your choices from above. Place your choices in the scale below where you think they belong in terms of having research support.

Continuum of Evidence

Weakest-------------------------------Moderate-----------------------------Strongest

Activity 3: NPDC and You

Are the 3 practices you chose in Activity 2 on the EBP list below. If yes, circle them. Then put a check next to any practice that you use on a regular basis (at least weekly).

1. _____ antecedent -based intervention

2. _____ cognitive behavioral intervention

3. _____ differential reinforcement

4. _____ discrete trial teaching

5. _____ exercise

6. _____ extinction

7. _____ functional behavior assessment

8. _____ functional communication training

9. _____ modeling

10. _____ naturalistic intervention

11. _____ parent-implemented intervention

12. _____ peer -mediated instruction

13. _____ Picture Exchange Communication System,

14. _____ Pivotal Response Training

15. _____ prompting

16. _____ reinforcement

17. _____ response interruption/redirection

18. _____ scripting

19. _____ self-management

20. _____ social narratives

21. _____ social skills training

22. _____ structured play groups

23. _____ task analysis

24. _____ technology-aided instruction

25. _____ time delay

26. _____ video modeling

27. _____ visual supports

An EBP Process – (LaCava, 2019)

- Baseline Data
- Observable and Measurable
- Research evidence about behavior/skill and practice

- Evidence-based or other practices options
  - Risk/benefits
  - How will you evaluate
  - Can team use with fidelity
  - Professional experience

- Training
- Coaching
- Implementation and data plan
- Materials

- What was learned
- Capacity to use with other learners
- How can practice inform research

1. Target Behavior/ Skill

2. Review Practice Options – Choose and Tailor Practice

3. Plan, Use & Monitor Practice

4. Final Steps

- How has this behavior/skill been addressed before
- What was learned
- Legal concerns
- Other assessment

- Do practices match the learner's strengths, preferences, etc.
- Learner/family input
- Can the practices be used in natural settings, by typical providers, etc.
- Are practices cost effective and acceptable

- Data collection
- Fidelity checks
- Assess social validity
- Troubleshooting
- Data based decision making

- If reach goal, choose new skill
- Generalization and maintenance
- Celebrate success

The CUEing Process Worksheet

Choosing, Using, and Evaluating Evidence-based Practices (EBP) for Students with Autism

Student _____   Date: _____

Target behavior/skill: _____   Related to IEP Goal _____   BIP _____

Observable and measurable definition of target behavior/skill: _____

_____

_____

A. Background Information – answer each question and then add details as needed in the space provided

1. Have you taken baseline data on the target behavior/skill?   YES / NO

2. Have you considered how this target behavior/skill has been addressed in the   YES / NO
   past (practices used, results, etc.)?

3. Have you considered any relevant legal factors?   YES / NO

4. Is a functional behavior assessment, task analysis or other assessment needed?   YES / NO

B. Choosing EBP

1. Have you reviewed the research evidence for this target behavior/skill?   YES / NO
2. Which reviews have you used, will you use?
   - Evidence-based Practices for Children, Youth and Young Adults with ASD, National
     Professional Development Center on ASD (Wong et al., 2014)   _____
   - National Autism Center's National Standards Project Phase 2 (2015)   _____
   - Other _____
     _____   _____

3. What EBP have been identified as possible options (considering skill/behavior, age, ASD severity, etc.)? If no EBP are available or chosen, write in promising or other practices you can consider.

Have You Considered the Following?

EBP Options	Unique learner strengths, interests, needs, values, etc.	Learner & family input	Professional experience & judgment	Capacity (cost, setting, personnel, fidelity, etc.)	Benefits & Risks
a.					
b.					
c.					
d.					
e.					

5. Which EBP or promising practice will you use? _____
   (explain rationale for using)

6. Explain how you will evaluate the chosen practice (who will take data, method type, how often, how will you know when to change tactics, etc.).

7. What training, coaching, resources, other supports are needed?

C. Using EBP

1. Implement chosen practice

2. Continue to collect, summarize and present data as planned

3. Troubleshoot as needed

4. Monitor treatment fidelity

5. Adjust practice as needed based on data and other factors

6. Assess social validity – was progress socially meaningful and important, was the method cost effective, did the learner, and team members accept it, was it easily implemented in natural settings, etc.)

7. Continue generalization and maintenance phases as needed

D. Final Steps

1. Celebrate successes!

2. What was learned by the team?

3. Is there capacity to use this practice with other learners?

4. How can this practice and results inform research and practice?

5. Choose new target behavior/skill

EBP Resources

EBP Resources

Cochrane Collaboration https://www.cochrane.org

IRIS Center https://iris.peabody.vanderbilt.edu/module/ebp_01/challenge/#content

NPDC on ASD https://autismpdc.fpg.unc.edu

AFIRM Modules https://afirm.fpg.unc.edu

NCAEP https://ncaep.fpg.unc.edu

National Autism Center   http://www.nationalautismcenter.org

OCALI AIM   https://autisminternetmodules.org

OCALI ASD Strategies in Action   https://autismcertificationcenter.org

What Works Clearing House https://ies.ed.gov/ncee/wwc/

The CUEing Process Worksheet

Choosing, Using, and Evaluating Evidence-based Practices (EBP) for Students with Autism

Student __Alex Smith_6 y.o. kindergartener _____ Date: __September 14, 2018_____

Target behavior/skill: __transition challenges _____ Related to IEP Goal __No__ BIP __No__

Observable and measurable definition of target behavior/skill: __When asked to stop using the computer and return to the work routine, Alex will begin by ignoring the adult, then he will say things such as, "I only need to finish this one thing," or "Just 1 more minute, OK?" and continue to use the computer. When the adult continues to prompt him to get off Alex will then get angry and melt down (fall on floor, whine, cry, and if really out of control try to hit the adult with his hands or kick with his feet). _____

A. Background Information — answer each question and then add details as needed in the space provided

1. Have you taken baseline data on the target behavior/skill? YES / NO

   Over the last week, Alex has had transition challenges on 65% of all times he uses the computer.

2. Have you considered how this target behavior/skill has been addressed in the past (practices used, results, etc.)? YES / NO

   This is a new behavior as this is the first time Alex was allowed to use the computer for fun in the kindergarten classroom as a reinforcer for completing work. Although Alex has had transition issues across other activities and times of the day.

3. Have you considered any relevant legal factors? YES / NO

   IDEA use of EBP to address needs, FBA possibly

4. Is a functional behavior assessment, task analysis or other assessment needed? YES / NO

   Possibly. At this point the team would like to implement an intervention based on what they know now and will do more assessment if needed. Alex appears to be doing these behaviors to avoid work and continue to access a preferred activity.

B. Choosing EBP

1. Have you reviewed the research evidence for this target behavior/skill? YES / NO
2. Which reviews have you used, will you use?
   - Evidence-based Practices for Children, Youth and Young Adults with ASD, National Professional Development Center on ASD (Wong et al., 2014) __X___
   - National Autism Center's National Standards Project Phase 2 (2015) _____
   - Other _____

_____ _____

3. What EBP have been identified as possible options (considering skill/behavior, age, ASD severity, etc.)? If no EBP are available or chosen, write in promising or other practices you can consider.

Have You Considered the Following?

EBP Options	Unique learner strengths, interests, needs, values, etc.	Learner & family input	Professional experience & judgment	Capacity (cost, setting, personnel, fidelity, etc.)	Benefits & Risks
a. Video modeling	X Alex loves all things screen time need to change this behavior	X family supports	X Have used before	X very low cost	X Alex could obsess on the video
b. Prompting	X		X	X	X
c. Reinforcement	X	X family uses at home	X	X	X
d.					
e.					

5. Which EBP or promising practice will you use? ___video modeling _____
    (explain rationale for using)
    Alex loves anything on a screen and staff believe it will be motivating and teach him what he needs to know.

6. Explain how you will evaluate the chosen practice (who will take data, method type, how often, how will you know when to change tactics, etc.).
Classroom teacher and assistant will take daily data on the frequency and duration of the target behavior. Will do baseline for 3 days minimum and then begin intervention. If no progress within one week will revisit and conduct more assessment as needed.

7. What training, coaching, resources, other supports are needed?

Will use classroom iPad to create video with peer from classroom. Will use fidelity checklist from OCALI modules. Will get permission from family and approval from principal first.

C. Using EBP

1. Implement chosen practice   After one week of baseline data collection (frequency – 88% of all times on the computer, duration averaged 3 to 17 minutes, avg – 8 minutes) the intervention began. Teacher showed Alex the 1 minute video prior to each time on the computer. After one week the data was showing that the frequency was down a little (to 81%) but duration remained at 7-8 minutes average. After two weeks still similar data so the team assessed the situation more.

2. Continue to collect, summarize and present data as planned   yes

3. Troubleshoot as needed   After observing specifically which programs and videos Alex was using and when the transition problems took place, it was quickly seen that if he didn't get to finish watching a video or complete the game, etc. – that was always a problem.

4. Monitor treatment fidelity – used the OCALI fidelity checklist 2 to 3 times per week

5. Adjust practice as needed based on data and other factors   Teachers tweaked the intervention and now Alex could watch the whole video. However, the video was picked by Alex and approved by the teacher prior to him watching it. He had to choose a program, game or video that would fit within the time allowed. Once this was implemented Alex's behavior changed dramatically. Frequency dropped to less than 15% of the time and durations to about 2 minutes average. The behavior was virtually extinguished when 3 weeks later the teacher added a special bonus time on the computer with a peer for every day he didn't have any transition problems.

6. Assess social validity – was progress socially meaningful and important, was the method cost effective, did the learner, and team members accept it, was it easily implemented in natural settings, etc.)   Progress was very socially meaningful as Alex was able to get back to work and stay in the classroom for longer periods of time. Peers did not see him having tantrums. Video modeling was easy to implement and very cost effective.

7. Continue generalization and maintenance phases as needed

D. Final Steps

1. Celebrate successes!

2. What was learned by the team? ==The import of individualization, precise understanding of the problem, combination of practices...==

3. Is there capacity to use this practice with other learners? ==Yes, definitely!! Hopefully video modeling will be helpful for other students for a range of skills and behaviors.==

4. How can this practice and results inform research and practice? ==See above. Teacher expressed interest in being in a research study…==

5. Choose new target behavior/skill ==on to self-help skills…==

Timeline of EBP and ASD

The following list presents highlights in EBP and specifically events related to ASD over the last 20 years.

1998 –Rogers reviews early interventions for autism and claims none meet the "well established" standard.

1999 - New York's State Department of Health publishes clinical practice guidelines for ASD.

2001 - *Educating Children with Autism* (National Research Council; NRC) reviews the literature on educational practices and creates an evaluation process.

2002 - No Child Left Behind (NCLB) mandates that instruction must have a basis in scientifically-based research (SBR).

2004 - The Individuals with Disabilities Education Improvement Act is reauthorized. SBR and "peer reviewed" terms are used to indicate schools were accountable for providing methods based in research.

2005 - The Council for Exceptional Children publishes a special issue on EBP (e.g., Horner et al. 2005; Odom et al., 2005) and presents criteria for research studies used to evaluate EBP.

2005 - Simpson et al. evaluate 33 interventions and comprehensive treatments in *Autism Spectrum Disorders: Interventions and treatments for children and youth.* Only 4 practices meet the top rating.

2007 - Rogers and Vismara review comprehensive ASD early intervention treatment models. Only Lovaas's program met the criteria of a well-established intervention.

2007 - Reichow et al. create the *Evaluative Method for Determining EBP*. This includes a process to evaluate the rigor of research, research strength, and criteria for EBP designation.

2007 – the NPDC on ASD begins their federally supported work on EBP identification and dissemination.

2008 - the Autism Society establishes the *Treatment-Guided Research Initiative*, which seeks to bring basic and practical research together to bridge the research to practice gap.

2009 – the National Autism Center (NAC) completes the National Standards Project (NSP) Phase 1 and identifies 11 established practices

2010 - NPDC completes EBP review and presents 24 focused interventions as evidence-based

2010 - Reichow and Volkmar used their evaluative method to judge the evidence for social skills interventions. Only social skills groups meets criteria for established practice.

2011 - Reichow et al.'s *Evidenced-Based Practice and Treatments for Autism* is published. This text is comprehensive in its scope and analysis of EBP and ASD.

2014 – CEC publishes Council for Exceptional Children Standards for Evidence-Based Practices in Special Education

2014 – NPDC updates their EBP review and presents 27 focused interventions as evidence-based

2015 – NAC identifies 14 established practices in the updated *Phase 2* of the NSP.

2015 - Every Student Succeeds Act reauthorizes NCLB and mandates EBP

2018 – the National Clearinghouse on Autism Evidence and Practice continues the work of the NPDC and is reviewing the ASD literature up until 2017

2018 – To date, over 300,000 people have used OCALI's Autism Internet Modules which include training on EBPs