Using Student Data & Learning Preferences to Adapt Instruction

Maryland
DEPARTMENT OF LABOR

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Correctional Education Symposium
Equity in Corrections, 12:00 pm - 12:55 pm

OBJECTIVES

1. To identify types of data to collect about students

2. To review the wide range of student learning preferences/modalities

3. To outline strategies and resources to adapt instruction to individual student's needs

Why is it important to collect and analyze student data, to know student's learning preferences/modalities, and to adapt instruction?

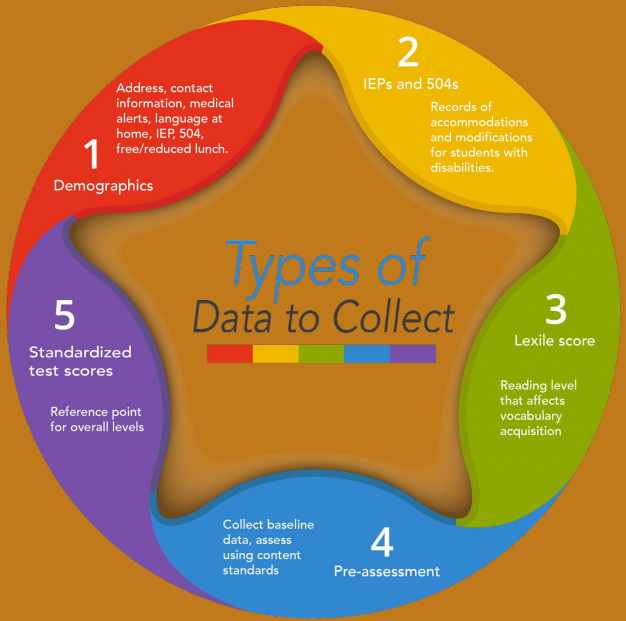
EQUITY!

https://betterbikeshare.org/2019/10/24/equity-vs-equality/

Collect Student Data: Quantitative and Qualitative

- **Quantitative data: Information about quantities, numbers, measurements, statistics.**
- **Qualitative data: Descriptive, observes and interprets, grouping of common data/non-statistics.**

https://www.simplypsychology.org/qualitative-quantitative.html



https://mrslepre.com/5-types-of-data-you-must-collect-to-move-your-students-forward/

MD Correctional Education: Special Education Students with an IEP (Individual Education Program) Demographic Data at a Glance: N = 72 males (5/1/23)

Current Age	Student Count
18	7
19	20
20	26
21	19
TOTAL	**72**

IEP Grade	Student Count
7/8	1/1
9	28
10	23
11	14
12	5
TOTAL	**72**

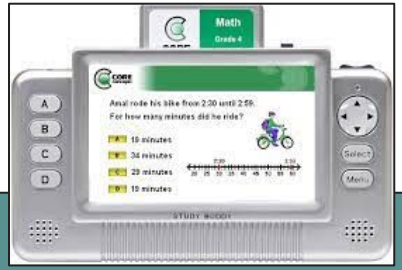
Disability	Student Count
ED	26
OHI	23
SLD	12
ID	7
MD	2
TBI	2
TOTAL	**72**

IEP Goal	Student Count	Percent
Reading	64	89%
Math	68	94%
Writing	64	89%
Social Emotional /Behavior	39	54%
Self-Management	16	22%
Speech	4	6%
TOTAL		**x/72**

WHAT DOES THE DATA TELL YOU?

Data Collection Examples

- **Classroom Observations!:** As students work in groups, individually, use Reader Pens, work with a tutor, etc.
- **IEP Progress Reports:** How have they met their goals/objectives
- **Woodcock Johnson IV (WJ-IV):** Academic formal assessment scores
    - WJ-IV Interpretation and Instructional Interventions Program(WIIIP®) provides a Comprehensive WJ-IV Report and observation documents
- **Test of Adult Basic Education (TABE):** Scores guide IEP goals, objectives and supports
- **Psychological and/or Speech assessments:** Guide IEP goals, objectives, and support
- **Prior school records**: Observations, grades, informal and formal assessments
- **Study Buddy devices**: English and Math cartridges that include a lesson and quiz
- **Tablets**: Readings, informal TABE assessments, videos, audio books, etc.
- **Informal Classroom assessments:** Quizzes, TABE booklets, activities, writing assignments



Know & Use Multiple Learning Preferences/Modalities

Learning happens when students encounter the same information through a **variety** of preferences/modalities, rather than only being approached through one method (i.e. auditory, visual, kinesthetic, analytical).

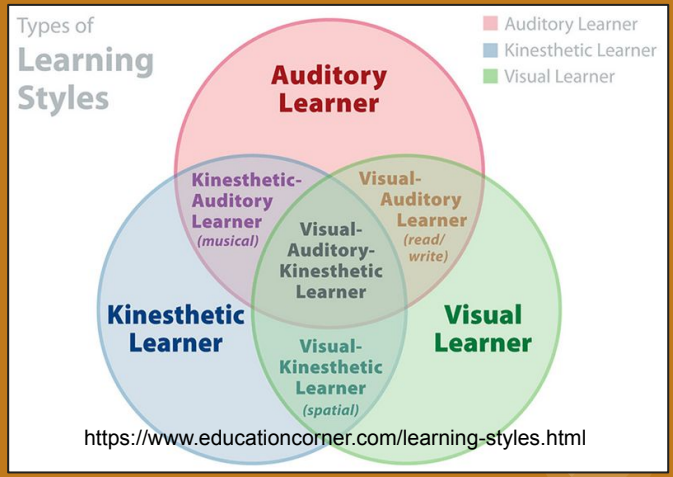
Why use a variety? Students have the **opportunity** to see information from a **different perspective** that might help them best understand the information.

https://www.wtmacademy.com/learning-styles-vs-learning-preferences/
https://opentextbc.ca/studentsuccess/chapter/learning-preferences-and-strengths/

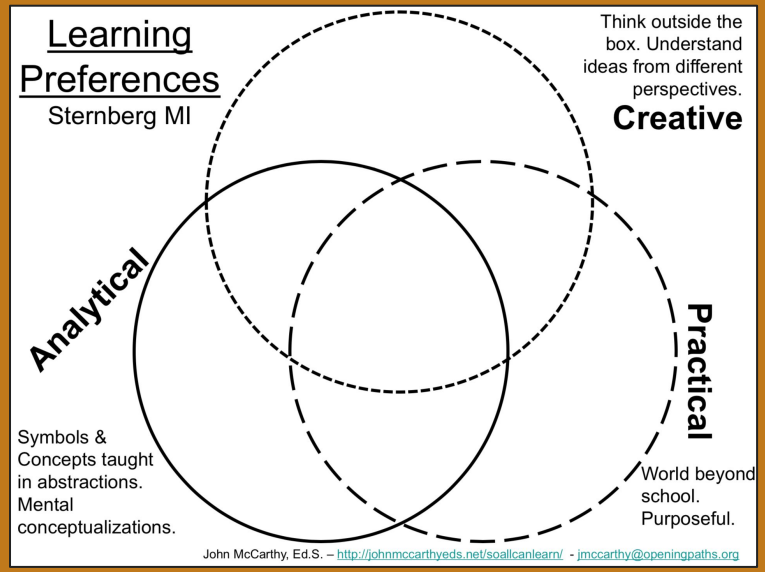
Learning Preferences/Modalities

https://www.niu.edu/citl/resources/guides/instructional-guide/gardners-theory-of-multiple-intelligences.shtml

Research styles, preferences, & intelligences



https://www.educationcorner.com/learning-styles.html



Strategies and resources to adapt instruction if students have -

- Difficulty in Math
- Difficulty Learning by Listening
- Difficulty Reading Written Material
- Difficulty Expressing Verbally
- Difficulty Spelling
- Difficulty Writing Legibly
- Difficulty Expressing in Writing

If a student has difficulty in Math -

1. **Master the Basics: Provide students the opportunity to build a strong foundation using the four mathematical operations and to build vocabulary? (Flashcards and repetition)**
2. **Understand the Why: Provide the reason behind Math concepts and why formulas are used for certain problems; provide a step-by-step guide with explanations.**
3. **Make it a Positive Experience: Provide fun and interesting Math opportunities: Play Math jeopardy, use Study Buddy devices in teams, pairs, as a class.**
4. **Use Models and Learning Aids: Provide models, manipulatives, pictures, graphic organizers, calculators, and protractors.**
5. **Encourage Thinking Aloud: Provide opportunities for students to verbalize the process of solving a problem and the ability to correct themselves.**

By, Jamie Goodwin, 2018, Top 5 Math Strategies for Struggling Students https://magoosh.com/math/math-strategies/

If a student has difficulty learning by listening -

Before the lesson:

- Pre-teach difficult vocabulary and concepts (provide flash/index cards)
- State the objective, provide a reason to listen
- Teach the mental activities involved in listening: mental note-taking, questioning, reviewing
- Provide study guides/ worksheets/an outline

During the lesson:

- Provide visuals (an overhead, notes, video) in addition to oral directions
- Teach the use of acronyms to help visualize lists (Please Excuse My Dear Aunt Sally: PEMDAS for Order of Operations in Math)
- Have the student repeat directions
- When giving directions, leave time between each step for the student to carry out the process in their mind and to do it
- Provide tasks that include writing and manipulatives

If a student has difficulty reading written material -

- Provide highlighted material, provide a color reader strip, or provide tinted color sheet
- Allow a peer to read the text aloud with the student, and/or provide a Reader Pen
- Shorten the amount of required reading or allow extra time for reading
- Pre-teach vocabulary
- Help the student visualize what is read: Close their eyes as the text is read out loud
- Show a movie as you read the book to provide experiences before and after reading as a frame of reference for new concepts
- Provide alternative methods for student to contribute to the group, such as role playing or dramatizing (oral reading should be optional)
- Motivate the student by discussing the material's main ideas and highlights
- Provide questions before student reads a selection (include page and paragraph numb
- Find a text written at their academic level, perhaps they need larger font or a Reader

If a student has difficulty expressing themselves verbally -

- Give a picture cue to elicit a response to a question or group storytelling with a picture
- Provide a verbal prompt, such as beginning a sentence
- Accept an alternate form of information sharing, such as a written report; Artistic creation; Exhibit or showcase; Chart, graph, or table; Map; Map; Review of a film; Charade or pantomime; Demonstration; or, Taped report.
- Ask open ended questions requiring short answers
- Teach the student to ask questions in class
- Wait for students to respond and give processing time — avoid calling on the first student who raises their hand

If a student has difficulty spelling -

- **Provide a tactile/kinesthetic aid for spelling (dry erase board with markers)**
- **Use mnemonic devices**
- **Teach short, easy words in context**
- **Dictate the work and then ask the student to repeat it (saying it in sequence may eliminate errors of omitted syllables)**
- **Avoid traditional spelling lists (determine lists from social needs and school area needs)**
- **Have students make flashcards and highlight the difficult spots on the word**
- **Give a recognition level spelling test (asking the student to circle correct words from three or four choices)**
- **Teach words by spelling patterns (teach "cake," "bake," "take," etc. in one lesson)**
- **Avoid penalizing for spelling errors/instead, make sure you correct it with them**
- **Hang words from the ceiling during study time or posting them on the board or wall as constant visual cues**

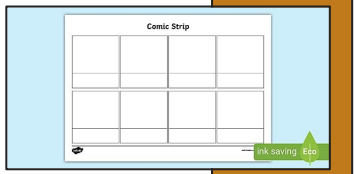
Kathleen L. Bulloch was a speech/language pathologist for the Riverside County Office of Education in Riverside, CA. Slides 6-11 were from https://www.readingrockets.org/article/how-adapt-your-teaching-strategies-student-needs.

If a student has difficulty writing legibly -

- Use a format requiring little writing: Multiple-choice; True/false; Matching
- Reduce or omit assignments requiring copying
- Encourage shared note-taking
- Provide fill-in-the-blank/complete the sentence note taking
- Allow the use of a computer or tablet
- Teach writing directly
  - Use a marker to space between words
  - Tape the alphabet to student's desk
  - Provide a wallet-size alphabet card
- Use graph paper to help space letters and numbers in math
- Use manuscript or lined ditto paper as a motivation technique (brainstorm the advantages of legibility with the class)
- Use manipulatives such as letters from a Scrabble™ game or writing letters on small ceramic tiles

If a student has difficulty expressing themselves in writing -

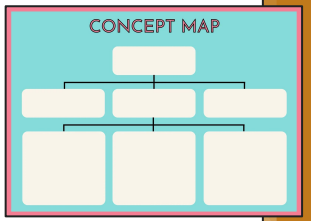
Accept alternate forms of reports:

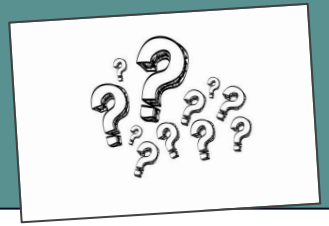


- Oral reports
- Tape-recorded report or interview
- Collage, cartoon, 3-D, or poster board form of art
- Panel discussion or Mock debate
- Allow the student to dictate their thoughts/ideas to another student and then they need to copy it themselves

Supports

- Shorten the written assignment - prepare an outline or summary
- Provide a sample of what the finished paragraph or paper should look like to help them organize the parts of the assignment
- Provide practice using:
  a. Story starters
  b. Open-ended stories
  c. Graphic Organizers
  d. Oral responses





Reflection Questions

1) Do you collect, analyze, and use data to guide your instruction?
2) It is possible for a student to have a learning preference/modality and not have the skill or ability to learn that way?
3) Is it possible for a student to be very skilled at using a learning preference/modality (i.e. logic, creative, analytical, visual, auditory, read/write, kinesthetic), but not use it for learning?
4) How comfortable are you teaching a learning preference/modality that does not align with your teaching style? If not, are you willing to adapt?
5) Do you help your students adapt to your teaching preferences/modalities? If so, how? If not, how can you do so?
6) Do you include your students to be an active and vocal participant in their own learning process and growth? If so, how? If not, how can you do so?

Student learning is enhanced and promotes EQUITY when we collect, analyze, and use a plethora of student data, know student's learning preferences/modalities, and use a wealth of teaching strategies and resources to adapt instruction.

RESOURCES

Brain Child: Study Buddy devices

https://brainchild.com/study-buddy/

Debbie Haskett - debbie.haskett@brainchild.com

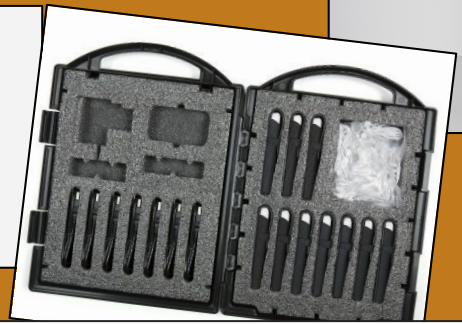
*Request a loaner, not internet based

*Mechanics - GED level cartridges

Scanner Pens: C Pens

https://www.scanningpens.com/

*Not internet based



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IEPs identify students learning preferences/modalities, provide strategies to guide teachers to adapt instruction to meet the needs of individual students, and track data on goal progress.

Read student's IEP Snapshots

- **Instructional & Assessment Accommodations:** Provide equitable access during instruction and assessments in the areas of presentation, response, setting, and scheduling (i.e. assistive technology, reduced distractions)
- **Program Modifications:** Reduce or remove barriers created by the student's disability without fundamentally altering the nature or rigor of the learning activity (i.e. Fewer questions, a shorter story)
- **Supplementary Aids:** Materials, devices, and instructional adaptations (i.e. peer tutoring, electronic books)

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20 Differentiated Instructional Strategies: https://www.prodigygame.com/main-en/blog/differentiated-instruction-strategies-examples-download/