

Three Arrows that AIM for Achievement: Accessible Content, Flexible Technology and Great Teaching



Joy Zabala, Ed.D.
Director of Technical Assistance
Center for Applied Special Technology (CAST)
and the AIM Center

DISCLAIMER

- This slide set contains the “bones” of presentation but may not be EXACTLY match the slides used.
- Some slides may be added at the last minute.
- Some slides may not be used but are left in the handout to provide you with access to the information after the session.

Focus of this Session

This session will focus on big ideas and practical issues pertinent to deepening awareness and fostering action around the timely provision of accessible materials to all students who need them for educational participation and achievement

Main Ideas of this Session

- 1) The purpose of accessible materials
- 2) The language of accessible materials
- 3) Identification of need for accessible materials
- 4) Sources of accessible content
- 5) Technology, teaching and other supports needed for use of AIM by students and others
- 6) Specifics of AIM in Oklahoma

**ACCESSIBLE
CONTENT**

**FLEXIBLE
TECHNOLOGY**



GREAT TEACHING

The 2004 reauthorization of the IDEA explicitly requires State and Local Education Agencies to ensure timely provision of specialized formats of printed instructional materials to students with print disabilities.

Section 300.172
IDEA Final Regulations

OSEP Funds Several Projects to Assist SEAs and LEAs in Meeting this Requirement

- The National Instructional Materials Accessibility Standard (NIMAS) Board
- The National Instructional Materials Access Center (NIMAC)
- The National Center on Accessible Instructional Materials (AIM Center)
- Bookshare at Benetech
- The DIAGRAM Center at Benetech (with WGBH and US DAISY)

The Big Issue



A Simplified Notion of the Purpose of AIM

The purpose of accessible materials is to ensure that ALL students have the opportunity to perceive the information contained in educational materials.

Almost a decade later...

Many students are not getting the educational materials they need to gain information needed to increase participation and achievement.

Why This Matters!

60% of K-12 Students are Reading
One Grade Level Below Standard.

40% of K-12 Students are Reading
Two Grades Level Below Standard.

12% of students in the public schools receive special
education services.

In the USA 19% of students are learning in their
second language. This is almost twice the global
average.



Persistent Barriers and Emerging Issues

Persistent Barriers and Emerging Issues

- There are varying understandings of AIM-related language
- There is tension between education requirements and copyright protections
- People have difficulty with decision-making
- There is inconsistency of implementation across SEAs and LEAs
- There are a lot of people who need to know a lot of things and getting the word out is an ongoing challenge

*Everything is vague to a degree
you do not realize till you have
tried to make it precise.*

Bertrand Russell

**ACCESSIBLE
CONTENT**

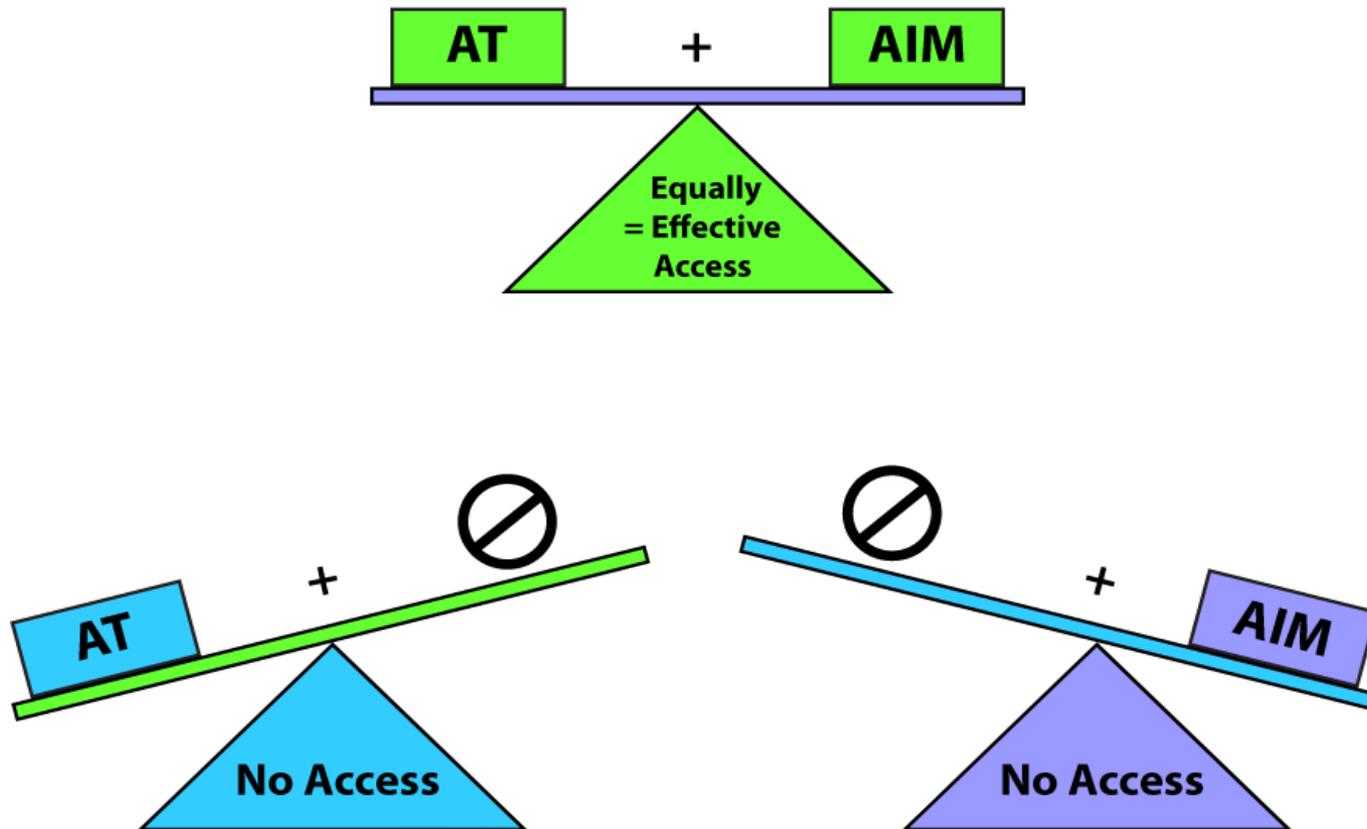
**FLEXIBLE
TECHNOLOGY**



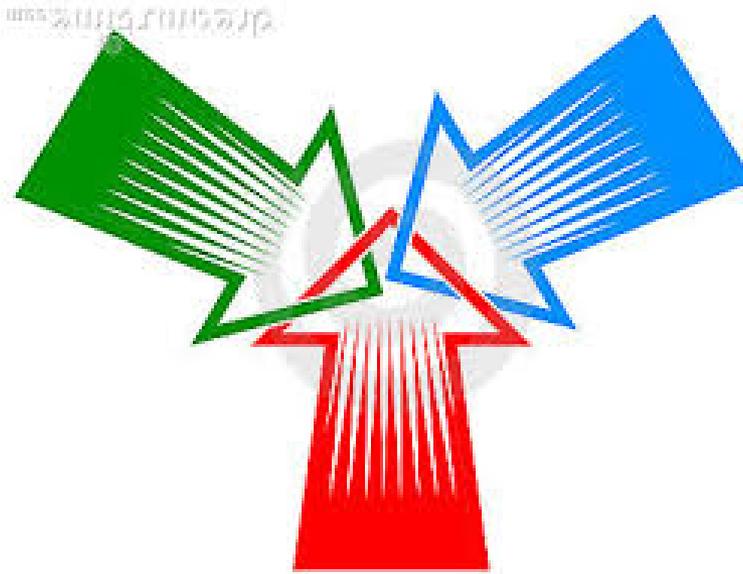
- The information is the content
- Technology is the delivery system upon which the content is presented to the student



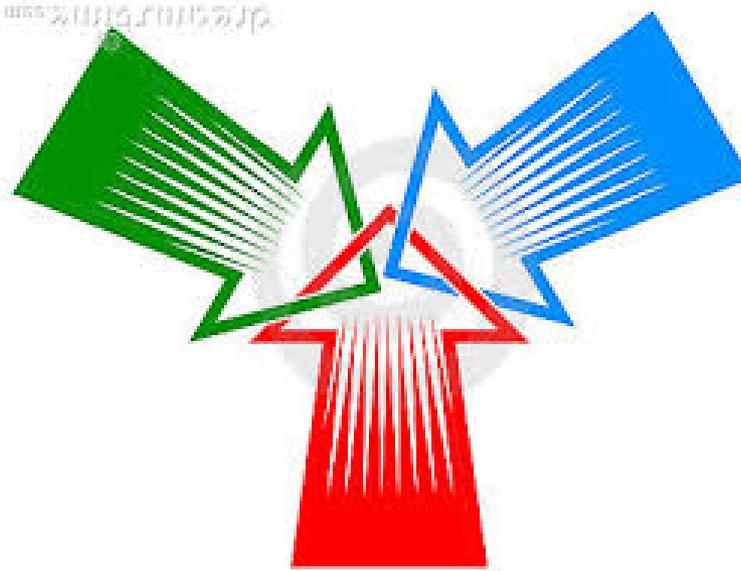
The Content/Technology Balance



MOVING BEYOND ACCESS TO PARTICIPATION AND ACHIEVEMENT



MOVING BEYOND ACCESS TO PARTICIPATION AND ACHIEVEMENT



GREAT TEACHING

Four Component of Great Teaching



Goals

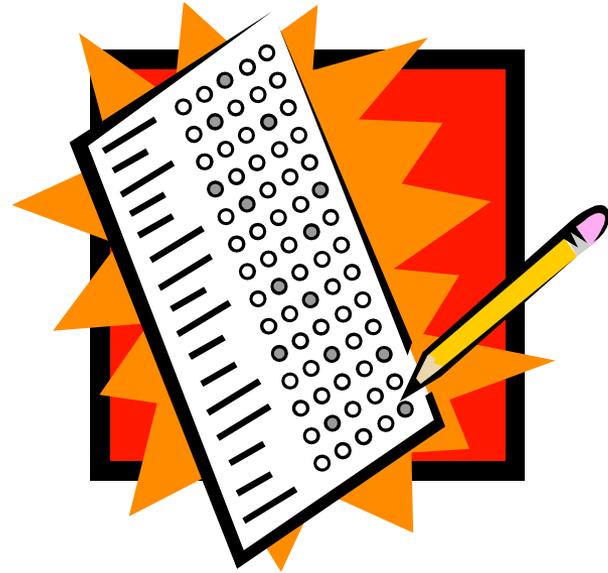
Firm Goals, Flexible Means



- Clearly identified
- Do NOT embed the means unnecessarily
- Allow multiple paths to achievement

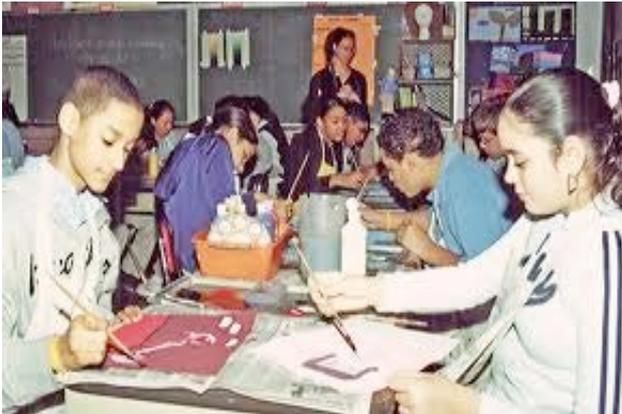
Assessment

- Progress Monitoring
- Formative Assessment
- Clearly articulated rubric
- Accessibility
- Construct validity



Methods

- Varied Methodology
- Graduated Scaffolding
- Appropriate Supports and Services



FLEXIBLE TECHNOLOGY (Assistive and Otherwise)



Instructional Technologies

- Are generally acquired for and used by groups of students rather than individuals
- Are typically related to promote attainment of a specific goal or set of goals
- Are typically used build knowledge and/or support mastery of a skill or group of skills
- May be discontinued after knowledge and skills are acquired and goals are met
- May require interfacing with AT to provide access and interactivity for some students

Assistive Technologies

- “Increase, improve or maintain the functional capabilities of an individual with disabilities”
- Include a broad range of possible devices and supporting services when needed
- Enhance capabilities and the lowers barriers to achievement
- Are related to function, not to a disability category
- May be applicable to all groups and in all phases of education and life
- Must be student-centered, task-focused and environmentally useful to be effective

Universally Designed Technologies

- Are designed and developed to be directly usable (without the need for adaptation or assistive technology)
- Are designed and developed in ways that can be made usable with assistive technologies
- Typically include lots of options that can be readily manipulated to meet the needs of a variety of users

Universally Designed and Assistive Technologies

- Universally designed technologies are a part of make the learning environments as flexible and accommodating as possible
- Assistive Technologies looks at the specific barriers a student may face in whatever environments they find themselves.
- Both approaches strive to insure the access, participation & progress of all students



Assistive technologies broaden usability of instructional and productivity technologies

IF

Instructional hardware and software are designed and developed according to universal design principles that enable interfacing to occur

CONTINUE TO “ACCESSIBLE CONTENT”





Joy Zabala

jzabala@cast.org

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HANDOUT CONTINUED

ACCESSIBLE CONTENT



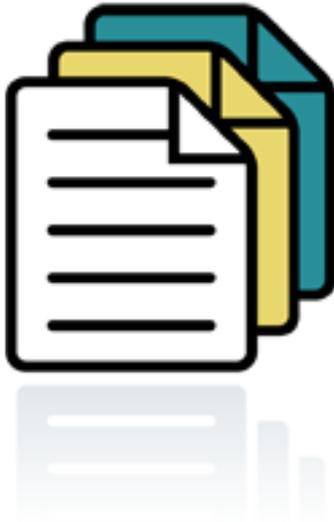
The Legal Connection

Section 300.172, Final Regulations of IDEA 2004

Provisions within the Individuals with Disabilities Education Improvement Act of 2004 require state and local education agencies to ensure that textbooks and related core instructional materials are provided to students with print disabilities in specialized formats in a timely manner.

Legal requirement is placed in State and Local education agencies. IDEA cannot place requirements on publishers

Print Disability



- Language appears in IDEA and is specifically not defined.
- In general usage, it refers to being unable to read or use standard print materials because of blindness or other disability



What are Accessible Instructional Materials?

Keeping Language Current

- ✓ Language as a barrier
 - Changes over time
 - Acting from common misunderstandings
- ✓ Language as a capacity-builder
 - Keeping up with change
 - Common vocabulary

New Language from OSEP

OSEP officially changed the name of the Technology and Media Services for Individuals with Disabilities Program to the **Educational Technology, Media, and Materials for Individuals with Disabilities Program.**

December 9, 2012

New Language from OSEP

The program purpose statement was amended to include "... (4) provide accessible **educational** materials to children with disabilities in a timely manner."

These changes do not modify the legal authority or coverage of the program.

December 9, 2012

“educational”

=

“instructional”

=

“learning”

AIM as NIMAS



XML files that are developed to the National Instructional Materials Accessibility Standard (NIMAS) can be readily transformed into student-ready specialized formats.

AIM as NIMAS



The national repository of NIMAS-compliant files that are created by publishers and deposited when required by SEA/LEA purchasers.

Language Change Over Time

NIMAS

- **Facilitator:** purchasers, publishers and media producers
- **Barrier:** decision-makers for individual students, educators, families
- **Common misunderstandings:** eligibility, student-ready, is all that's needed

AIM as Specialized Formats

- Braille, large print, audio, and digital text
- Exactly the same information as the printed materials
- Only the presentation of the material is different



Language Change Over Time

AIM as Specialized Formats

- **Facilitator:** broadens understanding beyond NIMAS as sole means of providing accessible materials
- **Barrier:** applies only to print-based materials, limited to students meeting copyright criteria, equates need to specific disability categories
- **Common misunderstandings:** need is equated to falling within specific disability categories, acquiring for one opens access to all, fair use



Lesson Learned...

- AIM is not just NIMAS!
- AIM is not just Specialized Formats

Accessible Instructional Materials...



- Are designed or enhanced in a way that makes them usable by the widest possible range of student variability regardless of format (print, digital, graphical, audio, video)
- Content may be “designed to be used as print” and require retrofitting
- Content may be “designed to be used digitally” and difficult to retrofit if not accessible from the start

Language Change Over Time

AIM as Materials designed to be highly usable across full range of student variability

- **Facilitator:** expands beyond printed materials, includes digital materials, increases importance of the market, extends thinking to non-text material
- **Barrier:** lack of demand, limited availability in the market
- **Common misunderstandings:** all digital materials are accessible to everyone



How are decisions made
about AIM?

A Four-Step Process for Decision-Making

1. Establish need for instructional materials in accessible format(s)
2. Select format(s) and features needed by a student for educational participation and achievement
3. Commence steps to acquire needed format(s) in a timely manner
4. Determine supports needed for effective use for educational participation and achievement.



Lesson Learned...

It **SOUNDS** simple, but it's not!

A variety of information, tools, and resources must be readily available to educators, families, and others who need them where and when they are needed!

The AIM Navigator

A process facilitator that assists educators, families, and students with decisions about AIM for an individual student

- Four major decision points
Need, Selection, Acquisition, and Supports for Use
- Guiding questions and instant feedback
- Built-in scaffolded supports
- Extensive references and resources
- Student Summary and To-Do List

Not a screening or evaluative tool!

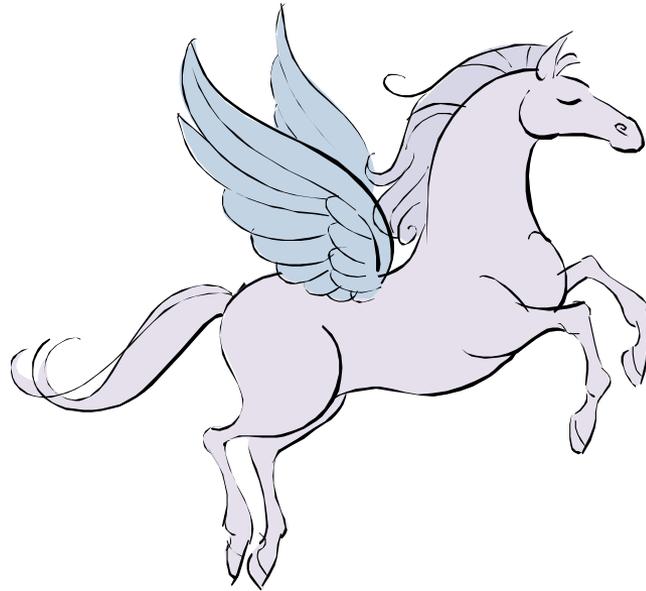


Who needs AIM?

Who “qualifies” for NIMAS?



Who “qualifies” for NIMAS or AIM?



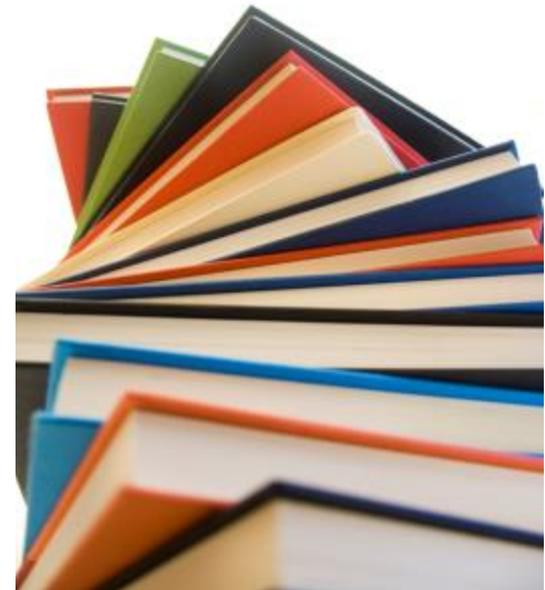
Need comes before qualification!

Reframing the Question

“Who **NEEDS** accessible versions of instructional materials for educational participation and achievement?”

Many students with disabilities are unable to read or use educational materials, because of

- Blindness of visual impairments
- Physical impairments
- Learning disabilities
- Other disabilities that impact the ability to read standard print or use standard materials





Lesson Learned...

The need or preference for instructional materials in accessible formats goes well beyond students with identified disabilities and well beyond print.

Who Needs AIM?

Students with disabilities that prevent them from using “typical” instructional materials, such as print or “locked” digital materials, effectively

- Students with sensory, physical, or learning-related disabilities

Students without identified disabilities who cannot make effective use of “typical” instructional materials

- Struggling readers; students lacking English proficiency, etc.

Students who simply prefer options for different tasks or for use in different environments.

Who NEEDS AIM?

If any student is unable to read or grade level instructional materials used by other students at a sufficient rate and with adequate comprehension to complete academic tasks with success, relative to same-age peers, or cannot do this independently, or cannot do this across environments and tasks, then the student MAY need AIM.

Let's unpack this a bit...

If any student is unable to read or use grade level instructional materials

at a sufficient rate and with adequate comprehension to complete academic tasks with success, relative to same-age peers,

or cannot do this independently, or cannot do this across environments and tasks,

then the student MAY need AIM.



What are the sources of AIM and who can use each source?



There are multiple sources for acquiring materials for students needing AIM but all sources cannot be used for used all students

Multiple Sources of AIM

- NIMAS/NIMAC
- Accessible media producers (AMPs)
- Locally produced
- Free sources
- Commercial sources

Multiple Sources of AIM

The NIMAC

Students using materials created from NIMAS-source files stored in the NIMAC must:

- 1) **meet copyright criteria** (certified by a competent authority as unable to read printed materials because of blindness or other disability) AND
- 2) **be served under IDEA.**

There are varying Interpretations of “Qualifying Disability”

The National Library Service of the Library of Congress
*Blind, Visual Impairment, Physical Limitations,
or a Reading Disability based on Organic Dysfunction*

Multiple Sources of AIM

Accessible Media Producers:

Use of materials from this source are constrained by copyright restrictions (Bookshare, Learning Ally, APH, etc.)

Locally Produced:

May have constraints and certainly require significant human resources

Free Sources:

No limitations, but may not be the same as used by others

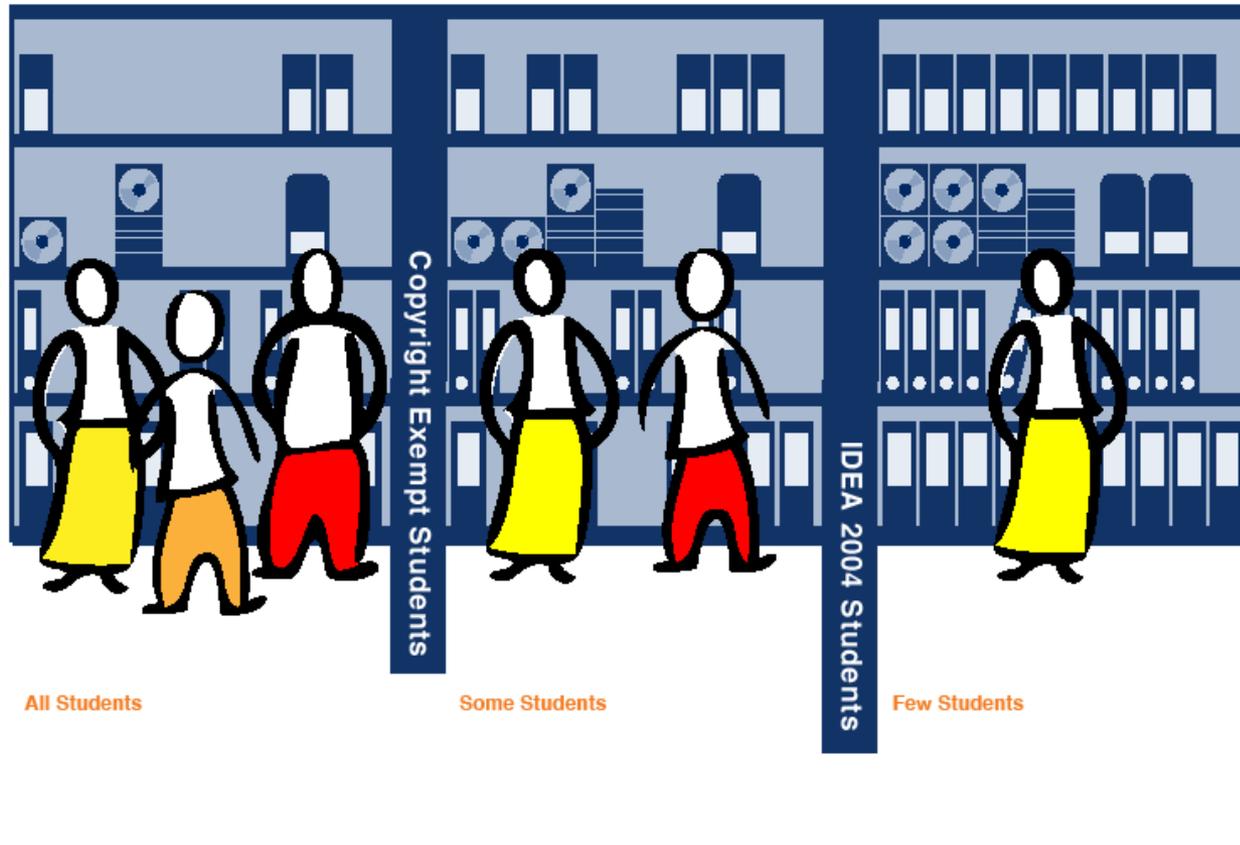
Commercial Sources:

Purchase for anyone, use with anyone!

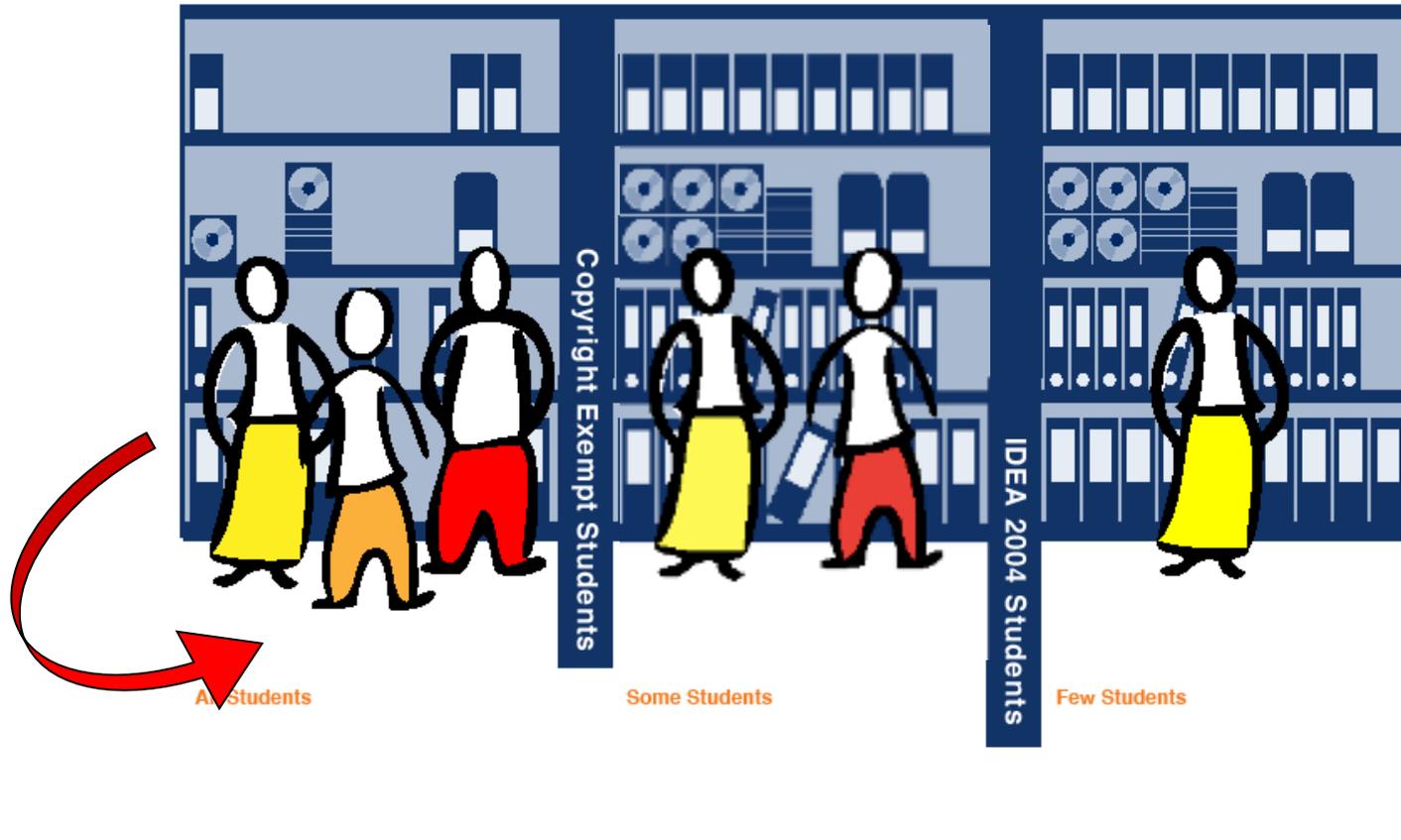
THE LIBRARY OF ACCESSIBLE TEXT



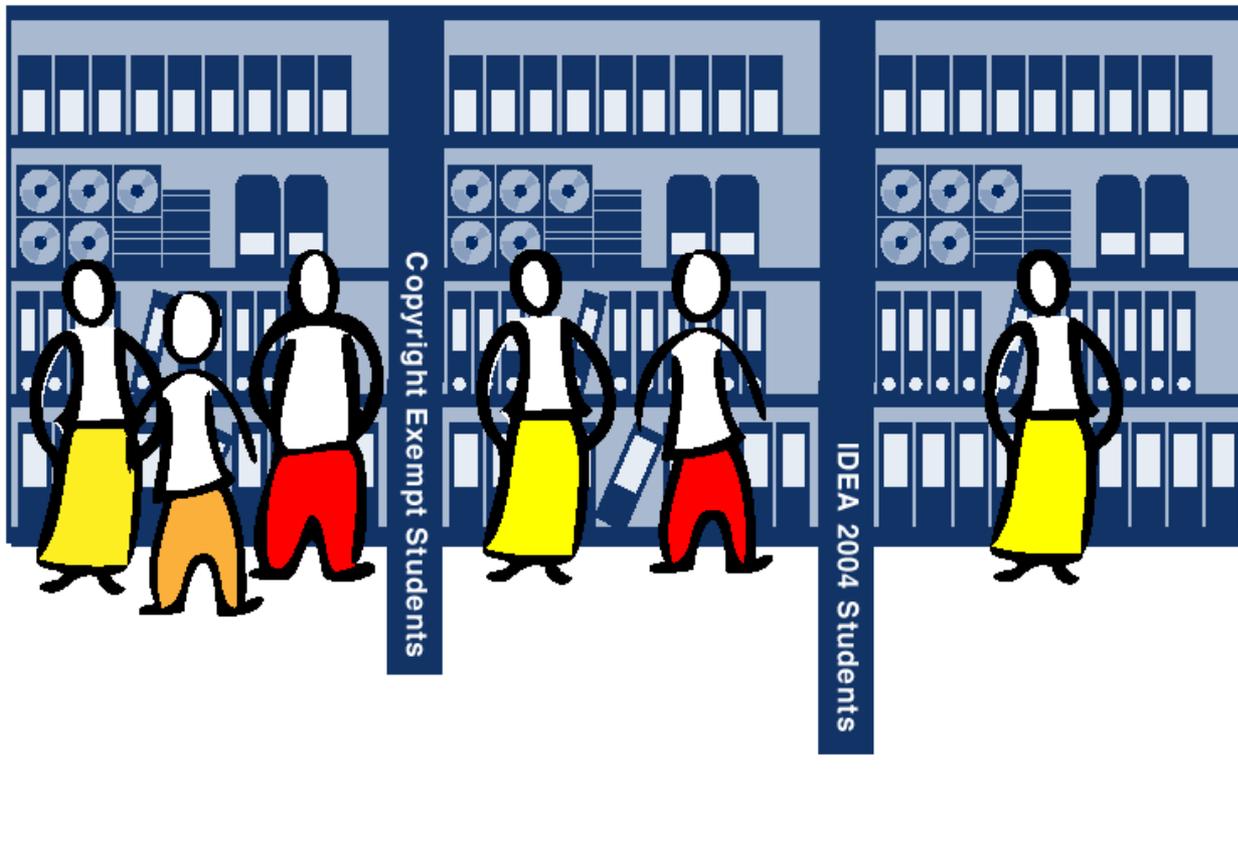
THE LIBRARY OF ACCESSIBLE TEXT



THE LIBRARY OF ACCESSIBLE TEXT



THE ACCESSIBLE LIBRARY OF THE NEAR FUTURE





Lesson Learned...

As the publishing industry “goes digital” the most promising sources of AIM for widespread use are:

- accessible digital learning materials developed by publishers and made available for purchase
- accessible open educational resources (OERs)

CONTINUE TO “DIGITAL CONTENT”





Joy Zabala

jzabala@cast.org

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HANDOUT CONTINUED

DIGITAL CONTENT





Lesson Learned...

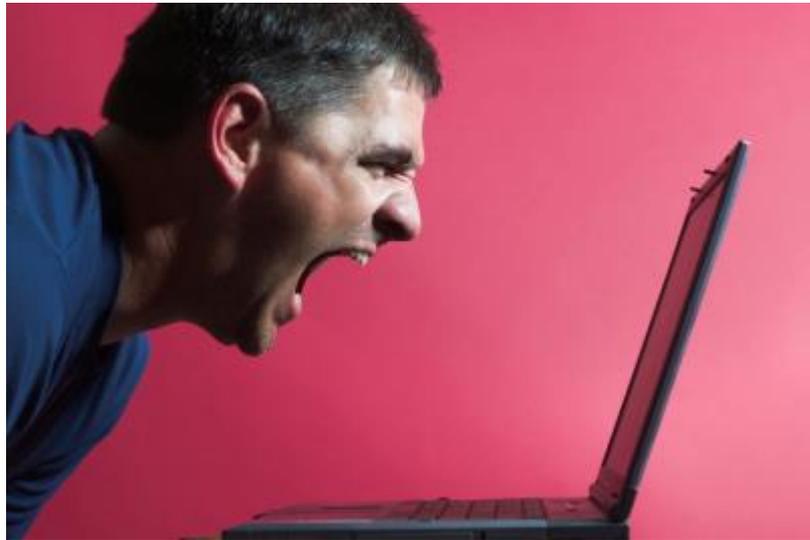
As the publishing industry “goes digital” the most promising sources of AIM for widespread use are:

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“Accessibility problems can be eliminated and the “playing field leveled” when course content is delivered using various and redundant modes such as speech, text, and graphics... These modes make it possible to deliver content based not only on disabilities, but also on learner preferences or preferences.”

Center for Online Learning Teacher Resources

but here's the problem...



Many of the digital educational materials and their delivery systems are not currently accessible!

...Virtually no elementary
or secondary system has
the capacity to retrofit
digital content for
accessibility.

White paper. *The Foundation of Online Learning Center for
Students with Disabilities*. Center for Online Learning



Lesson Learned...

Asking a publisher or creator of OERs if their materials are “accessible” often leads to answers that are not very enlightening. More pertinent information is needed.

Introducing the PALM Initiative from the AIM Center

Purchase
Accessible
Learning
Materials





Lesson Learned...

Purchasing materials designed from the start with rich options that increase their accessibility and make them more widely useable is beneficial in many ways.

Benefits Of Purchasing Materials that are Accessible From The Start

- Supports inclusion
All students use same materials at the same time
- Benefits all students' learning
All have access to supportive features and scaffolds
- Benefits teachers
Easier to plan and teach
- Reduces complexity
Eliminates eligibility questions
- Reduces costly accommodations
No need for different sets of materials or to provide accommodations for inaccessible materials

and here's another problem...



As exciting, inviting digital materials are being developed, publishers are not hearing much of a demand for accessibility or broad usability!



Steps to Increase the Production and Availability of Accessible Digital Materials for Purchase

Steps to Increase the Production and Availability of Accessible Digital Materials for Purchase



If you are a purchaser of materials require that all materials purchased from publishers/developers be aligned with relevant accessibility standards (e.g., DAISY, WCAG 2.0 at minimum, Section 508)

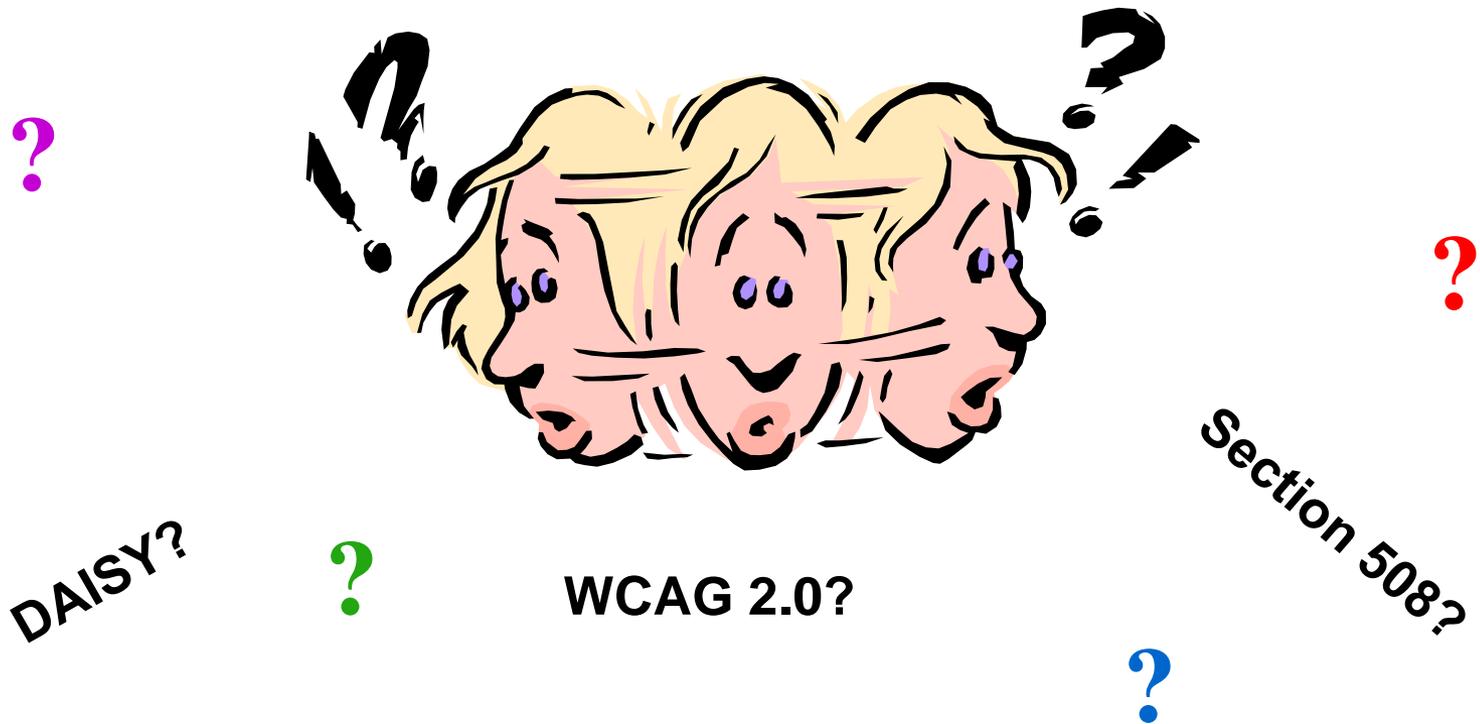
WCAG 2.0, Level AA Principles

- **Perceivable**
 - Information and user interface components must be presentable to users in ways they can perceive.
- **Operable**
 - User interface components and navigation must be operable.
- **Understandable**
 - Information and the operation of user interface must be understandable
- **Robust**
 - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including AT

If purchasers consistently DEMAND accessibility in all digital products, the production and availability of accessible digital materials for purchase WILL increase



“Accessibility” for the Rest of Us!



Steps to Increase the Production and Availability of Accessible Digital Materials for Purchase

Seek out and purchase materials that:

- Can run on a variety of devices
- Are developed in device-agnostic file formats (e.g., accessible HTML, Microsoft Word, PDF, ePUB, etc.)
- Have content represented in multiple ways (e.g., video captions, alt text, text and image descriptions that can be voiced, digital braille, etc.)

Steps to Increase the Production and Availability of of Accessible Digital Materials for Purchase

Seek out and purchase materials that:

- Are compatible with other technologies (e.g. assistive technology, screenreaders, refreshable braille, text-to-speech, and human-voice reading)
- Have rich navigation alternatives (e.g., keyboard shortcuts/mapping or screen gestures, etc.)
- Have location supports such as page numbers and/or progress bars

Steps to Increase the Production and Availability of of Accessible Digital Materials for Purchase

Seek out and purchase materials that:

- Represent mathematical, scientific, and music symbols, formulas, and notations in multiple ways (e.g., explained with text alternatives, MathML)
- If writing is required, keyboard entry is supported by alternatives (e.g., word prediction, on-screen keyboards, voice input, etc.)

Steps to Increase the Production and Availability of Accessible Digital Materials for Purchase

Digital Rights Management (DRM)
MUST NOT prevent access
to built-in accessibility features
or necessary assistive technologies

WCAG 2.0, Level AA Principles

- **Perceivable**

Information and user interface components must be presentable to users in ways they can perceive.

- **Operable**

User interface components and navigation must be operable.

- **Understandable**

Information and the operation of user interface must be understandable

- **Robust**

Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including AT

Indicators of Accessibility

Content should be *perceivable*

- Content is represented in multiple ways so it can be used based on what students might need or prefer (e.g., video captions, alt text, audio, text-to-speech, digital braille)
- Mathematical, scientific, and music symbols, formulas, and notations are represented in multiple ways (e.g., explained with text, MathML)

Indicators of Accessibility

Content should be *operable*

- Both visual and non-visual forms of navigation are possible (e.g. keyboard shortcuts/mapping, screen gestures, voice)
- Location and progress supports are included (e.g. page numbers, progress bars)
- If writing is required, there are multiple ways to enter text (e.g. word prediction, on-screen keyboards, voice input)
- Timing and pace can be controlled

Indicators of Accessibility

Content should be *understandable*

- Content is structured in a predictable, coherent, and logical way
- Content can be rendered at levels that can be adjusted based on student abilities and needs
- Supports and scaffolds for difficult content are available to students (e.g. glossaries, highlighters, sentence starters, spellcheckers, graphic organizers)
- Feedback on errors and progress is provided to students

Indicators of Accessibility

Content should be *robust*

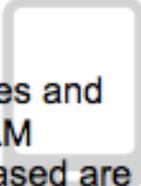
- Content can be used on multiple devices and with different assistive technology (AT)
- Nothing prevents access to built-in accessibility features or necessary AT (e.g. Digital rights management (DRM))
- Products are tested by the publisher/developer to ensure compatibility with AT (e.g., screen readers, refreshable braille, text-to-speech, human-voice reading software)



Steps to Increase the Production and Availability of Accessible Digital Materials for Purchase

Take Action: What You Can Do

Purchasers

- Check current purchasing policies and practices for alignment with PALM
 - Require that all materials purchased are accessible
 - Include accessibility in purchasing contract language
- 

Educators

- When purchasing any learning materials, consider their accessibility
 - Tell your colleagues to purchase accessible learning materials
 - Share PALM resources with your purchasing and technology coordinators
- 

Families

- Share PALM resources with classroom teachers, administrators
 - Share PALM resources with parent groups
- 

Advocates

- Make a presentation about PALM to your stakeholder group, share handouts
 - Share PALM resources through your networks
 - Working with publishers? Include accessibility in purchasing contract language
- 



Resources for Making the Case: Your PALM Toolkit

The following resources are "ready to go," or you may customize them to fit your needs.

✓ [Guidance for Purchasers](#)

✓ [Overview PowerPoint Presentation](#)

✓ **Handouts**

- [!\[\]\(2a776c30f092713c9b9db89b97c94adc_img.jpg\) Introducing the PALM Initiative](#)
- [!\[\]\(5ff8b535f7464f774d14930a3eb12aad_img.jpg\) Why Buy Accessible?](#)
- [!\[\]\(c296c7da7f8697c047ca4cf58274e52c_img.jpg\) What are Accessible Learning Materials](#)
- [!\[\]\(ad80eee5e045d46e01afe82154476d1f_img.jpg\) PALM Initiative: A Call to Action](#)
- [!\[\]\(3558083bac2891bbddd2012cb2111324_img.jpg\) PALM Initiative: A Call to Action \(2\)](#)

Resources for Making the Case: Your PALM Toolkit

The following resources are "ready to go," or you may customize them to fit your needs.

PALM Hand-Outs

-  [PALM Initiative: A Call to Action](#)
-  [Introducing the PALM Initiative](#)
-  [Why Buy Accessible?](#)
-  [What are Accessible Learning Materials?](#)

PALM Guidance

-  [Guidance for Purchasers](#)
-  [Guidance for Educators](#)
-  [Guidance for Families](#)
-  [Guidance for Advocates](#)

Overview PowerPoint Presentation

**ACCESSIBLE
CONTENT**

**FLEXIBLE
TECHNOLOGY**



GREAT TEACHING

The AIM Center Web Site: Knowledge, Tools, and Supports at Your Fingertips!





NATIONAL CENTER ON
ACCESSIBLE INSTRUCTIONAL MATERIALS

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[COLLABORATE](#)

[About AIM Center](#) | [About NIMAS Center](#)



PALM Initiative
We launched the PALM Initiative (Purchase Accessible Learning Materials) to ensure that flexible accessible learning materials are available for purchase in the marketplace.
[Learn more about PALM](#)

LEARN

Learn about the basics of AIM, AIM-related policy, and creating accessible media.

EXPERIENCE

Experience teaching and training resources and decision-making tools.

COLLABORATE

Collaborate with the AIM Community and explore student stories.

GET STARTED: [ALL ABOUT AIM](#)



[Accessible Instructional Materials\(AIM\): Simply Said](#)
Watch this video about the basics of AIM.

Learn all about AIM from the basics to classroom practice from these resources.

- [What are AIM?](#)
- [Who needs AIM?](#)
- [What does NIMAS have to do with AIM?](#)
- [Why provide AIM?](#)
- [How are decisions made?](#)

UPCOMING EVENTS

- [View all Presentations](#)
- [View all Webinars](#)

ABOUT ACCESSIBILITY

- [Accessibility Resources](#)
- [Hardware-Based Resources](#)
- [Software-Based Resources](#)

AIM Initiatives



PALM Initiative
Purchase Accessible Learning Materials
Ensure availability of flexible accessible learning materials in the marketplace.
[TAKE ACTION](#)

Targeted Technical Assistance
Developing, improving, and/or sustaining the provision of AIM.
[Learn more about AIM TTA](#)

Visit our other sites to learn more about CAST and Universal Design for Learning




AIM CENTER QUICK STARTS

- [Families](#)
- [Educators](#)
- [State and Local Education Agencies](#)
- [Teacher Educators](#)
- [Developers of NIMAS Filesets](#)
- [Producers of AIM](#)

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AIM IN YOUR STATE

What is your state doing?

--Select your State--

[GO](#)

Decision-Making Tools and Resources

- [AIM Navigator](#)
- [AIM Product Tutorials](#)
- [AIM Explorer](#)
- [AIM Guide to AMP's](#)

Teaching and Training Resources

- [AIM Implementation Guide](#)
- [AIMing for Achievement DVD](#)

→ [Recent Site Updates](#)



<http://centeronline.org>

- An OSEP-funded collaborative project of the University of Kansas, CAST and NASDSE
- Multiple Resources - White paper, VPAT Table, EPUB accessibility guidance, For Teachers section, “



<http://setda.org>

State Educational Technology Directors Association

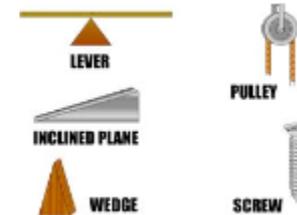
The mission of SETDA is to build and increase the capacity of state and national leaders to improve education through technology policy and practice.



“Make things as simple as possible,
but not simpler.”

Albert Einstein

- Attend to statutory obligations but strive for excellent instructional practices for ALL.
- Push for AIM in the marketplace
- Visit the AIM Center: <http://aim.cast.org>
- Check out the PALM Initiative
- Go to “AIM in Your State” and find your state’s AIM/NIMAC coordinator
- Find your state’s SETDA member at <http://setda.org>
- Visit the Online Center at <http://centerononlinelearning.org>
- Introduce the AIM Coordinator to the SETDA member





Joy Zabala

jzabala@cast.org