IMPLEMENTATION

Adoption vs. Abandonment

What power do we have?

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SHAMELESS SELF-PROMO!

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In her free time she enjoys hiking, biking, cooking and other gerunds with her partner in crime, Max.

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UNDERSTAND THE BIG A's!

- QIAT Area - Implementation
- Abandonment
- Adoption
- Consideration and Feature Matching
- Implementation Plans
- Data Collection
- AT Implementation is a Cycle

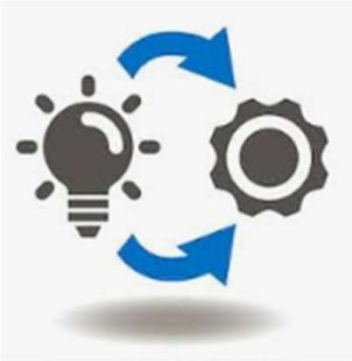
QIAT

Implementation

IMPLEMENTATION

"...the ways that assistive technology devices and services, as included in the IEP (including goals/objectives, related services, supplementary aids and services and accommodations or modifications) are delivered and integrated into the student's educational program."

- Collaboratively Developed Plan
- Integrated into the environment
- Shared Responsibilities
- Using a Variety of Strategies
- Learning Opportunities
- Data
- Management of Equipment



COMMON ERRORS

1. Everyone knows what we are doing, right?
2. One person is responsible
3. Acquisition is put before implementation
4. Plan is not compatible with instruction
5. No one is taking care of the AT device
6. No contingency for broken tech

Quality Indicator	Variations UNACCEPTABLE → PROMISING PRACTICES				
1. AT implementation proceeds according to a collaboratively developed plan.	**1** There is no implementation plan.	**2** Individual team members may develop AT implementation plans independently.	**3** Some team members collaborate in the development of an AT implementation plan.	**4** Most team members collaborate in the development of AT implementation plan.	**5** All team members collaborate in the development of a comprehensive AT implementation plan.
2. AT is integrated into the curriculum and daily activities of the student across environments.	**1** AT included in the IEP is rarely used.	**2** AT is used in isolation with no links to the student's curriculum and/or daily activities.	**3** AT is sometimes integrated into the student's curriculum and daily activities.	**4** AT is generally integrated into the student's curriculum and daily activities.	**5** AT is fully integrated into the student's curriculum and daily activities.
3. Persons supporting the student across all environments in which the AT is expected to be used share responsibility for implementation of the plan.	**1** Responsibility for implementation is not accepted by any team member. .	**2** Responsibility for implementation is assigned to one team member.	**3** Responsibility for implementation is shared by some team members in some environments.	**4** Responsibility for implementation is generally shared by most team members in most environments.	**5** Responsibility for implementation is consistently shared among team members across all environments.
4. Persons supporting the student provide opportunities for the student to use a variety of strategies–including AT–and to learn which strategies are most effective for particular circumstances and tasks.	**1** No strategies are provided to support the accomplishment of tasks.	**2** Only one strategy is provided to support the accomplishment of tasks.	**3** Multiple strategies are provided. Students are sometimes encouraged to select and use the most appropriate strategy for each task.	**4** Multiple strategies are provided. Students are generally encouraged to select and use the most appropriate strategy for each task.	**5** Multiple strategies are provided. Students are consistently encouraged to select and use the most appropriate strategy for each task.

5. Training for the student, family and staff is an integral part of implementation.	**1** AT training needs have not been determined.	**2** AT training needs are initially identified for student, family, and staff, but no training has been provided.	**3** Initial AT training is sometimes provided to student, family, and staff.	**4** Initial and follow-up AT training is generally provided to student, family, and staff	**5** Ongoing AT training is provided to student, family, and staff as needed, based on changing needs.
6. AT implementation is initially based on assessment data and is adjusted based on performance data.	**1** AT implementation is based on equipment availability and limited knowledge of team members, not on student data.	**2** AT implementation is loosely based on initial assessment data and rarely adjusted.	**3** AT implementation is based on initial assessment data and is sometimes adjusted as needed based on student progress.	**4** AT implementation is based on initial assessment data and is generally adjusted as needed based on student progress.	**5** AT implementation is based on initial assessment data and is consistently adjusted as needed based on student progress.
7. AT implementation includes management and maintenance of equipment and materials.	**1** Equipment and materials are not managed or maintained. Students rarely have access to the equipment and materials they require.	**2** Equipment and materials are managed and maintained on a crisis basis. Students frequently do not have access to the equipment and materials they require.	**3** Equipment and materials are managed and maintained so that students sometimes have access to the equipment and materials they require.	**4** Equipment and materials are managed and maintained so that students generally have access to the equipment and materials they require.	**5** Equipment and materials are effectively managed and maintained so that students consistently have access to the equipment and materials they require.

ABANDONMENT

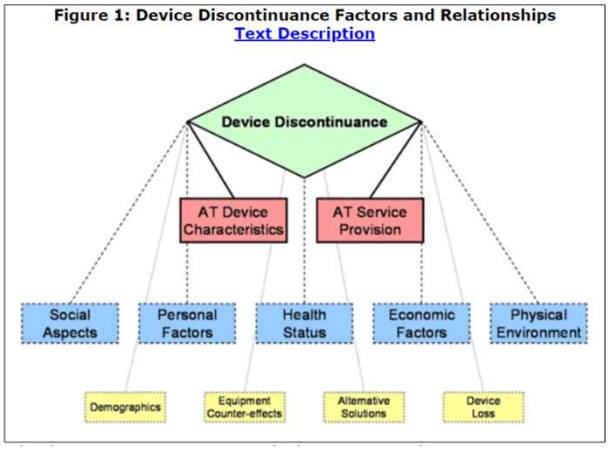
What to Avoid

ABANDONMENT

Philips and Zhao (1993)

a) Not Considering the user's opinions
b) Ease of device procurement
c) Poor device performance
d) Changes in the user's priorities

ATOMS Project, UWM, 2016

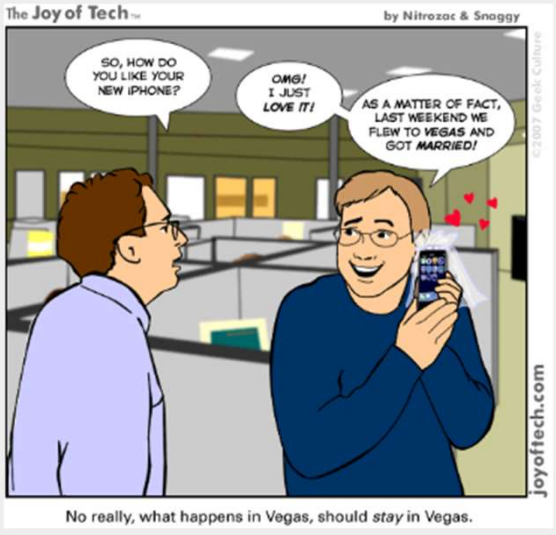


ABANDONMENT

- What can it look like?
  - Dust
  - Behavior
  - Breakage

ADOPTION

Evidence Based Ideas



ADOPTION

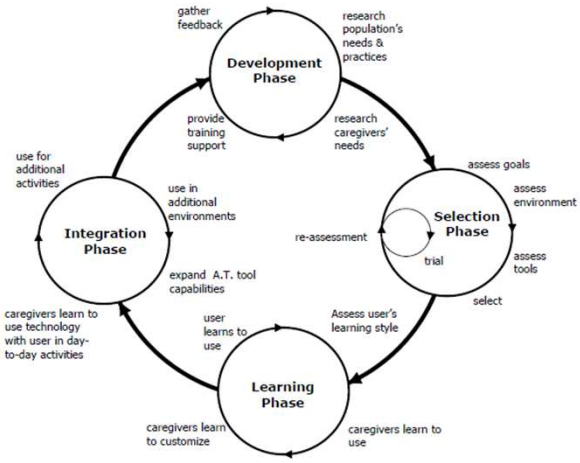


Figure 1: Cycle for Adoption of A.T.

Kintsch & DePaula - 2002

When the matching is not correct. It ends up on the shelf

This is often seen with academic tools. A student doesn't need them for "existence" but they do need them to improve.

If the student doesn't see the value, why then?

ADOPTION

FAMILY

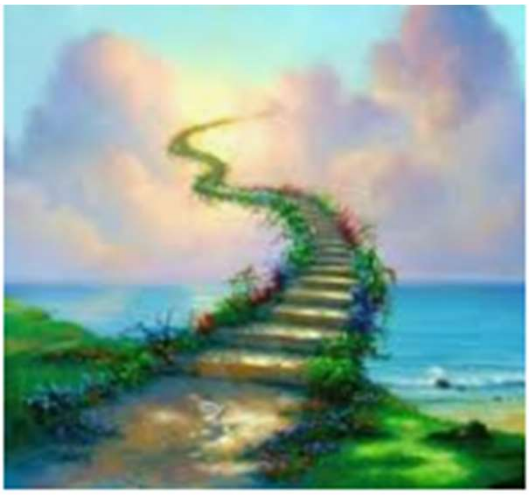
STUDENT

TEACHER

	User	Caregivers	A.T. specialists	Developers
Characteristics of successful adoption	Desires change in what they can do. Self-disciplined and has a high frustration tolerance Proud to use the device Willing to the tools use into their daily routine	Able to put forth effort required to learn to use and personalize the tool Support the user in using the new tool Welcome changes use of the tool brings to the social dynamic Understand that customization is not a one-shot deal and may need to continue throughout the technology's life.	Extensive knowledge of assistive technology Willingness to learn about new tools coming out on the market Facilitate a process which is collaborative rather than directive Offer training and support both in programming and integration Sensitivity to family values and cultural differences	Comprehensive understanding of functional limitations Develop customizable tools Develop tools which are simple to set-up Develop tools which are durable Allow for customer's aesthetic preferences Support users with technical support and short repair times

Kintsch & DePaula - 2002

CONSIDERING HIERARCHIES



We don't start at the top…

How big can the steps be?

Progress is not inevitable. It's up to us to create it!

A CASE STUDY

High Schoolers…

Student ***really*** benefits from:

- Speech to Text
- Text to Speech
- Use of a calculator

...and she wants nothing to do with any of it.

"You see us as you want to see us—in the simplest terms, in the most convenient definitions. But what we found out is that each one of us is a brain…and an athlete…and a basket case…a princess…and a criminal. Does that answer your question?"

QIAT-PS

Transition Focused (We don't get to keep them forever)

Fulfills Indicator 13

Free

Follow up resources have been added

http://www.qiat-ps.org

http://www.qiat-ps/evaluations/action-plans/student-self-evaluation-indicator-1/

Consideration and Feature Matching

What is different?

CONSIDERATION

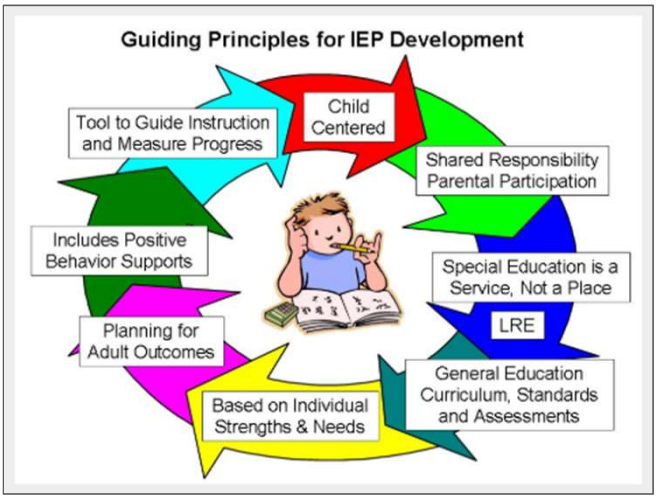
What leads to that positive outcome of Adoption?

Student - *Age, Disability, Motivation*

Family - *Expectations, Background*

Staff - *Presentation*

Time - *Support*



FEATURE MATCHING

Student Weaknesses

Student Strengths

Instructional Technology

Accommodations

Modifications

MODELS OF FEATURE MATCHING

GPAT

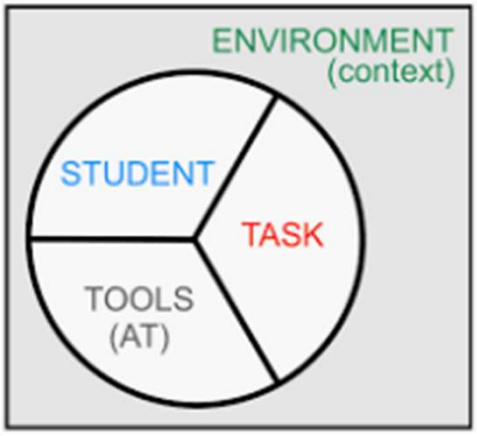
SETT

MTSS

HAAT

Task-Demand

http://www.at4il.org/resource-guides



IMPLEMENTATION PLAN

Usable and Dynamic

NECESSARY CONSIDERATIONS

BEST PRACTICES

- Collaboratively Developed Plan
- Integrated into the environment
- Shared Responsibilities
- Using a Variety of Strategies
- Learning Opportunities
- Data
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COMMON ERRORS

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HOW WE TEACH THE TOOL

What make sense?

Hierarchies - Adoption via small steps

Task Analysis - What parts will be easy for the student? What will have a learning curve?

Involved parties - Do the parents want to know how to use this? What staff need to be trained, will they need refreshers?

"So what's this? I asked for a *hammer*! A hammer! *This* is a crescent wrench! ... Well, maybe it's a hammer. ... Damn these stone tools."

MORE ON IMPLEMENTATION PLANS

- ★ Implementation plans can get VERY detailed if need be.
- ★ Better planned Implementation means it is less likely that the tech will be abandoned.
- ★ Puts everyone on the same page.
- ★ Using a consistent framework helps to make sure you are hitting the important questions and details.

It's time consuming AND worth the time.

IMPLEMENTATION: Parts of a Plan

- ★ Equipment
- ★ Student
- ★ School
- ★ Parents
- ★ Data

Milton Bradley's Perfection Game

Notice, this pulls together what we know from an evidence based perspective.

Derived from Socol (2008) Toolbelt Theory, other models are mentioned later.

EQUIPMENT

- ★ Who will provide the device and any consumable supplies needed?
- ★ Who owns or rents the device/program/equipment?
- ★ In what environments will the student use the AT?
- ★ Will the student need to use this device at home? If no, will an alternative device be needed?
- ★ Will adaptations or modificat to the device be needed to help the student access the device?
- ★ Who will be responsible for device repairs?
- ★ What is the backup plan if the device/equipment is not working?

STUDENT

- ★ Who will support daily/regular student use and maintenance activities (i.e. charging or cleaning if needed)
- ★ Who is responsible for student training?
- ★ How much training does the student require?
- ★ When will training be provided to the student?
- ★ What specific technology use skills will the student need to learn?
- ★ How will the student learn to use the device in the customary environment?
- ★ What kind of direct supervision and help will the student need in order to use the device in a functional manner?

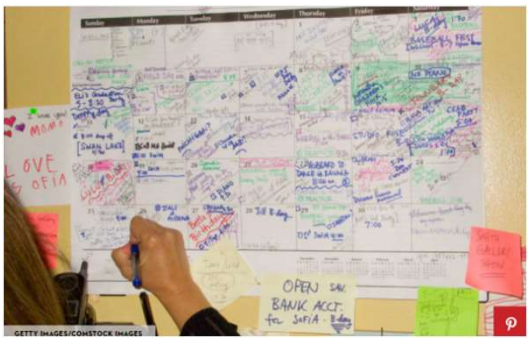
SCHOOL

- ★ List which adults in the student's environments will require training in the use of the device
- ★ What will various staff and family members need to know about the device and how it works?
- ★ Who will provide the needed training for these people?

Remember that one of the major pitfalls is not having a specific person assigned to these roles. It can't all be ONE person. Because people have sick days and maternity leaves, and family emergencies, and other students to work with.

PARENTS

- ★ Communication with family: (What do you need to give them?)
- ★ Parent/Family Training
- ★ Any home expectations or instructions



It may be difficult to schedule time with parents

- Video of use, demonstration
- Handouts with step by step instructions
- Offering training nights

DATA

- ★ What data will be collected?
- ★ Who will collect data?
- ★ When will data be reviewed?

Don't worry Brent Spiner, you are safe.

Is assistance needed outside of the IEP team?

https://www.educationtechpoints.org/wp-content/uploads/ATImplementationOrganizer3-1-2012.pdf

https://educationtechpoints.org/knowledge-base/forms-to-guide-implementation/

https://instructionaldesignlady.com/tag/t-e-s-t-model/

COMPETENCIES

4 key skills all students will need

COMPETENCIES

Operational

Social

Strategic

functional competence

Zabala, Bowser and Korsten (2004/2005) adapted Light and Buekleman and Reichle's (2003) stages of communication competence

OPERATIONAL

Operational competence refers to attaining the knowledge and skills needed to use a particular piece of AT. As the authors noted, there is a difference between understanding how to use an AT tool and using it to complete a task effectively.

FUNCTIONAL

Functional competence is attained when an individual can use a particular AT tool or system to complete the task for which it was chosen.

STRATEGIC

Strategic competence refers to using the AT device in real-world settings on real-world tasks. A student who has developed strategic competence can identify the situations and conditions in which the AT tool could be used and how to apply it appropriately.

SOCIAL

Social competence refers to attaining skills and strategies that allow the student to explain to others the purpose of the AT tool or system and how it will be used in various contexts. Social competence also may include developing the necessary self-advocacy skills to use an AT tool or system in multiple situations.

DATA COLLECTION

No data, no change

OBJECTIVE DATA

Do we SEE the student using it?

Tracking software/programming (Realize Language, Learning Ally, DJ Products, Google Docs)

Grades

Use of accommodations

SUBJECTIVE DATA

Subjective and judgment free!

Does the student report using it?

Asking the student, What do you think of this?

Has anyone noted a change in the student's work - refusal?

Does the student feel things are easier/harder?

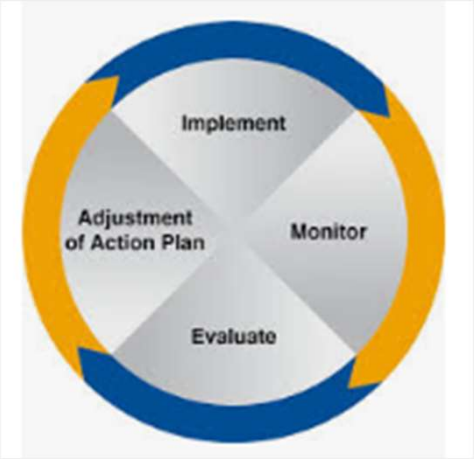
WHAT DO WE DO WITH THIS?

New features in Google Sheets make it easy to make pretty graphs! Use the Explore button at the bottom :).

Bass, 2018

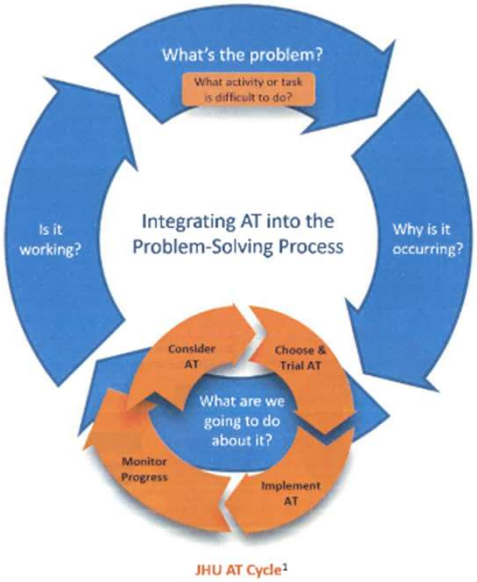
AT - CYCLE

Students Change, tech changes, so we need to....?



JHU MODEL

- ➔ **D. Cochrane - Consideration goes beyond the student and beyond the tools.**
- ➔ **At its heart, AT is problem solving.**



JHU AT Cycle[1]

SETT

A framework, not an evaluation! (per Joy Zabala herself!)

Student S	Environment E	Task T	Tools T
•What are the student's current abilities? •What are the student's special needs? •What are the functional areas of concern?	•What activities take place in the environment? •What activities do other students do that this student cannot currently participate in? •What assistive technology does the student have access to or currently use?	•What specific tasks occur in the environment? •What activities is the student expected to do? •What does success look like?	•Are the tools being considered on a continuum from no/low to high-tech? •Are the tools student centered and task oriented and reflect the student's current needs? •What are the training requirements for the student, family and staff?

YEARLY REVIEW?

Is once a year at the IEP meeting enough?

Quarterly

Case Manager responsibility?

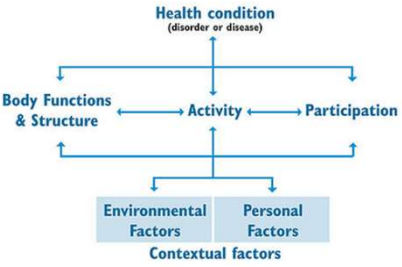
AT person responsibility?

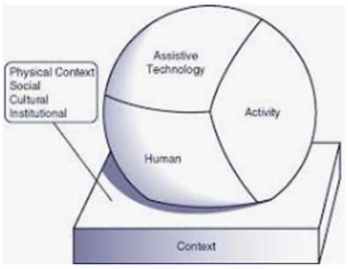
OTHER MODELS & STRATEGIES

HAAT - **Human Activity - Assistive Technology**

Social - **Can the student show others how to use it?**

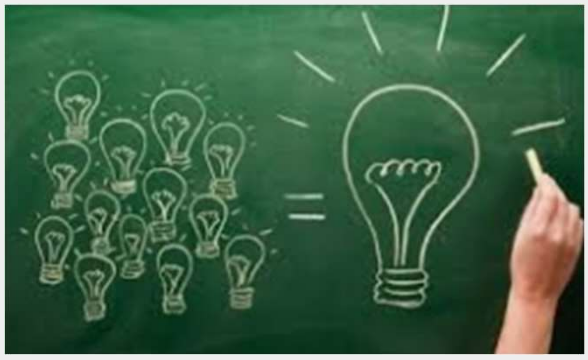
Start with person first - **WHO Model**





WRAPPING UP

Review and Final Notes



WHAT ELSE IS NEEDED?

All QIAT areas integrate together! How each relates to **Implementation**:

Successful implementation cannot happen without:

- Administrative Support - *You are sunk if you don't have this.*
- Consideration - *We need to know who will benefit.*
- Assessment - *We need to know how they will benefit.*
- IEP Development - *The plan needs to be clear and legally outlined.*
- Evaluation of Effectiveness - *Monitoring needs to happen.*
- Transition - *The importance of independence and AT.*
- Professional Development and Training - *Staff need to know **how** to help.*

SOURCES

Images pulled from generic Google Images search

QIAT Resources - https://qiat.org/

Kintsch & DePaula A framework for the adoption of Assistive Technology, Assets, (2002)

Laure, April, MS, OTR, Longenecker Rust Kathy, MS, OT, & Smith, Roger PhD, OT
ATOMS Project, UWM, 2016

Cruz, Daniel MC; Emmel, Maria Luisa G.; Manzini, Mariana G.; and Braga Mendes, Paulo V. (2016) "Assistive Technology Accessibility and Abandonment: Challenges for Occupational Therapists," The Open Journal of Occupational Therapy: Vol. 4: Iss. 1, Article 10.

Phillips, Betsy; Zhao, Hongxin (1993). "Predictors of Assistive Technology Abandonment," Assistive Technology: The Official Journal of RESNA: Volume 5.1/1993.

Johnston, P., Currie, L. M., Drynan, D., Stainton, T., & Jongbloed, L. (2014). Getting it "right": How collaborative relationships between people with disabilities and professionals can lead to the acquisition of needed assistive technology. Disability and Rehabilitation: Assistive Technology, 9(5), 421- 431.

Wessels, R., Dijcks, B., Soede, M., Gelderbom, G. J., & De Witte, L. (2003). Non-use of provided assistive technology devices: A literature overview. Technology and Disability, 15(4), 231-238.

POSITIVE OUTCOMES OF ADOPTION - (Easter Egg)

https://gatfl.gatech.edu/tflwiki/images/f/fb/Research_Implications_for_AT_and_Transition_-_IDEAS_2018_%281%29.pdf

- Dr. Ben Satterfield
- Georgia Tools for Life, AMAC - 2018
- **Change in grade point average from High School to Post Secondary among SWHID who mastered AT in high school:** GPA went up/ no change 88%, GPA went down 12%
- **Change in grade point average from High School to Post Secondary among SWHID who had not mastered AT in high school:** GPA went up/ no change 33%, GPA went down 67%

***SWHID - Students With High Incidence Disabilities*