Wrapping it Up

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Reflections

- What is the most exciting thing you have learned in this training this year?
- What are you most concerned about?

Where do you go from here?

- Supporting others to implement AT
- Troubleshooting implementation problems
- Training others about AT
- Working as part of a team
- Managing your own learning

Supporting Others

1. On-site source of technical assistance, collaboration and coaching.
2. Training in a format that matches learning style.
3. Combination of expectation and support from immediate supervisor.
4. Clear map to destination.

Technical Assistance

- How to operate the AT.

- When to use the AT.

- Why you use the AT.

Research supports AAC use

- Literature reviews suggest strong evidence for the use of AAC for students with severe disabilities

- Disproved belief that persons with significant levels of cognitive disabilities could not benefit enough from communication devices to justify the cost

  - (Light, Roberts, Dimarco, & Greiner, 1998; McNaughton, Light, & Arnold, 2002; Romski & Sevcik, 1997; Romski & Sevcik, 2000).

Voice output does **not** decrease other communicative behaviors

1. Study investigated the potential for use of AAC to decrease other communication behaviors such as gestures, vocalizations and words.

2. There was no evidence that use of a VOCA decreased the frequency of gestures, vocalizations or word use.

3. Increases were seen for all children for one or more of the other communicative responses when they had access to a VOCA.

- Schepis, Reid, Behrmann, & Sutton, (1998)

Use of AAC of any type does not prevent the development of speech

- A thorough meta-analysis of the literature;

- Speech production before, during, and after introduction of AAC;

- Determined AAC use did not slow or prevent the development of spoken language;

- In fact speech production increased in 89% of the subjects.

  - Millar, Light, and Schlosser (2006)

Power mobility
does not prevent walking

- None of the research has substantiated a commonly held fear that children will regress in motor skills due to use of power mobility

Picture Supported Text

- Nonconventional forms of literacy, such as picture-supported text, limit literacy learning in the long run and interfere with learning opportunities
  - Erickson, Hanser, Hatch, & Sanders, (2009); Erickson et al., (2010); Hatch, (2009).
- Several studies have concluded that pictures slow the rate of word learning
  - Pufpaff, Blischak, & Lloyd, (2000); Rose & Furr, (1984); Saunder & Solman, (1984)
- Picture supported text provides access to content, but actually impedes the learning of reading skills.

Review of research on Text to Speech (TTS)

- Recent definitive meta-analysis.

- Excluded students without identified LD.

- Included single subject design studies.

- Found the use of text-to-speech tools has a significant impact on reading comprehension scores for students with learning disabilities.

  - Wood, Moxley, Tighe, & Wagner. (2017)

Using text-to-speech technology does not mean that students don't have to be skilled readers. It means that the computer has become their decoding eyes. They must then:

- add expression,

- reread with fluency,

- create pictures in their mind,

- make connections, and

- make sense of it all.

-Parr, M. (2013)

TTS best for students with:

- slow or inaccurate decoding that does not correlate to their cognitive and intellectual potential (i.e., less than 90% accuracy);

- lower levels of fluency, typically 24 to 92 words per minute;

- high levels of listening comprehension that can be activated by TTS;

- low levels of confidence and/or internal motivation that lead to reader reluctance and withdrawal;

- pacing and attentional difficulties that can be regulated by TTS; and

- the need for multiple readings of assigned text.
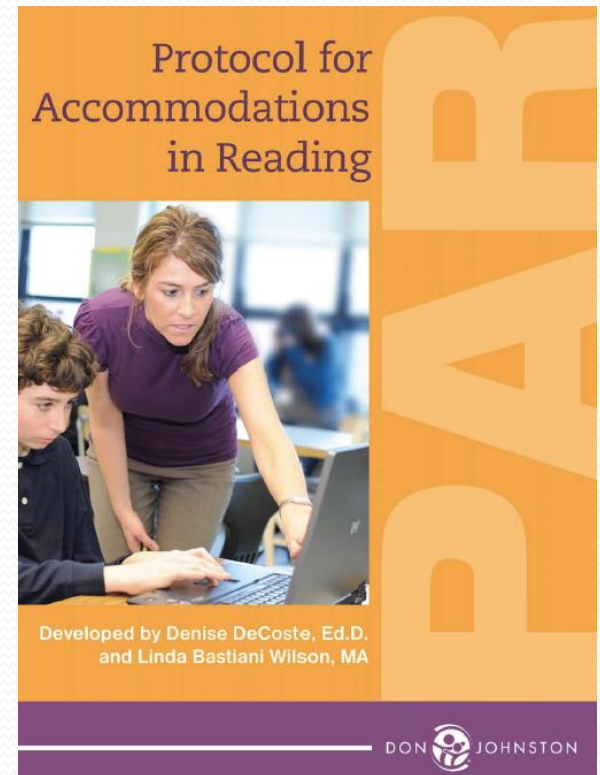
Training needed in Comprehension

- thinking aloud how to self-question and reflect during and after reading

- engaging students to become actively involved in monitoring their understanding and processing text meaning.

  - Edmonds, Vaughn, Wexler, Reutebuch, Cable, Tackett, & Schnakenberg (2009).

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Summary: Research on TTS

- Research is limited and results are mixed.
- Research supports use of TTS.
- Pair with comprehension strategy training.
- Make sure to invest enough time to see results.
- Talk with each student about how it is working/not working for him or her.

How Do You Know When to try TTS?

- Use the PAR to determine differences in student's ability to learn from hearing text vs. decoding text.
  - Student Oral Reading
  - Adult Reader
  - Text Reader

Protocol for Accommodations in Reading

PAR

Developed by Denise DeCoste, Ed.D. and Linda Bastiani Wilson, MA

DON JOHNSTON

Word processing

- Compared to handwriting:
  - Fewer spelling errors
  - Fewer reading errors,
  - Improved organization and structure.
    - Hetzroni & Shreiber (2004)
- Depends on how well students are trained to use its features
  - MacArthur, Graham, Schwartz and Schafer (1995)

Word Prediction

- Includes both word completion and true word prediction aspects.

- Studies prior to 2003 did not have phonetic spelling, word prediction was less accurate.

- Even the older studies showed benefit.

- Only one study compared programs, students liked all three Co:Writer, WordQ and Write Assist, but preferred WordQ.

  - Evmenova, Graff, Jerome & Behrmann, (2010)

Research on Word Prediction

- Word prediction alone and in combination with text-to-speech had a positive impact on the written output of students with identified learning disabilities.

- Looked at number of words written, spelling accuracy, and writing rubric scores (including mean total unit length).

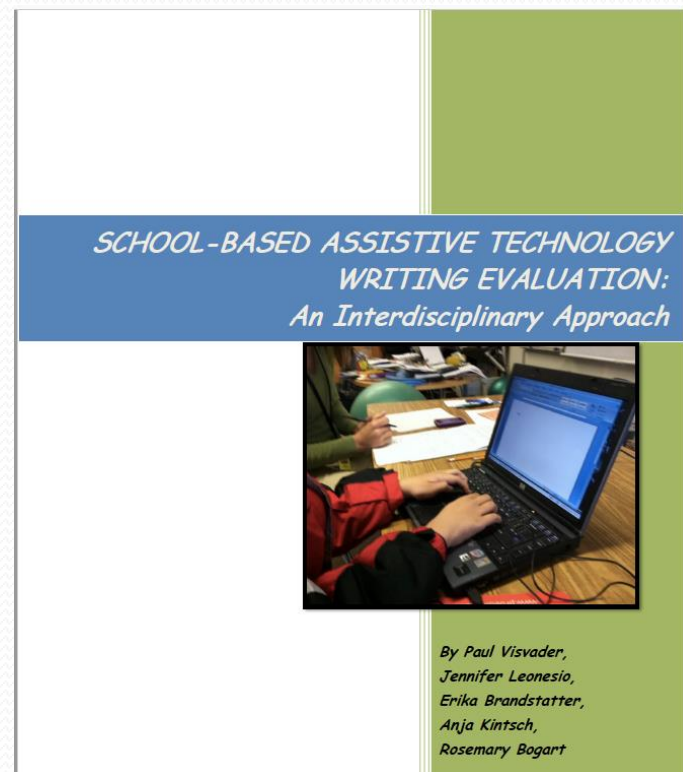# Graphic Organizers for Writing

Studies show increases in:

- number of words written;

- Amount time spent on planning;

- Common story elements;

- Changes in overall organization found in some, but not all of these studies.

When to use Speech Recognition

- Works for many, but not all students with Learning Disabilities.

- Most beneficial for those with a perceived need. - Roberts & Stodden (2005)

- And those whose oral skills are stronger than their writing skills

  - (Li & Hamel, 2003)

- good guide is *Speech Recognition as AT for Writing* bit.ly/srguide
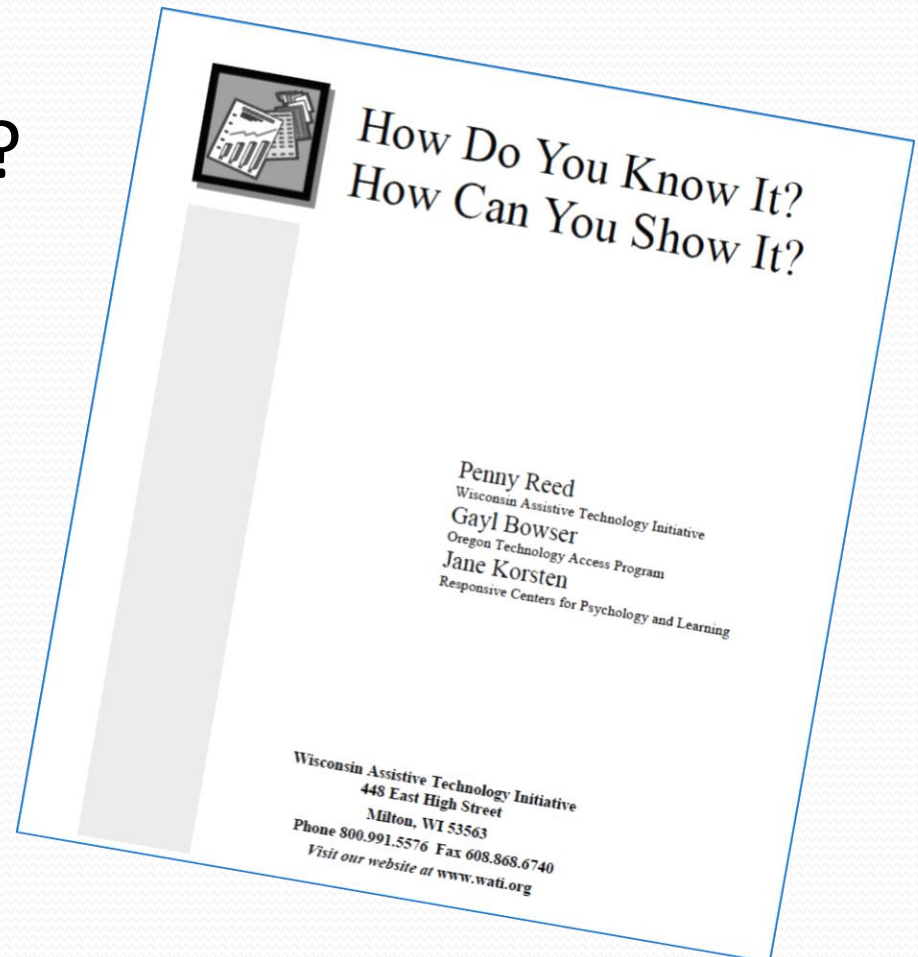
  - Cochrane & Key, (2014).

How Do You Decide to Use AT for Writing?

- Do an assessment:
  - School Based Writing Evaluation
    - Handwriting from a model
    - Handwriting from dictation
    - Typing from dictation
    - Trial-word prediction, Speech Recognition
    - Feature Matching

SCHOOL-BASED ASSISTIVE TECHNOLOGY WRITING EVALUATION:
An Interdisciplinary Approach

By Paul Visvader,
Jennifer Leonesio,
Erika Brandstatter,
Anja Kintsch,
Rosemary Bogart

Making AT Decisions

- How Do You Know It? How Can You Show It?

How Do You Know It?
How Can You Show It?

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Not all Crutches are Bad

Have you ever heard teachers (or parents) disparagingly call the use of assistive technology a crutch?

Can we still see the "crutch" as a negative when it allows a student to read TEN TIMES faster in HALF the amount of time? True story.

I worked with a high school student who "eye" read ten pages in four days on her own and then used text to speech (VoiceDream Reader) to "ear" read **ONE HUNDRED pages in two days**. Do the math. That's an impressive difference. And she was independent.

Not all crutches are bad. Let's embrace what works and give all students what they need.

This is why:

	AT	No AT
Graduation	99.8%	79.6%
Post Secondary	80.9%	40.1%
Paying Job	80%	50.8%

Bouck, E. (2016).

Choosing a Support Strategy

	Coach	Collaborate	Consult
Goal	Transform	Work Together	Inform
Focus	Teacher	Teamwork	Content
Style	Asking	Discussing	Telling
Account-ability	Teacher (self)	Team	Consultant
Support Role	Mediator of Thinking	Colleague	Expert

Use of Consultation

- Most appropriate when the recipient does not have much information about the topic

- Most effective when providing:

  - expert advice,

  - factual information, or

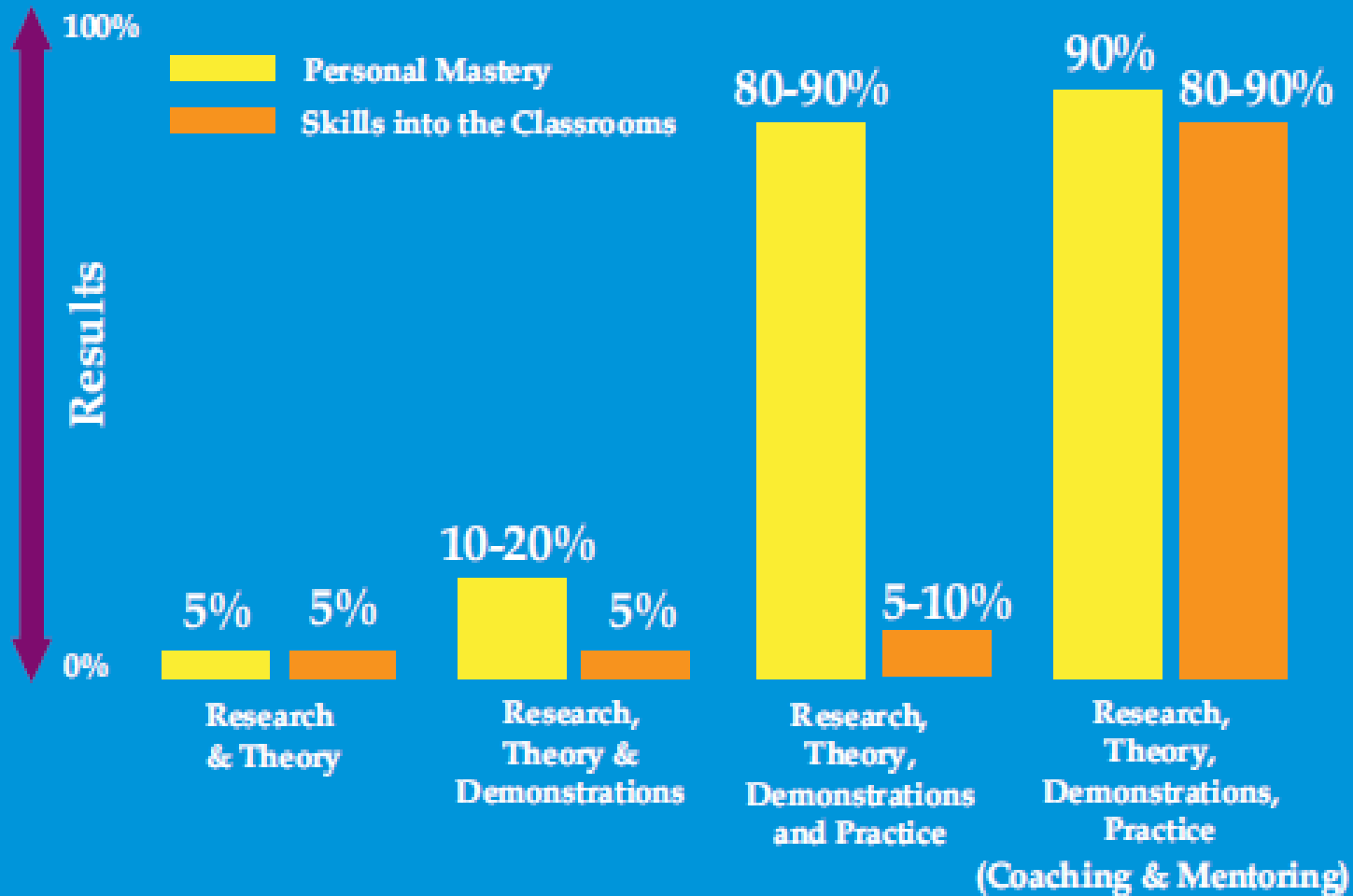 - technical support

Use of Collaboration

- Most appropriate when people with different resources can work together
- Belief that all are learners
- Everyone brings useful information
- Expectation of working together as equals to achieve goals.
- Expectation of working together over time
- Ability and resources to plan, reflect and problem-solve together

Use of Coaching

- Permission to coach
- Coachee wants to become more resourceful, informed and skillful
- Primary attention to the internal thought processes of teaching as a way to improve instruction
- Coachee's refined perceptions and cognitive processes result in behavior change

Staff Development Learning Events

Results (0% to 100%)

Legend: Personal Mastery (yellow), Skills into the Classrooms (orange)

- Research & Theory: 5% / 5%
- Research, Theory & Demonstrations: 10-20% / 5%
- Research, Theory, Demonstrations and Practice: 80-90% / 5-10%
- Research, Theory, Demonstrations, Practice (Coaching & Mentoring): 90% / 80-90%

Joyce & Showers (2002, 1995)

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RELATIONSHIPS BEGIN IN TRAINING

- Treated as an equal
- Expertise respected
- Choices built in
- Opinions valued
- Reflection encouraged
- Planning for implementation expected

-Knight, J. (2009) Partnership Learning
http://www.kucrl.org/partnership

WHY DOES COACHING WORK?

- **Attention**-coaches ask questions to help teachers attend to why and how they do things.

- **Reflection**-thinking about what one has done and why is the only way to begin to change.

- **Insight**-comes as a result of reflection when the brain makes a connection it had not previously made.

- **Action**-must happen immediately following insight to assure the new idea becomes "real".[32]

FROM THE COACHES CORNER

- Coaching should never be about "fixing" another person. Inevitably that person perceives the motivation to "fix" and becomes defensive.

- To coach without manipulation, you must change the way in which you see the other person.

- To move forward you must assume that all behavior is motivated by what are positive intentions in the other person's part .

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Coaching Questions

- "How do you see this working?"
- "Tell me more about that…"
- "What would prevent you from doing _____ ?"
- "How do you feel about _____ ?"
- "What do you think would be the next step?"

Resources for Coaching

- Knight, J., (Ed.) (2009). *Coaching approaches and perspectives.* Thousand Oaks, CA: Corwin Press.

Info Sharing strategies

- Success stories
- Electronic list
- Newsletter
- Display in staff room
- Bulletin board

Creating an Implementation Plan

- Ways each member of the staff and other supporters will support the student's AT use.
- Actions that will be taken in the environment to support the student's AT use.
- Tasks that adults need to do.
- Help for people in the environment to understand the tools.

(i.e. SETT!)

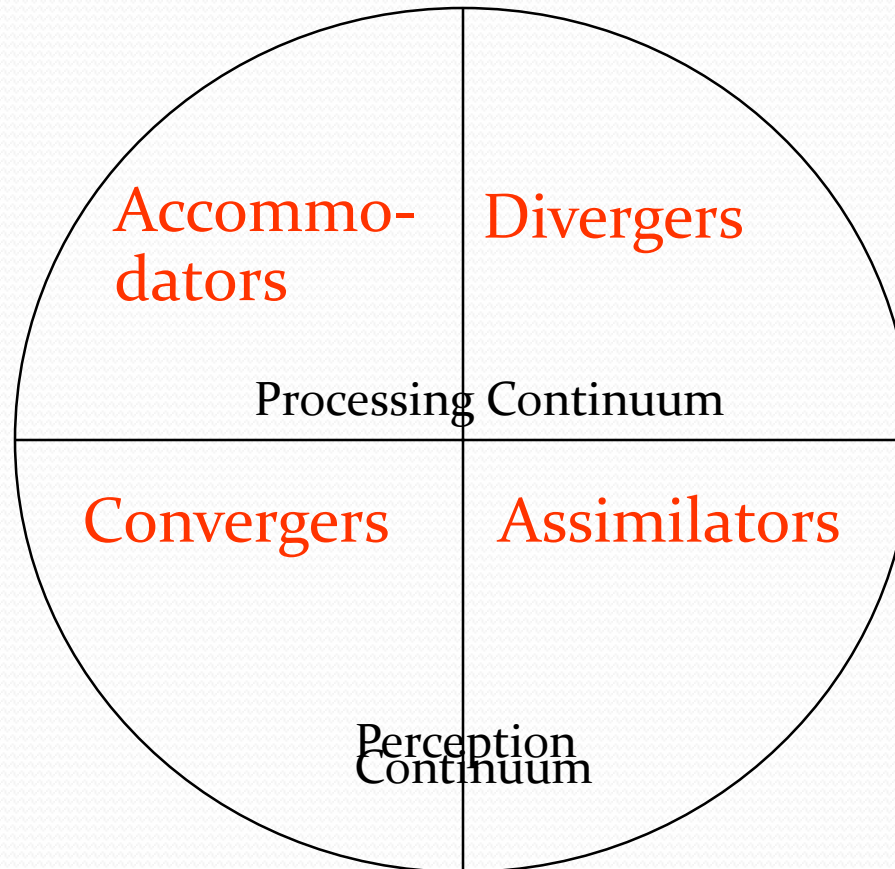# Procedure for Daniel .
Free Reading-Active Participation

Class' Steps	Daniel's Steps
Clear desk	Clear off tray
Walk to book baskets	Put your things in your basket
	Go to computer
Pick book	Pick Computer Book
Write start page	Enter start page on computer
Find place to read	Put on headphones
Free Reading	Talking computer book
Write end page	Write end page on computer
Put book away	Close book file
	Save and Close Free Reading file

Training Others about AT

- Learning Styles
- Training tips

Kolb's Learning Styles

Concrete Experience

Active Experi-mentation

Processing Continuum

Reflective Observation

Accommo-dators

Divergers

Convergers

Assimilators

Perception Continuum

Abstract Conceptualization

Concrete experience

- being involved in a new experience

- labs, field work, observation, trigger films

Kolb, 2005

Reflective observation

- watching others

- developing observations about personal experience
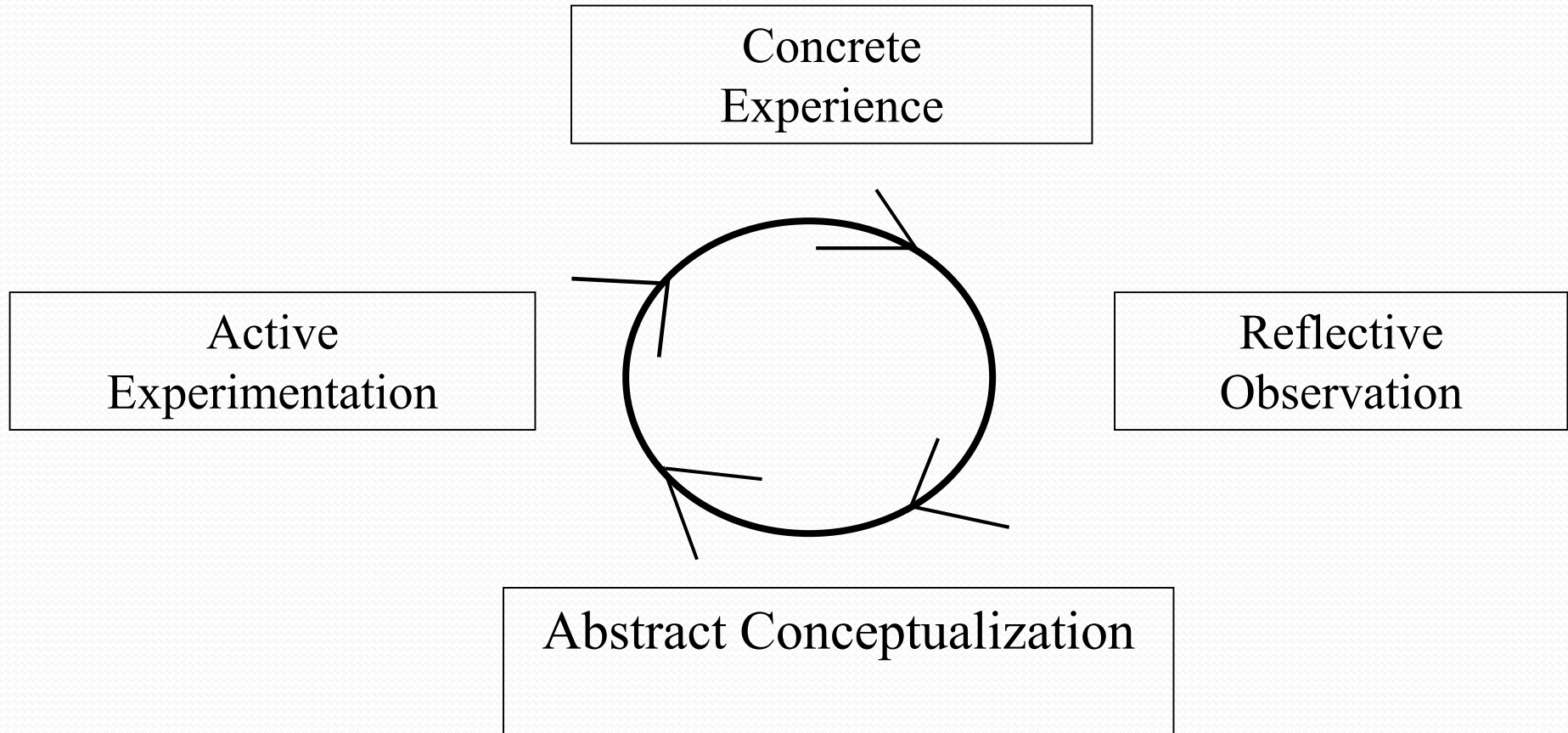
- logs, journals, brainstorming

Kolb, 2005

Abstract conceptualization

- creating theories
- lectures, papers, analogies
- Traditional learners

Kolb, 2005

Active experimentation

- Risk takers

- Dislikes passive learning

- simulations, case studies & homework

Kolb, 2005

Experiential Learning Cycle

Concrete
Experience

Active
Experimentation

Reflective
Observation
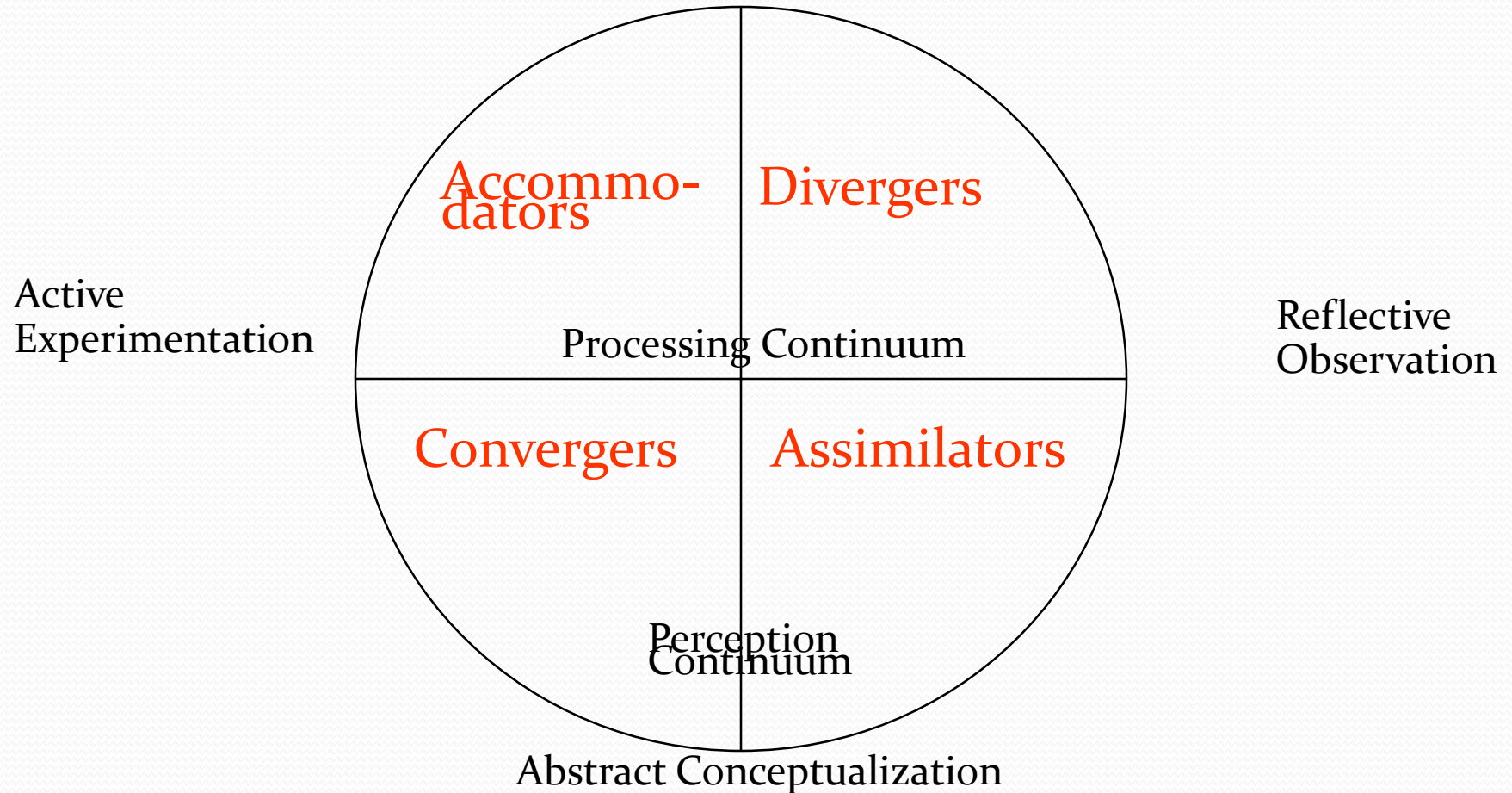
Abstract Conceptualization

Kolb, 2005

Tech Training Preferences Probe

- Quick assessment of learning style

- Not validated, based on Kolb's learning styles

- Use to clearly target training

Kolb's Learning Styles

Concrete Experience

Accommo-dators | Divergers

Active Experimentation

Processing Continuum

Reflective Observation

Convergers | Assimilators

Perception Continuum

Abstract Conceptualization

Snapshots of your Training Style and Issues

- Group by learning style
- Discuss how your learning style influences your training
- Brainstorm how you could incorporate activities for other styles

Preparation goal - The arousal of interest

Learning is not a spectator sport!

It is the joy of learning that often determines the quality and quantity of learning that occurs.

Meier (2000). **Accelerated Learning**
The Four Phase Learning Cycle

Presentation - First encounter with new knowledge & skills

Must be meaningful

Must be active

Meier (2000). **Accelerated Learning
The Four Phase Learning Cycle**

Managing Your Own Learning

- Create your Personal Learning Network:
  - Electronic lists
  - Blogs
  - Websites
  - YouTube
  - Twitter: AT Chat

Electronic Lists

- **QIAT – www.qiat.org**
  - **Type of posts**
    - Free online
    - Comparison of different brands of tools
    - Problem solving
    - Legal questions
  - **Why they are useful**

Blogs

- Ed Tech Solution: TeachingEveryStudent.blogspot.com   - Karen Janowski

- Teachinglearnerswithmultipleneeds.blogspot.com – Kate Ahern

- Nolimitstolearning.blogspot.com – Lon Thornberg

Websites

www.texasat.net

www.montgomeryschoolsmd.org/departm
ents/hiat/tech_quick_guide

www.educationtechpoints.org

www.natenetwork.org

www.atinternetmodules.org

atinternetmodules.org

AT for School Age

AT Problem Solving Across the Lifespan

AT for Early Childhood

AT for Adult Life

Using the WATI Assessment Process

ABC **Browse Alphabetically**

Using the WATI Assessment Process

ADL: Independent Living - WATI

An Overview of Using the WATI AT Assessment Process

Communication - WATI - Part I

Communication - WATI - Part II

Communication - WATI - Part III

Computer Access - WATI - Part I

Computer Access - WATI - Part II

Funding Assistive Technology

Hearing - WATI - Part I

Hearing - WATI - Part II

Math - WATI - Part I

Math - WATI - Part II

Mobile Device Access - WATI - Part I

Mobile Device Access - WATI - Part II

Mobility - WATI - Part I

Increasing Likelihood of Implementation

- Well planned and executed lessons that included active learning

- Reflection

- Teaming/Buddy

- Coaching/Collaboration/TA

A vision without a task is but a dream. A task without a vision is drudgery. A vision with a task is the hope of the world.

Inscription in a church

Sussex, england, 1730