# Meeting The Needs Of All Learners Through Multi-Modal Tools

# Presenters

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# Benetech’s Global Literacy Program **Bookshare**

## **Bookshare** *Making reading accessible* Bookshare is the world’s largest library of accessible ebooks and lets people with visual, physical, and learning disabilities like dyslexia read in ways that work for them.

## **DIAGRAM Center** *Building new paths to accessibility* DIAGRAM is a research and development center that creates tools, standards and best practices to support different learning needs.

## **Born Accessible** *Creating accessible books from the start* Born Accessible is a partnership with publishers and content creators to help them build accessibility into books when they are first created.

# Why Are We Here?

## Accessible Materials:

### Legal requirement

#### ADA, IDEA

### Ethical requirement

#### Many people require these materials

### Moral requirement

#### It’s the right thing to do

# Multi Modality

## Students experiences can be enhanced when we pair words and representations to convey a concept (Fletcher and Tobias, 2005; Mayer, 2002)

## The most successful leaning environments are those that use multimodal presentations (Moreno and Meyer, 2007)

# What is out there?

## Image repositories:

### Corbis, Flickr, Getty Images

## 3D objects:

### Thingiverse, Autodesk123D, Library Lyna,, 3D Warehouse, YouImagine, Smithsonian, Grabcad, Pinshape, Cubify, Libre3D

## 2D tactile graphics

### APH’s Tactile Graphics Image Library (TGIL), ZyChem’s Tactile Library, RNIB’s Load2Learn

## Digital books:

### Bookshare, HathiTrust, World Digital Library, Merlot, COOL4Ed, EDUCAUSE

## Other resources:

### Wikipedia, OpenStax, Accessible Image Sample Book

# Imageshare

## How to accommodate for different learner needs and preferences?

## Text Descriptions, Audio files, 2d tactile graphics, 3d objects

# Searching for Alternative Resources

## Available at: http://airr.wpengine.com/

## Repository AND registry of accessible images (resources)

## Image-level (or concept-level) search for accessible alternatives

## Search using keywords, tags, subject, modality and more (customizable)

# Search Mitochondria

# Imageshare Pilot

## CA School for the blind

## TX School for the Blind

## Brehm Prep School - LD

# Pilot -Summary

## Interviewed teachers at the partner schools about the use of the tactiles as well as the distribution platform.

### Biology, anatomy, chemistry, mathematics and physics

## Based on feedback we added in 3D objects

### Biology

## We obtained very important information and feedback that will inform how we improve the platform, the content, and our strategies in terms of scaling and business model.

# Pilot – What They Said

## They loved the idea of Imageshare (the platform) and how useful it is.

## One participant said that it could be life changing for students!

## But…….

# Pilot Project - TSBVI

## Challenges

### Teachers busy

### Curriculum match

### Timing (end of school year)

## Opportunities

### Pick from site – have it delivered

### Test with students

## What we learned

### Need larger objects

### More lead time

### More objects

### Same concepts for other 2D

# How to Make Multi-Modal Work in Classroom

## Get the word out – Multi-modal materials exist

### So where to find it?

## It is never perfect - How to fix it

### Size, Weight, orientation, SIMPLIFY

## How to I get it ?

### Order??

### DIY

## Remember….

### Multi-modal takes time!

# How to Teach Multi-Modal?

## Orientation – what is up?

## Guided exploration

## What is the scale?

## Is the language on the right level (video)?

## Related materials?

## Do the students have concepts to understand what they are looking at or listening to?

# The FWIF is High for Multi-Modal

## **F**uss

## **W**ith

## **I**t

## **F**actor

# Tactiles Working Group – Current Work

## Basic concepts for creators

## Specific guidelines – height, spacing, etc.

## Symbology

## Textures

## How to fix instructions

# Future Work

## Other disabilities

## Resource page for Curricula

## Add objects to ImageShare

## Vet objects

## Create descriptions (grade level appropriate?)

## Create guided exploration instructions

## Haptics, System enhancement (tg with ipad)

# Needs…

## More participation

## What tactiles are needed

## Reviews of materials

## What are we missing?

# Questions

## Questions?

## Comments?

## Thoughts?

# Thank you

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