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Universal Design for Learning versus Assistive Technology

Phil Booth – Ken Tsang

Assistive Technology Consultants

Ingham Intermediate School District

Ingham County and the State

- 1 ½ A.T. Consultants at the ISD
- 1 Lansing School District
 - Kristine Bauer
- Each county in the state has a position
- Michigan Integrated technology Supports MITS - Jim Stachowiak
 - <http://mits.cenmi.org/>

Phil's Background

- Special Education Degree – Eastern Michigan University
- 13 years special education teacher at the high school level
- Team teaching and resources room experience
- Assistive Technology practicum with MATR
- 8 years experience at the A.T. consultant with Ingham ISD
- Ed Tech certification Michigan State University

Ken's Background

- Master of Science in Occupational Therapy
- 15 years experience as a therapist
- Worked in a variety of educational settings across the Middle Atlantic, Michigan, and Florida with pre-k through High school in:
 - Center based programs
 - Inclusion environments
 - Resource classrooms
 - Self-contained classrooms
- Assistive Technology Consultant since 2013

Assistive Technology

- (1) Assistive technology device.--
- (A) In general.--The term `assistive technology device' means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability.
- (B) Exception.--The term does not include a medical device that is surgically implanted, or the replacement of such device.
 - United States Department of Education



What is Technology?

Wikipedia definition: Technology is the collection of techniques, methods or processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation. Technology can be the knowledge of techniques, processes, etc. or it can be embedded in machines, computers, devices and factories, which can be operated by individuals without detailed knowledge of the workings of such things.

https://www.youtube.com/watch?v=Giiz81_uzK8

Technology Continuum

- Technology ranges from “low” to “high”
 - Low technology examples include:
 - “Special writing tools”



Technology Continuum continued

- Low technology examples include:
 - Alphabet Stamps
 - Skeletal or Guided notes



Research Notes

TRIBE NAME: Pueblo Utah
New Mexico

WHERE DID THE TRIBE LIVE? California, Arizona
in the southwestern United States / parts of Texas, Mexico

HOUSES: NAME OF HOME - Adobe home.

WHAT WAS IT MADE FROM?
Adobe or sandstone.

HOW WAS IT BUILT?
by squares of adobe or sandstone
box shapes


WHAT WAS THE INSIDE LIKE? HOW WERE THINGS
ARRANGED? Storage areas for corn, ladders, doorways
square windows, no glass, etc.

It was an open area.


WHO MADE THE HOME? Men made the home.

DRAW A PICTURE OF INSIDE AND OUTSIDE

inside



outside



WHO LIVED IN THE HOME?
men, women, children, and family members

Technology Continuum continued

- Mid level technology examples:
 - Label makers



Technology Continuum continued

- Mid level technology examples:
 - Portable word processing devices



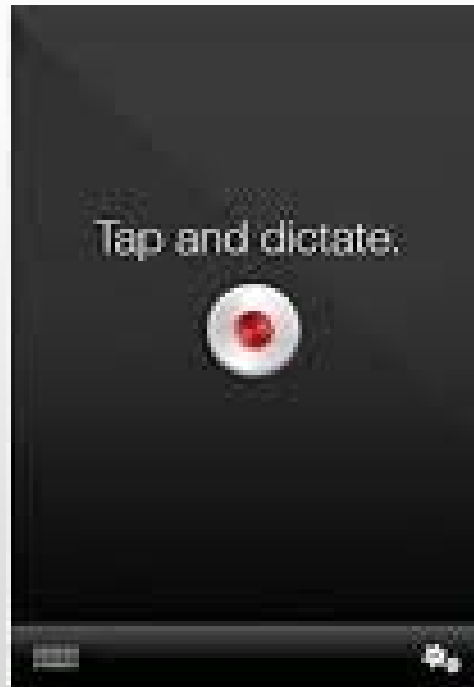
Technology Continuum continued

- High Technology examples:
 - Computers/Tablets/Phones with accessibility features (built into most modern operating systems)
 - Computers/Tablets/Phones with word processors



Technology Continuum continued

- High Technology examples
- Computer/Tablets/Phones with speech to text features



SETT Process

- Joy Zabala helped to develop the SETT process.
- SETT process is important since it used in AT decision making.



SETT

S Student	
E Environment	
T Tasks	
T Tools	

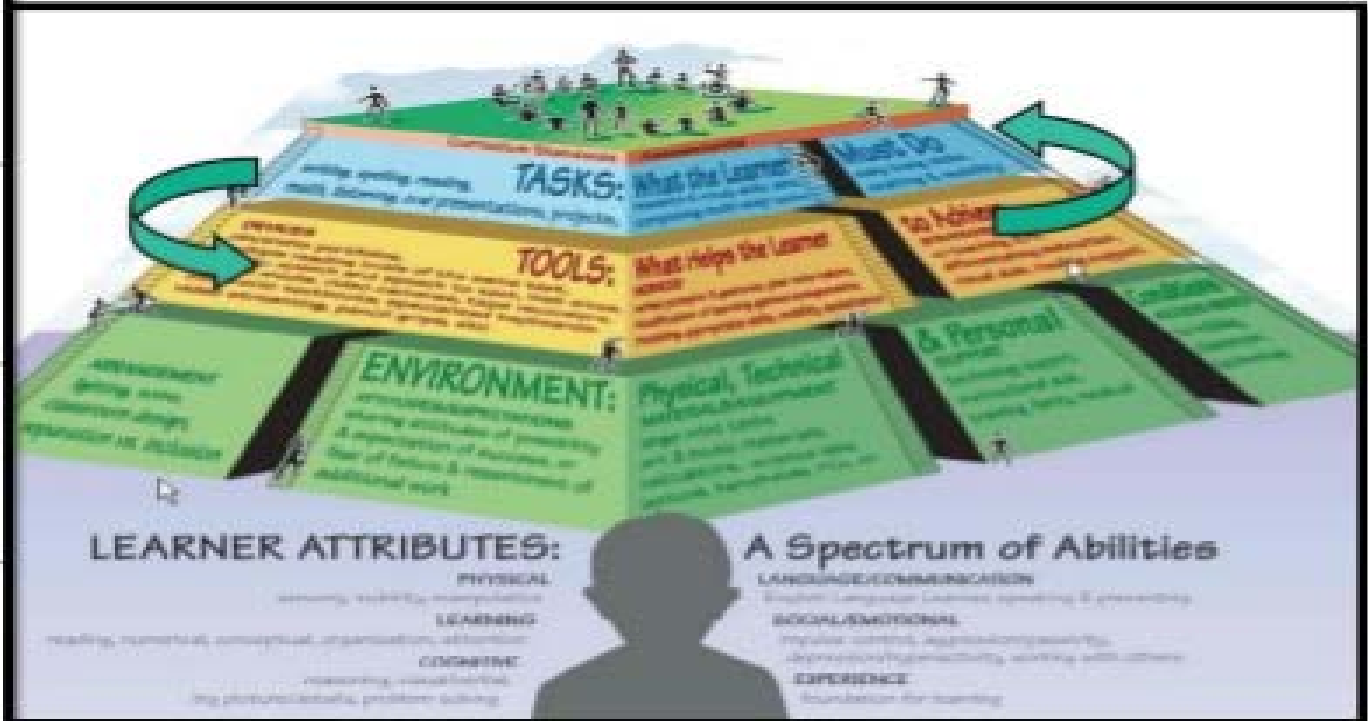


Image source (Slide 15): http://www.joyzabala.com/uploads/CA_Kanaraki's_SETT_Homes_Mouth.pdf

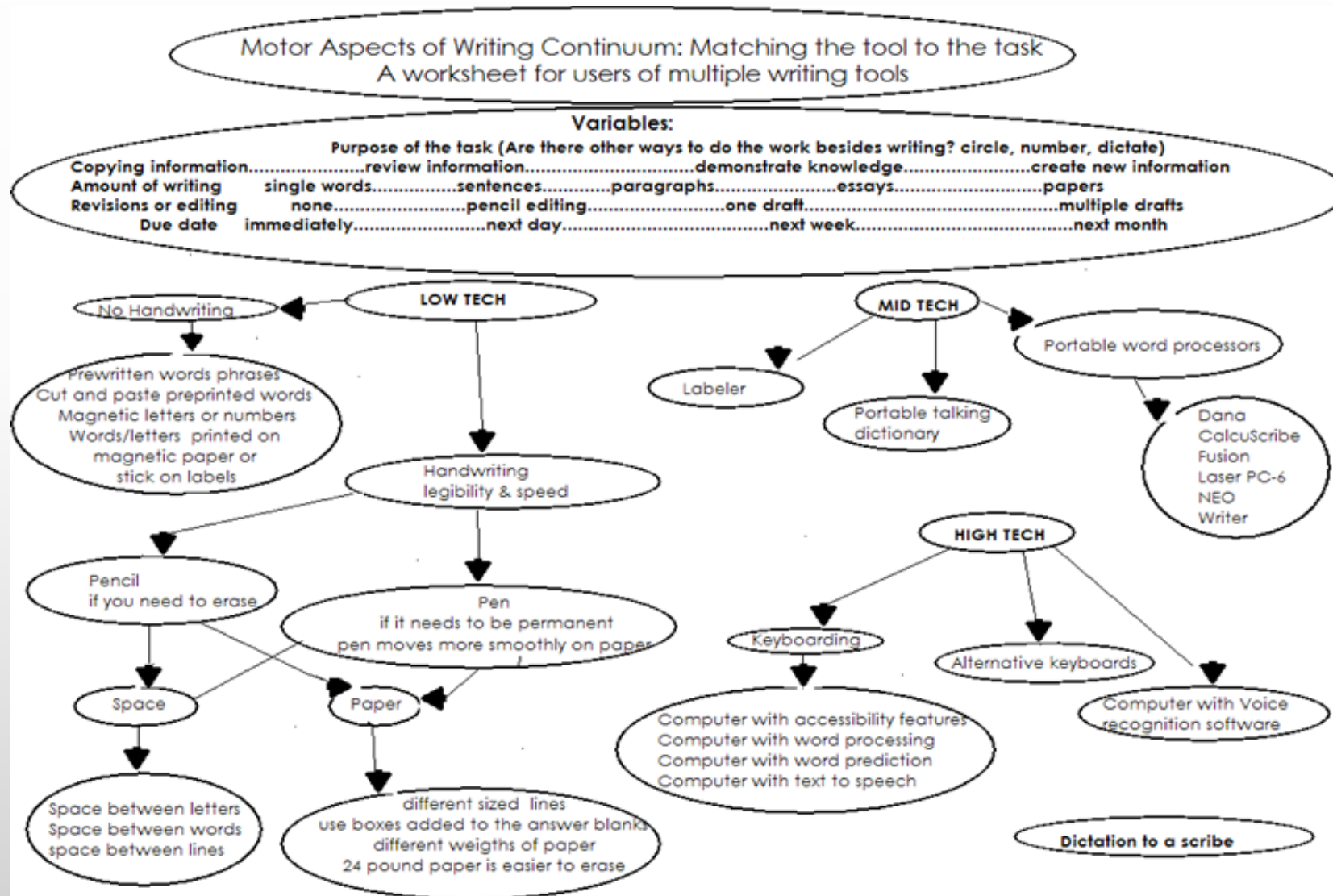
- Joy Zabala

The SETT Framework is an **organizational tool to help collaborative teams** create Student centered, Environmentally useful, and Tasks-focused Tool systems that foster the educational success of students with disabilities.

<http://www.joyzabala.com/>



SETT process Continued





What are Accessible Instructional Materials (AIM)/Accessible Educational Materials?

- <https://www.youtube.com/watch?v=6U3uKNKMv7s>
<https://www.youtube.com/watch?v=6U3uKNKMv7s>
- IDEA 2004 requires that all students with disabilities who need AIM/AEM should be provided with the instructional materials they need, in formats they need, at the time materials are needed. Some additional students served under Chapter 15 of the Rehabilitation Act of 1973 may also qualify as persons with print disabilities and need AIM.
- Bookshare is an example of AIM/AEM
- **Important:** Just because a student has an IEP or 504, does not mean they are eligible for Bookshare.



What is Bookshare[®]?

- Online library of accessible educational media for readers with print disabilities
- 10-year initiative of Benetech
 - More than 268,000 Student Members
 - More than 10,000 schools and other organizations
 - More than 216,000 titles
 - More than 1,000 new books added every month

What Bookshare Offers

- Digital books for individuals with print disabilities
- FREE memberships for qualified U.S. students through OSEP award
- FREE assistive technology software
- 24/7 access to books



How does Bookshare have Access to Books and Why is Eligibility so Important?

- Bookshare operates under an exception to US copyright law which allows copyrighted digital books to be made available to people with qualifying disabilities.
- The law states that it is not an infringement of copyright for an authorized entity (Bookshare is an authorized entity) to reproduce or to distribute copies of materials if they are reproduced or distributed in specialized formats exclusively for use by blind or other persons with disabilities.



What is a Print Disability?

- A print disability is a physically-based disability that makes it very difficult or impossible to read standard print.
- These include:
 - blindness or low vision,
 - a physical disability in which an individual cannot hold a book or turn the pages of a book, or
 - A documented learning or reading disability



Eligible Students

Record of disability kept at school!

Disability	Qualified/Not Qualified	Examples of Competent Authorities
Visual Impairment (VI) Blindness / Low vision	Qualified, if confirmed by a listed Competent Authority	A family doctor, ophthalmologist, optometrist, Teacher of the Visually Impaired, Special Education teacher; Certification from the National Library Service for the Blind and Physically Handicapped in the U.S. or similar national body in other countries
Physical Disability (PD)	Qualified, if confirmed by a listed Competent Authority that the disability significantly affects the use of printed materials	A family doctor or other medical professional, physical therapist, resource specialist, Special Education teacher
Learning Disability (LD) Reading Disability	Qualified, if confirmed by a listed Competent Authority, that the disability has a physical basis and significantly affects the use of print	A neurologist, psychiatrist, learning disability specialist, Special Education teacher, school psychologist, or clinical psychologist with a background in learning disabilities
Autism Emotional disabilities ADHD	Not qualified under this diagnosis , unless accompanied by a qualifying visual, physical, learning or reading disability as certified by a Competent Authority as above	Examples listed above
ESL and ELL		



Seven Point Digital Rights Management

① Qualified Users

- Only qualified users with certification of disability on record.

② Contractual Agreement

- All users have to agree to terms of use that forbid violation of specific copyright laws.

③ Copyright Notice

- All books in our library contain a copyright notice.

④ Encryption

- All books are encrypted for a specific user.

⑤ Fingerprint

- All downloaded copyrighted material is fingerprinted as to allow us to trace files that show up elsewhere back to the Member.

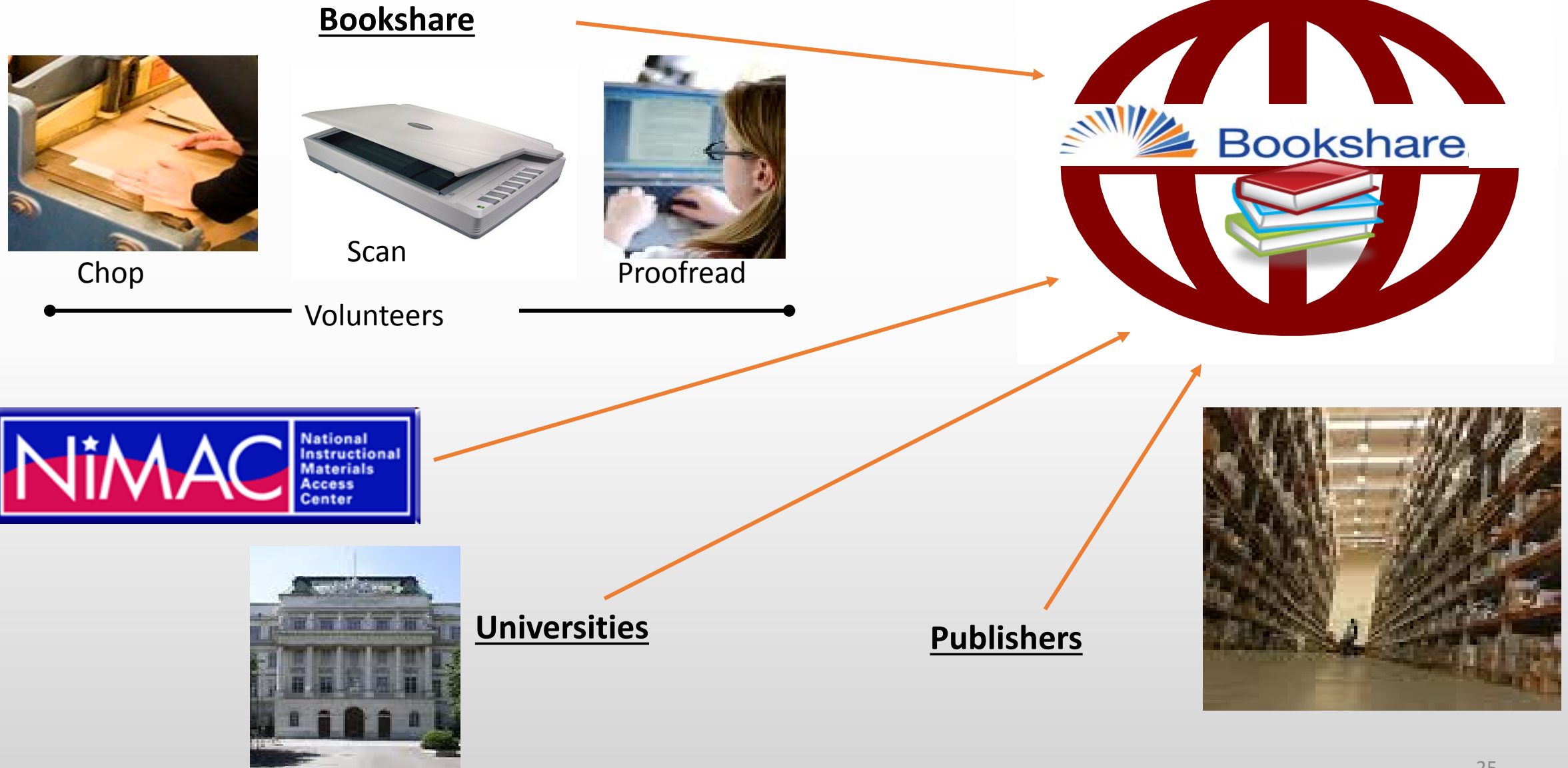
⑥ Security Database

- All transactions, encryption codes and fingerprints are stored in a database enabling Bookshare to track any unusual activity.

⑦ Security Watch Program

- Monitors all book downloads and suspends any user whose account exhibits unusual activity.

How Bookshare Gets Digital Books





The NIMAC

- Central repository to store digital textbooks from publishers: the National Instructional Materials Access Center (NIMAC) <http://nimac.us>
- Established under IDEA 2004 at the American Printing House for the Blind, Inc. (APH) with support from the U.S. Department of Education
- Only U.S. K-12 students with an **IEP** and a **print disability** are eligible for using NIMAC books in Bookshare
- Only **educators** can download NIMAC books for these students



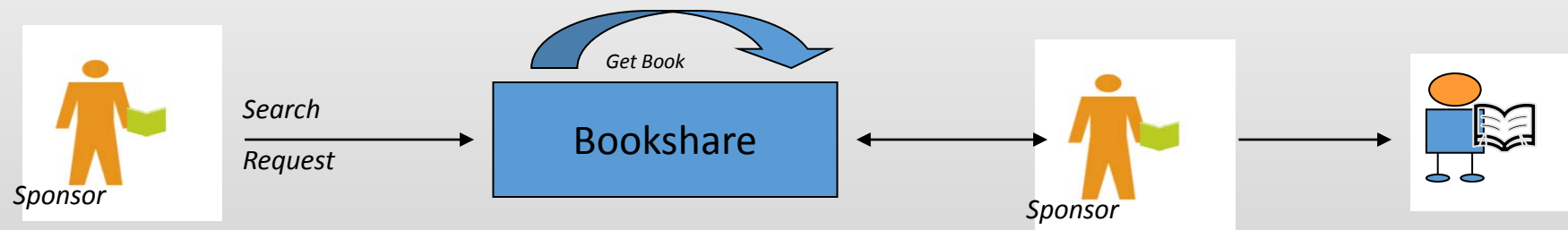
Books Available through NIMAC but not in Bookshare

- When a book is available in the NIMAC but not yet in Bookshare, the process to get it through us depends on whether or not your state has named Bookshare an Authorized User of NIMAC.
 - If Bookshare **is** an Authorized User in your state, Bookshare can secure the book for you once a Book Submission Request is provided to include: ISBN, title, and author
 - If Bookshare **is not** an Authorized User in your state, you will need to go to your state's NIMAC Coordinator to assign the book to Bookshare.
 - Send request or, physical copy to Bookshare (can take up to 3 months)



Bookshare as a State Authorized User

- Search Bookshare's Web site for textbook
- If book is not found in Bookshare, search the NIMAC
- If book is in the NIMAC, use **Contact Us** to request the book. Provide ISBN number, title and author
- Bookshare gets book ready for student and sends email
- Sponsor downloads book for qualified student
 - Average turn-around: 7-10 business days





NIMAC Resources

<http://nimac.us> = *find NIMAC books & information*

http://aim.cast.org/learn/policy/state/nimas_nimac_contacts#.UkyODz8iyPg = *locate your state-coordinator*

<http://aim.cast.org/learn/policy/local> = *find sample publisher contract language*

Retrofitter

- **AT—“Plumber”**

- One at a time
- Made to fit
- After the fact
- Made to feel different
- Educated guess

- **UDL**

- All students in mind
- Proactive
- Technology in the classroom
- Flexibility

Universal Design for Learning

UDL is the practice of embedding flexible strategies into the curriculum during the planning process so that ALL students can access a variety of learning solutions.

HIAT/MCPS/2007

Foundations

- Vygotsky
 - Zone of proximal development
- CAST
 - Educational Research Center for UDL
 - Learning Tools
 - David Rose and Skip Stahl
 - <http://www.cast.org/index.html>
- Howard Gardner
 - Multiple Intelligences

Principles of UDL

Where the learning environment and lessons
come together

Multiple Means of Engagement

- The “why” of learning
- Purposeful, motivated learners
- Vary demands and resources to optimize challenges
- Self assessment and reflection

Multiple Means of Representation

- The “what” of learning
- Resourceful, knowledgeable learners
- Provide options for comprehension
- Clarify, language, symbols, vocabulary, auditory, visual
- Background knowledge

Multiple Means of Action and Expression

- The “how” of learning
- Strategic goal-directed learners
- Enhance capacity for monitoring progress
- Provide options for expression and communication
- Provide options for physical action

MYTHS

- UDL has no research behind it
- UDL is just differentiation
- UDL is only good with students with a IEP
- If you purchase an UDL product you are doing UDL
- To do UDL, you have to use technology

Strategies

- Guided notes
- Magazines/Newspapers online
- Google
- Differentiation
- Course Management System
- Hardware
- What you have in your building, district, classroom

Books

- PALMS
- [Biology Book](#)
- [CADL](#)
- [Audible.com](#)
- YouTube audiobooks
- Gutenberg.org
- [Librivox.org](#)

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