Implementing Technology to Design Engaging Group Instruction for Students with Autism Spectrum Disorders

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Objectives:

At the end of the session, participants will be able to:

1) List at least 5 available technologies to implement during an academic group instruction

2) Describe the process of designing an engaging group activity

3) Plan a thematic unit including instructional groups for each content area

Why is Academic Engagement Important?

- Active engagement is critical for academic and social outcomes for students with and without disabilities (Carter, Sisco, Brown, Brickham, & Al-Khabbaz, 2008; Holifield, Goodman, Hazelkom, & Heflin, 2010; Iovanne, Dunlap, Huber, & Kincaid, 2003; Klem & Connell, 2004)

- Federal legislation of No Child Left Behind (2002) and the Individuals with Disabilities Education Act (2004) emphasize **high expectations** and **active engagement** as critical factors for student learning achievement. While other factors influence student outcomes, these two factors are particularly important because supporting students' academic engagement is critical as it is directly related to <u>learning</u> and, therefore, <u>improved academic and post secondary outcomes</u> (Carter et al., 2008; Iovanne et al., 2003).

How Do I Know That My Student is Engaged?

- A student is:
  - Physically oriented towards the task
  - Cognitively involved by responding to directions, providing answers to questions, and completing academic tasks
  - Emotionally invested shown by motivation, happiness, or otherwise expressed pleasure in task

Video example

Designing Engaging Group Instruction

- <u>Group instruction-</u>
  - Differentiating instruction
  - Structuring
  - Repetition/ routine
  - Interactive
  - Based on Universal Design for Learning (UDL) principles

Designing Engaging Group Instruction

- When planning, consider the following:
  - ✓ How can I make the idea more concrete?
  - ✓ How can I arrange for participatory learning?
  - ✓ How can I make the lesson more visual?
  - ✓ How can I offer an auditory learning experience?
  - ✓ How can I use community-based learning opportunities? (Mastropieri & Scruggs, 2007)

A video example of an engaging group activity

Technology solutions are important but need to be implemented through a thoughtful design…

UDL Framework
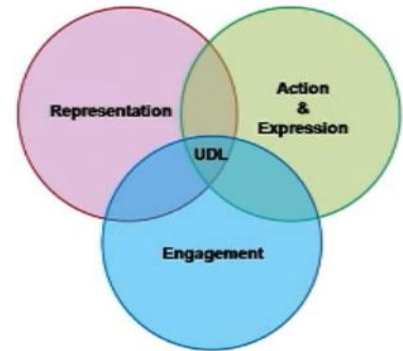
UDL Principles

"The term 'universal design for learning' means a scientifically valid framework for guiding educational practice that:

(A) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

(B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient." (U.S.C. § 1001)

UDL Framework cont'd

"Universal Design provides **equal access to learning, not simply equal access to information.**"

(Ohio State University Partnership Grants to Improve

the Quality of Higher Education for Students with Disabilities, cf.

UDL. A Guide for Teachers and Education Professionals (2005),

Council for Exceptional Children)

Universal Design for Learning Guidelines

I. Provide Multiple Means of Representation	II. Provide Multiple Means of Action and Expression	III. Provide Multiple Means of Engagement
1. Provide options for perception	**4. Provide options for physical action**	**7. Provide options for recruiting interest**
• Options that customize the display of information	• Options in the mode of physical response	• Options that increase individual choice and autonomy
• Options that provide alternatives for auditory information	• Options in the means of navigation	• Options that enhance relevance, value, and authenticity
• Options that provide alternatives for visual information	• Options for accessing tools and assistive technologies	• Options that reduce threats and distractions
2. Provide options for language and symbols	**5. Provide options for expressive skills and fluency**	**8. Provide options for sustaining effort and persistence**
• Options that define vocabulary and symbols	• Options in the media for communication	• Options that heighten salience of goals and objectives
• Options that clarify syntax and structure	• Options in the tools for composition and problem solving	• Options that vary levels of challenge and support
• Options for decoding text or mathematical notation	• Options in the scaffolds for practice and performance	• Options that foster collaboration and communication
• Options that promote cross-linguistic understanding		• Options that increase mastery-oriented feedback
• Options that illustrate key concepts non-linguistically		
3. Provide options for comprehension	**6. Provide options for executive functions**	**9. Provide options for self-regulation**
• Options that provide or activate background knowledge	• Options that guide effective goal-setting	• Options that guide personal goal-setting and expectations
• Options that highlight critical features, big ideas, and relationships	• Options that support planning and strategy development	• Options that scaffold coping skills and strategies
• Options that guide information processing	• Options that facilitate managing information and resources	• Options that develop self-assessment and reflection
• Options that support memory and transfer	• Options that enhance capacity for monitoring progress	

Multiple Means of Representation and Expression
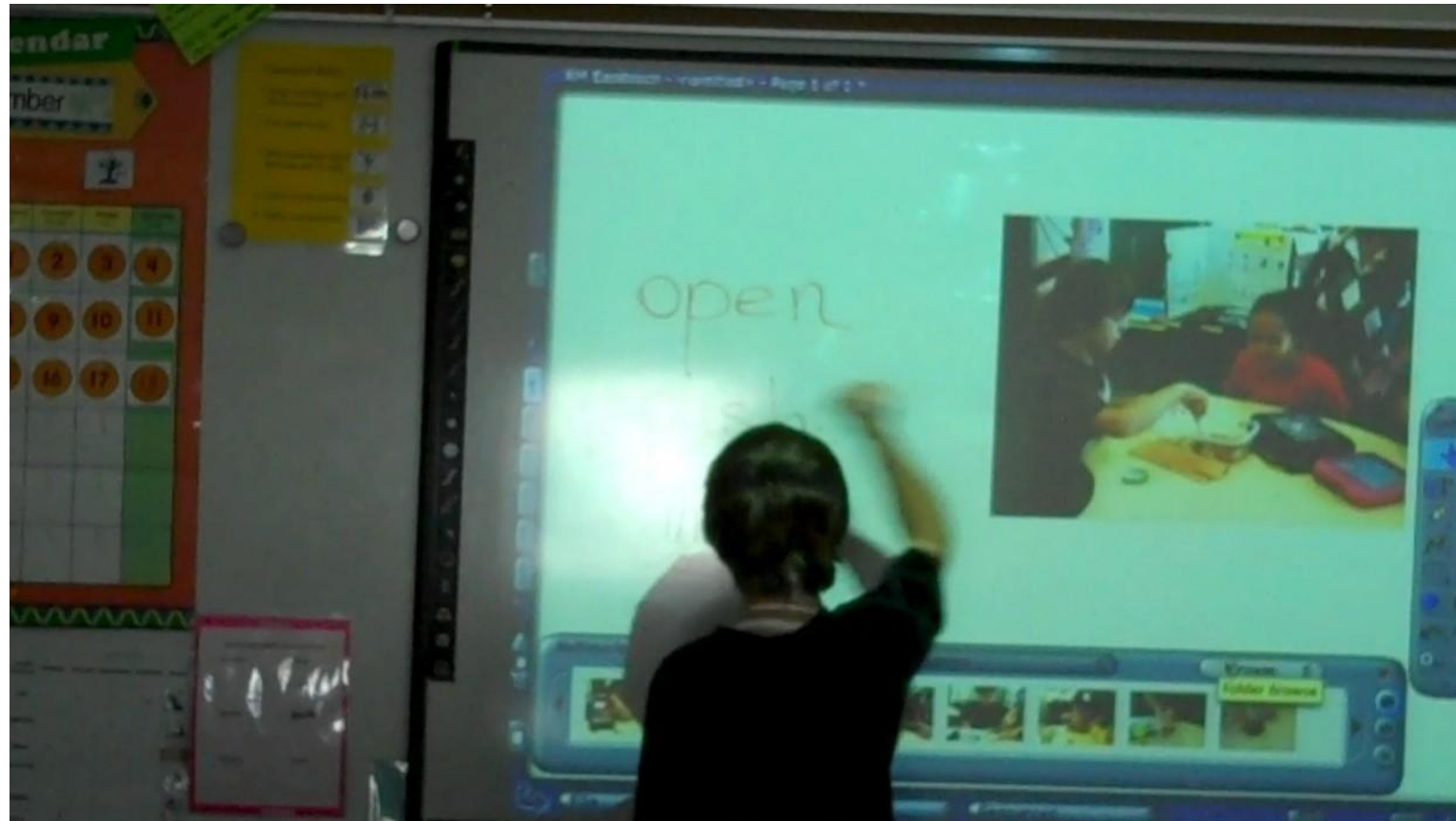
Multiple Means of Expression and Representation
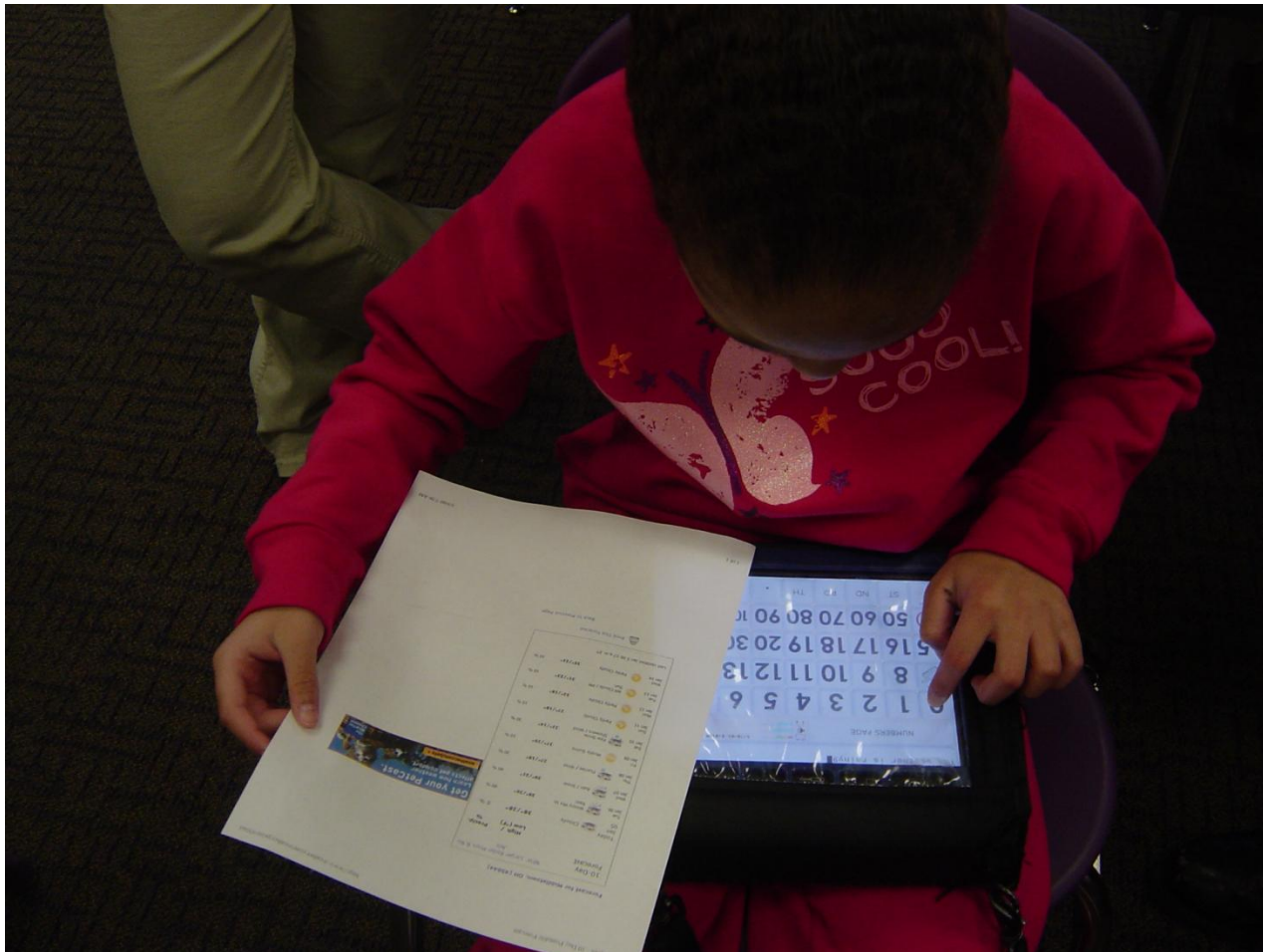
First... come up with your theme

- Think: functional and practical rather than traditional

- Plan for the theme to last a month or a month and a half

- Start making materials a month ahead, so you have everything ready, and save it for the future

- Work collaboratively with your team and regular ed teachers

Some ideas for the themes:

- **August/ September**: Back to school
- **October**: Sports (soccer, football)
- **November**: Nature
- **December**: Holidays (Hanukkah, Christmas, Kwanza)
- **January:** Traveling
- **February**: Hearts
- **March:** Community workers/ Careers
- **April**: Plants
- **May**: Ohio

Let's talk: theme

- January: Traveling
  - ❏ LA group: a book about traveling- self created, based on materials from Unique Learning System

  - ❏ Math: Subtraction using cars as manipulatives

  - ❏ Social Studies: a lesson on different types of vehicles

Social Studies Group on Vehicles (monthly theme: traveling)

- The video to open this group:

http://www.youtube.com/watch?v=JwUprWsSd4A

Now, make your instruction aligned with the IEP objectives, and Common Core Standards

- To assure alignment with the Standards and apply to students' level, use the Ohio's Academic Content Standards Extended

- Take into account individual students' IEP objectives and target them in your instruction
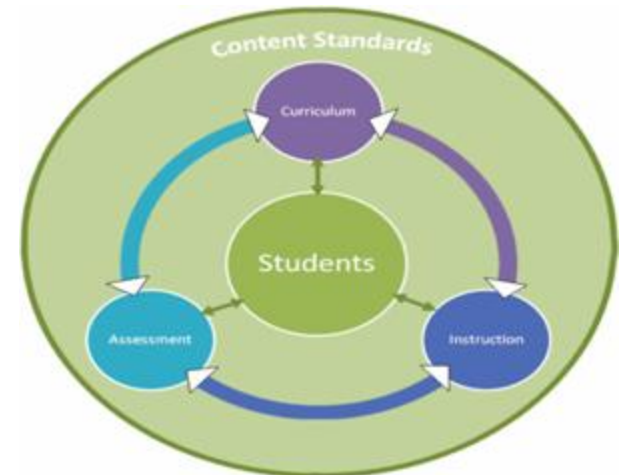
Apply your theme throughout your school day instruction

- Morning meeting: word wall, sentence building

- Language Arts Group

- Math Group

- Science Group

- Social Studies Group

- Additional activities: typing, classroom decorations, independent work at desk activities, special projects: art etc

Math group- graphing

Structure your groups: make them interactive, hands-on, predictable, and age & level appropriate
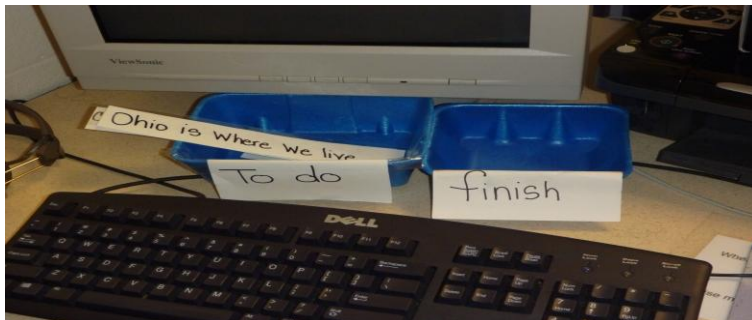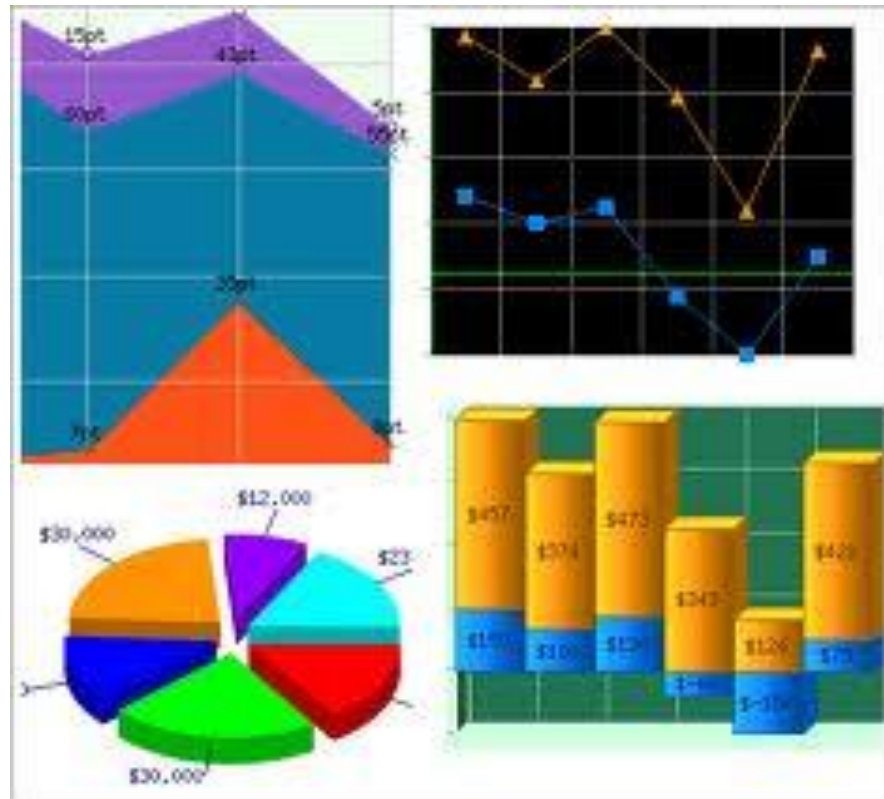
Control for behaviors:

- Reinforcement
- Token system
- Timers
- Expectations to succeed

Write your lesson plans/ teaching protocols for your groups

- Make sure that everyone is teaching the same way, targeting the same objectives, and using the same interventions

- Rotate your staff so that everyone is capable of running the group, supporting the students, and making materials

Add organization
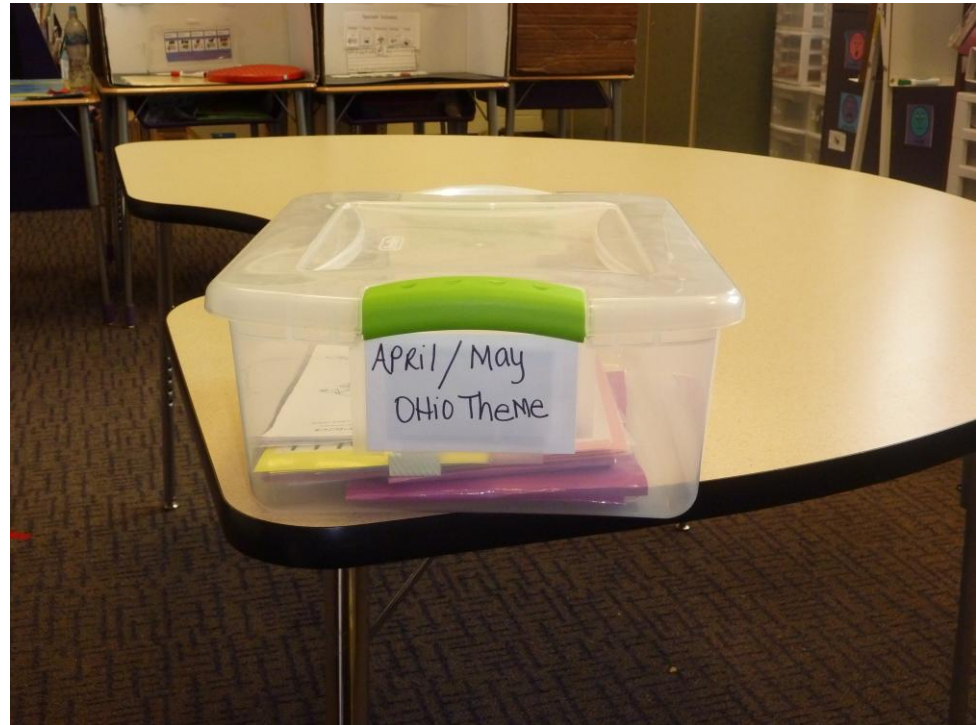
Tie in Available Technology

- Videos
- Music
- i Pad/ i Pod games
- Pictures
- Power point: books, social stories,
- http://www.scribd.com/doc/24470331/iPhone-iPad-and-iPod-touch-Apps-for-Special-Education

Resources to use:

- http://www.youtube.com/watch?v=Gnst_mkCEu4

- http://www.youtube.com/watch?v=3icBxO6Wjz0

- School library- find picture books with easy text to use for Language Arts Group

- Use Boardmaker for your visual supports

- Use website resources: www.uniquelearningsystem.com

www.edhelper.com, www.abcteach.com

- Take pictures, print images off Google images and make your own books

- Make Power Point Presentations- watch and/or print out for the books

- Find videos to support your instruction: www.youtube.com, www.teachertube.com

Cool Tools

- A variety of apps:
  - Brain Pop
  - Qwiki
  - Touchy Books
  - NOOK kids
  - MeeGenius
  - Actions
  - Balloons
  - Kids World Map
  and many many more..

iTunes U

- Thousands of FREE videos, audio, podcasts.
- Entire college courses
- Multiple platforms
- Parent controls

Share your content with anyone. Anywhere in the world.

Wolfram Alpha

- A free search engine that provides for computation and distribution of any systematic knowledge
- Supports different disciplines

http://www.wolframalpha.com /

Qwiki

- Additional search tool that provides auditory support

- http://www.qwiki.com/
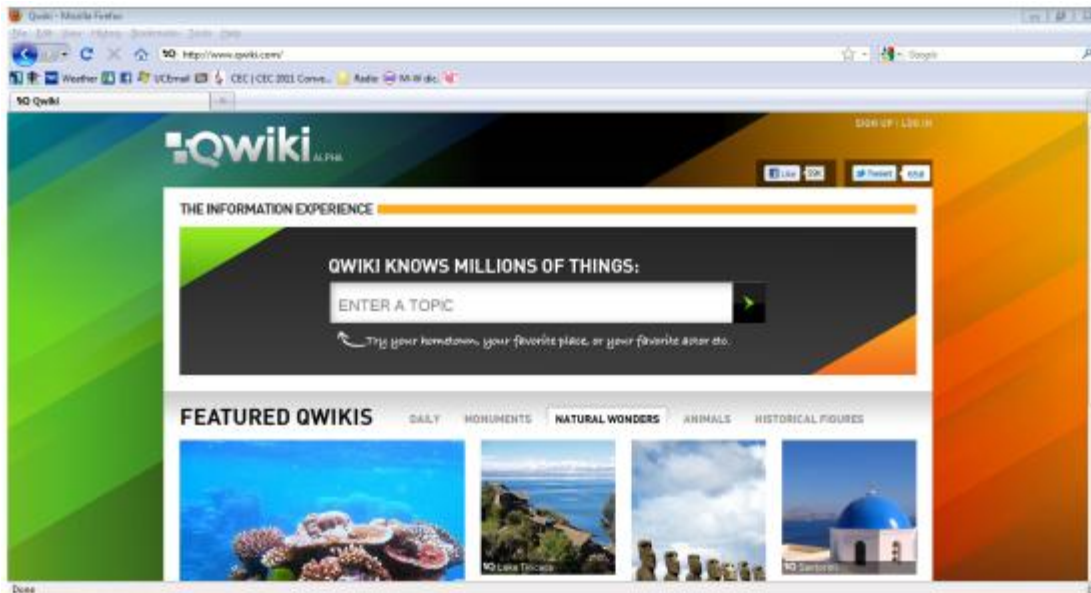
Google earth

- Satellite images from anywhere on Earth.
- Create tours
- Go under seas

http://earth.google.com/

Cast Bookbuilder

- A tool to quickly develop accessible books.
- Provides for scaffolding
- Book sharing
- http://bookbuilder.cast.org/

Visual dictionary

- Visual/contextualized references
- Audio pronunciation
- Multilingual
- http://visual.merriam-webster.com/

Putting it all together:

- Plan for group instruction having each individual student's needs and skills in mind
- Implement IEP objectives and Standards-aligned teaching
- Utilize technology
- Keep high expectations and always measure for students' engagement
- Provide multiple means of expression, representation, and engagement

Social Studies group- US map/ hearts theme

Questions?