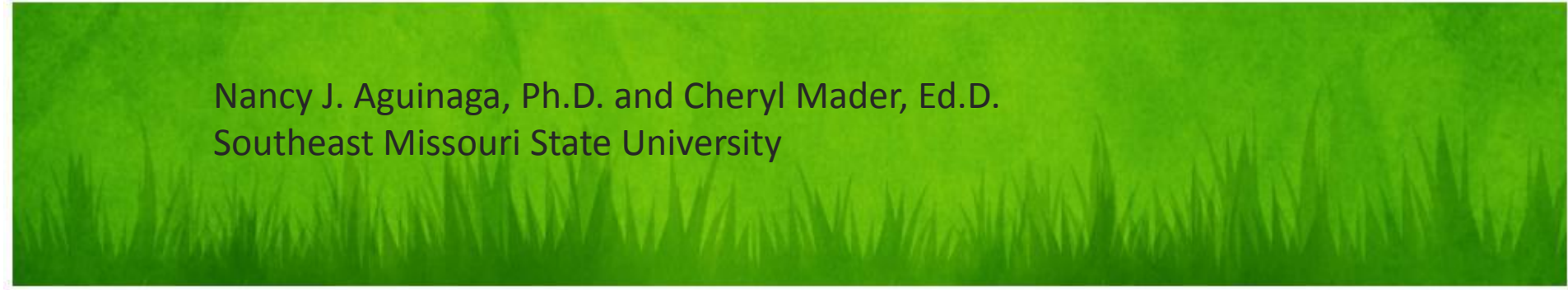


# Using Technology to Support Note-Taking, Studying and Reading



Nancy J. Aguinaga, Ph.D. and Cheryl Mader, Ed.D.  
Southeast Missouri State University

# University enrollment is at an all-time high

- In October 2009, 70.1 percent of 2009 high school graduates were enrolled in colleges or universities - Bureau of Labor Statistics (2010)
- Up more than 10% from 1989
- Approximately 10.8 percent in 2008, were students with specific learning disabilities - U.S. National Center for Education Statistics (2011)
- Many are 21<sup>st</sup> century learners from diverse backgrounds
- Enrollment in undergraduate institutions is expected to reach 19.0 million in 2019 - Aud, Hussar, Planty, Snyder, Bianco, Fox, Frohlich, Kemp, & Drake, 2010

# Change is necessary

- Teaching to the middle leaves many behind
- Focus on the margins
- Create access
- Embrace technology



# Universal Design for Learning (UDL)

CAST believes that

“barriers to learning are not, in fact, inherent in the capacities of learners, but instead arise in learners' interactions with **inflexible** educational goals, materials, methods, and assessments.”

*Teaching Every Student in the Digital Age, p. vi*

# UDL

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- A curriculum framework
- Flexible and supportive for all, not one-size fits all
- Decreases (unintentional) barriers that limit access
- Based on brain research

## [UDL Principles and Practice](#)

# Diversity is the norm, not the exception

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## PRINCIPLES OF THE UNIVERSAL DESIGN FOR LEARNING FRAMEWORK

1. Provide **multiple**, flexible methods of **presentation**/representation
  2. Provide **multiple**, flexible methods of **expression**/apprenticeship
  3. Provide **multiple**, flexible options for **engagement**
- 

# Technology Changes Everything

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## Recent changes in technology:

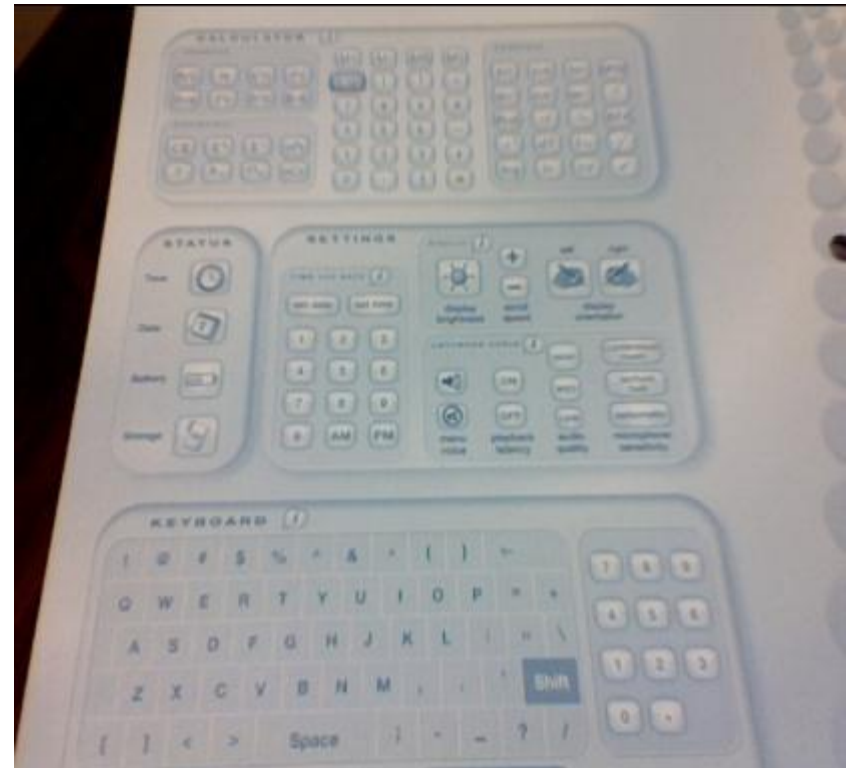
- Make it possible to communicate with more people than ever before – **not in attendance**
- Enable learning any time, any place, any how
- **Facilitate personalization**
- Promote participation in content, knowledge, and **collaboration**

Brenda Gourley, EDUCAUSE Review, Vol. 45, no. 1 (January/February 2010): 30-41.



# Introduction to Livescribe

The SmartPen : [How does it work?](#)







## Introducing Livescribe's Newest Smartpen

With a sleek new design and enhanced features, the Echo smartpen is Livescribe's most powerful and easy to use smartpen yet.

### FEATURES

### PHOTOS

### WHAT YOU GET

### TECH SPECS

### ACCESSORIES

[BUY NOW](#)

#### Micro-USB Connector

Transfers notes and audio to your computer and recharges your smartpen using a standard cable connection.

#### Audio Jack

Standard 3.5mm jack fits your own earphones or the Echo 3-D Recording Premium Headset to enable binaural recording.

#### Microphone

Capture your meetings or lectures with crisp clear sound.

#### OLED Display

High-contrast OLED display makes it easy to navigate smartpen apps.

#### Built-in Speaker

Built-in speaker produces rich full sound to play back your recorded audio.

#### Memory Storage

Holds 400 or 800 hours of recorded audio. (4GB and 8GB models available)

#### Soft Rubber Grip

The new ergonomic design and soft rubber grip provide comfort while writing.

#### Replaceable Ink Tip

Simply remove the ink cartridge with your fingers and insert a new one.



[Learn More](#)



[How to Get Started](#)

Livescribe's Original Smartpen

**pulse**  
.....  
[Learn more >](#)



Additional  
note

Blackboard Discussion

2-17-09

Current:

- Bb 7.3
- upgrade summer to Bb 9
- includes Community + Content

Anthony Cyplik

Melissa Anderson

Outcomes / Data Assessment:  
Background



**But wait...**  
There's More!



# Our research

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- Survey
- Demo of Smartpen
- Livescribe Desktop
- Volunteer note-takers
- Notes were posted



# ASSIST

*Approaches and Study Skills Inventory for Students, ASSIST (short version)*

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Perspectives of students' perceptions of how they best learn and study

Approaches to studying

Deep Approach, Strategic Approach, Surface Apathetic Approach


Focusing on results related to the Strategic Approach to studying

87% reported they are strategic in study skills **YET**

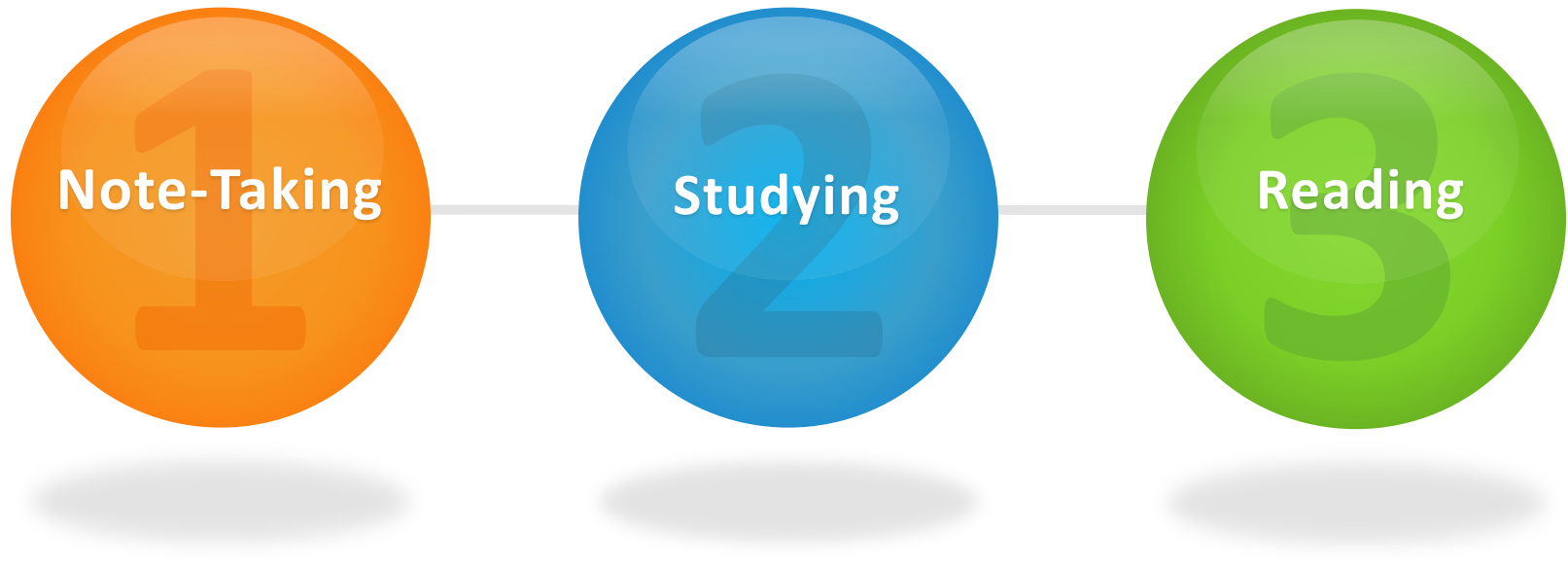
66% reported they **do not** follow up on suggested reading

57% reported they write down **excessive** information from a lecture

73% reported they **are not able to** prioritize and synthesize  
information provided in a lecture



# Technology can support



## Universal Design for Learning

Technology can be used as a layer of support for students with diverse learning needs





## NOTE-TAKING

Developing listening and note-taking skills may prove to be overwhelming, making the understanding of content difficult



## STUDYING

Organization, study habits, class participation, active learning, and ability to synthesize information





## READING

Making connections, successive presentations



# Great potential for learning in general

## Examples

- Comprehension – Incredible Inferences
- Character consideration
- Category tag board game

## Videos

[Augmentative and Assistive Communication Pages](#)

[Talking tests](#)

Running records

Talking word walls



# Possible uses of Smartpen

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- Oops, I missed something, post later
- One student takes notes/professor posts
- Students purchase their own
- Have 5-7 for checkout
- Class set
- [Apps](#)
- ?



Questions? 



**Thank you!**



Be green and prosper