COURSE SYLLABUS

Course: Technology Applications for Teaching and Supporting the Struggling Reader

Presenters: Margaret Bausch and Ted Hasselbring

Credits: 3 Graduate Credits

Course Overview

Too many students are entering middle and high schools with deficits in literacy skills that prevent them from participating in grade-level learning. Students with low-literacy skills quickly fall into a cycle of failure, often resulting in dropping out of school. This need not be the case. Over the past forty years, research in the cognitive and neurological sciences has helped us to better understand how the human brain is restructured during the process of learning to read. In this course, Drs. Hasselbring and Bausch discuss how to leverage this knowledge to facilitate the use of technology to enhance literacy instruction for all readers, and especially struggling readers. They provide specific examples of technology that teaches and supports literacy skills. The course is enhanced by screen shots, product walkthroughs, interviews, and footage of students at computers and in classrooms, as well as by three text-based units.

Presenters' Bios

Margaret E. Bausch, assistant professor in the Department of Special Education and Rehabilitation Counseling at the University of Kentucky, earned a Master of Science Degree in Special Education Learning Disabilities and a Ph.D. in Special Education Technology from the University of Kentucky. Dr. Bausch spent nine years as a teacher of students with learning and behavior disorders before devoting her efforts to research and development projects in assistive and instructional technology. She has served as a co-principal investigator of the National Assistive Technology Research Institute, a federally funded project designed to examine factors related to the planning, development, implementation, and evaluation of assistive technology services in schools. Currently, Dr. Bausch is serving as the principal investigator of the Kentucky Assistive and Rehabilitative Technology Training grant that is providing scholarships to prepare personal from varying fields to integrate instructional and assistive technology into the school curriculum, post-secondary education, employment situations, and the daily lives of persons with disabilities.

Ted Hasselbring has conducted research for the past 30 years on the use of technology for enhancing learning in students with mild disabilities and those at risk of school failure. Dr. Hasselbring was a special education teacher in New York. In 1977, he began his career in higher education as an assistant professor at North Carolina State University. In 1982, Dr. Hasselbring joined the faculty of Peabody College of Vanderbilt University where for eighteen years he served as the co-director of the Learning Technology Center and conducted research on using technology to provide instruction in reading and mathematics. This research resulted in several widely used computer-intervention programs for struggling learners, including READ 180, FASTT Math, and Simon SIO. In 2000, Dr. Hasselbring moved to the University of Kentucky as the William T. Brian Professor and Endowed Chair in Special Education Technology. While at Kentucky, he also served as the executive director of the National Assistive Technology Research Institute. In 2006, he returned to Vanderbilt to resume his research and development activities in computer intervention.

Objectives

After completing this course, educators will know:

- How the brain learns to read
- How the brain's memory systems work
- What basic skills all readers need to learn and in what sequence
- Technological tools to assist struggling readers
- Methods to assist reading comprehension

Learning Outcomes

After completing this course, educators will apply the following skills:

- Facilitate the brain's process of learning to read
- Facilitate the transfer of information from working memory to long-term memory
- Assist students to word level automaticity
- Assist students to fluency
- Employ the FASST model to build automaticity and fluency
- Employ guided practice when appropriate
- Facilitate independent practice when appropriate
- Assist in the development of comprehension skills
- Employ video anchors to help students developmental models
- Utilize Read 180 and System 44 to assist struggling readers
- Employ text-to-speech programs, visual learning tools, abridged text, alternate text, picture text, and supported text to assist struggling readers
- Describe the ideal 21st century classroom for all students
- Employ technology to build students' expertise

Unit 1: The Brain and the Process of Reading

What happens to the human brain when it learns to read? Dr. Hasselbring focuses on how the brain processes information and how these processes impact how students learn to read. He explores the hallmarks of the science of learning: understanding the importance of preexisting knowledge, mastering information, increasing emphasis of learning with understanding, and transferring of learning from working memory to long-term storage. Educators learn practical skills to facilitate that transference.

Unit 2: The Process of Learning to Read

Because learning to read is not a natural process, educators need to comprehend the steps involved in order to take their students through those steps. They will learn how students learn to read in part through the study of two interrelated components of reading, word level automaticity and text fluency. Dr. Hasselbring also discusses the critical roles of background knowledge and comprehension before introducing educators to models that facilitate reading instruction.

Unit 3: Technology for Learning to Read

Technology can play a critical role in facilitating the development of reading skills. Dr. Hasselbring introduces the FASTT model, System 44, and Simon SIO, each of which helps students build automaticity and fluency. He delineates when in the path toward fluency guided practice is essential and when independent practice should take over.

Unit 4: Building Reading Comprehension

Dr. Hasselbring develops his consideration of the use of technology to extend from assisting in automaticity and fluency to reading comprehension. He explains the use of video anchors as support for the development of mental models, crucial to comprehension. An interview with a teacher illustrates the practicality of these technological applications.

Unit 5: Read 180 and System 44

This unit provides a detailed look at two programs in action in the classroom. Educators will see students engaged with their teacher and their computers in the hands-on process of developing their literacy skills. Interviews with a high school student, a teacher, and some graduate students draw out the benefits of these two programs for struggling readers.

Unit 6: Technology to Support the Struggling Reader, Part 1

Students with learning disabilities and who struggle with reading can be particular beneficiaries of technology. Dr. Bausch introduces a number of technology programs and devices—focusing on text-to-speech programs, visual learning tools, and abridged text—that can assist struggling readers in the development of fluency and independence. She demonstrates the features of these products and shows them in action in a classroom setting.

Unit 7: Technology to Support the Struggling Reader, Part 2

Dr. Bausch continues her inquiry into products that assist struggling readers, focusing here on alternate text, picture text, and supported text. Interviews with students, teachers, and administrators highlight technology as the great equalizer, allowing struggling readers to engage in tasks similar to those of their more accomplished peers. Educators will see students en route to the joys of independent reading.

Article: "Enhancing Adolescent Literacy Achievement through Integration of Technology in the Classroom"

Participants read "Enhancing Adolescent Literacy Achievement through Integration of Technology in the

Classroom," an article that explores the research on the use of technology to affect students' learning. They respond to the reflection questions that follow.

Article: "The new literacies of online reading comprehension: New opportunities and challenges for students with learning difficulties"

Participants read "The new literacies of online reading comprehension: New opportunities and challenges for students with learning difficulties," in *Multiple Perspectives on Difficulties in Learning Literacy and Numeracy*. This article addresses the implications that online reading has for the struggling reader. Participants respond to the reflection questions that follow.

Article: "Assistive Technology and Mild Disabilities"

Participants read "Assistive Technology and Mild Disabilities." They respond to the reflection questions that follow.

Methods of Instruction

- Videos (presentations consisting of lecture, interviews, and classroom footage)
- Readings
- Reflection questions (open-ended questions at intervals throughout the video presentations where participants are asked to reflect on the course content, their own practice, and their intentions for their practice)
- Quizzes (selected-response quizzes to assess understanding of the video presentations)
- Discussion forum (prompts after each unit that engage participants in online dialogue with their cohorts)
- Midterm (a project intended to get teachers to begin to develop their practice by putting to work in the classroom what they have learned)
- Final (a project that enables educators to reflect on their practice and assess their students' work through the lens of what they have learned)

Plagiarism Policy

KDS recognizes plagiarism as a serious academic offense. Plagiarism is the passing off of someone else's work as one's own and includes failing to cite sources for others' ideas, copying material from books or the Internet (including lesson plans and rubrics), and handing in work written by someone other than the participant. Plagiarism will result in a failing grade and may have additional consequences. For more information about plagiarism and guidelines for appropriate citation, consult plagiarism.org.

Percentage of Course Credit

- Reflection questions   25%
- Quizzes   15%
- Midterm   25%
- Final   35%

In order to complete the requirements of the course, the participant must complete all course work (e.g., reflections, quizzes, and any midterm and/or final), including watching all videos and participating in all discussion forums. We do not award partial credit.

Grading Policy

A: 3.4 – 4.0
B: 2.7 – 3.3
C: 2.0 – 2.6
F: >2.0

Reflection/Quiz Rubric

Activity	Distinguished (4)	Proficient (3)	Basic (2)	Unsatisfactory (1)
Quizzes	90-100%	80-89%	70-79%	69% or below
Reflection Question	Participant has provided rich detail and supporting examples from the course content. Participant has made responses to prompts personally meaningful and relevant to his or her teaching practice.	Participant has included appropriate content from the course content. Participant has made thoughtful comments in direct response to the prompts.	Participant has included little that indicates consideration and comprehension of course content. Participant has answered most questions directly but some too briefly.	Participant has included little to no content indicating consideration and comprehension of course content. Participant has not addressed the specific questions posed. Participant has not responded to all reflection questions. Participant has copied from the course transcript without synthesis or analysis.

Midterm

Based on the information provided in the course so far, write a brief essay—two or three pages—distinguishing between what one needs to take into consideration when teaching a children to read versus when teaching adults to read.
Be sure to address the following:

    a.   What is the biggest obstacle to surmount when teaching children to read?

    b.   Why do adults learn to read more readily?

    c.   How do the different memory systems of adults and children impact their learning?

Midterm Rubric

Step	Distinguished (4)	Proficient (3)	Basic (2)	Unsatisfactory (1)
Write a 2-3 page essay distinguishing between what one needs to take into consideration when teaching a child to read versus when teaching an adult to read.	Participant has written a persuasive 2-3 page essay supported by examples distinguishing between what one needs to take into consideration when teaching a child to read versus when teaching an adult to read.	Participant has written a 2-3 page essay distinguishing between what one needs to take into consideration when teaching a child to read versus when teaching an adult to read.	Participant has written a 1-2 page essay distinguishing between what one needs to take into consideration when teaching a child to read versus when teaching an adult to read, though not persuasively argued.	Participant has written a 0-1 page essay distinguishing between what one needs to take into consideration when teaching a child to read versus when teaching an adult to read but marred by inaccurate information.
What is the biggest obstacle to surmount when teaching children to read?	Participant has persuasively argued with an illustrating example what the biggest obstacle to surmount when teaching children to read.	Participant has accurately addressed the biggest obstacle to surmount when teaching children to read.	Participant has noted the biggest obstacle to surmount when teaching children to read but that obstacle is not persuasively the biggest one.	Participant has not addressed the biggest obstacle to surmount when teaching children to read.
Why do adults learn to read more readily?	Participant has persuasively argued with an illustrating example why adults learn to read more readily than children.	Participant has accurately addressed why adults learn to read more readily than children.	Participant has addressed why adults learn to read more readily than children, but his or her theories are unsupported by the course or example.	Participant has not addressed why adults learn to read more readily than children.

How do the different memory systems of adults and children impact their learning?	Participant has addressed in correct detail all the different memory systems.	Participant has addressed the different memory systems.	Participant has addressed some of the different memory systems and/or inaccurately.	Participant has not addressed the different memory systems.
Formal issues	Participant has made no grammatical errors.

Participant has organized paragraphs around clearly articulated main ideas.

Participant has written in an effective and eloquent style—i.e., has varied his or her sentence structure and made careful word choice. | Participant has made a few grammatical errors.

Participant has organized most paragraphs around clearly articulated main ideas.

Participant has written in an effective and eloquent style—i.e., has varied his or her sentence structure though not always found the right word. | Participant has made some distracting grammatical errors.

Participant has organized some paragraphs around main ideas but not others.

Participant has written in a style that communicates his or her thoughts but with no marked eloquence and insufficient attention to word choice. | Participant has made multiple grammatical errors.

Paragraphs are not organized around main ideas.

Participant has written in a style that does not effectively communicate his or her thoughts. |

Final

This course's presenters offer an array of tools and programs to provide support for struggling readers. First, develop a brief profile based on a real or imagined student who is a struggling reader, including a description of with what exactly he or she struggles. Include any external elements you think are relevant. Then, choose one of the supports outlined in this course (see below), and create an implementation plan. Please do the following:

1. Develop a brief profile of a student, real or imaginary, who needs assistance with reading. Identify his or her particular struggles.

2. Flesh out the profile by noting any background information you think could be relative to the student's struggles—e.g., a learning disability; native language; behavior issues; learning preferences; whether the student is in a general education, special education, or inclusion classroom; and so on.

3. Choose one of these supports to implement

   - Read 180
   - System 44
   - ReadAbout
   - Text-to-speech tools
   - Visual learning tools

- Abridged text
- Alternate text
- Picture text
- Supported text

4. Outline an implementation plan that addresses these questions:

    A. How will you determine when the student should engage in guided practice and independent practice?
    B. If engaged in independent practice, when in the school day will the student have opportunities for complementary instruction that involves interaction with others?
    C. How will you formatively assess the student's progress?

5. If possible, implement your plan.

6. Whether you are able to implement or not, write a paragraph or two of reflection. What do you see as the strengths and weaknesses of the technological support you have chosen? What role does the assessment you developed play in your conclusions about the support?

Final Rubric

Step	Distinguished (4)	Proficient (3)	Basic (2)	Unsatisfactory (1)
Develop a brief profile of a student, real or imaginary, who needs assistance with reading. Identify his or her particular struggles. **Flesh out the profile by noting any background information you think could be relevant to the student's struggles—e.g., a learning disability; native language; behavior issues; learning preferences; whether the student is in**	Participant has developed a vivid if brief profile of a struggling reader, clearly identifying his or her particular struggles. Participant has fleshed out the profile with an abundance of clearly relevant background information.	Participant has developed a brief profile of a struggling reader, identifying his or her particular struggles. Participant has fleshed out the profile with background information.	Participant has developed a brief profile of a struggling reader though has not clearly identified his or her particular struggles. Participant has fleshed out the profile with background information but not in sufficient detail or quantity to illuminate the struggling reader's particular needs.	Participant has not developed a brief profile of a struggling reader or has developed a profile too brief to represent a struggling reader.

general education, special education or an inclusion classroom.				
Choose a support to implement (Read 180, System 44, ReadAbout, Text-to-speech tools, visual learning tools, abridged text, alternate text, picture text, or supported text) and outline an implementation plan that addresses these questions: **How will you determine when the student should engage in guided practice and independent practice?** **If engaged in independent practice, when in the school day will the student have opportunities for complementary instruction that involves interaction with others?** **How will you formally assess the student's progress?**	Participant has chosen a clearly appropriate support and outlined a full and sensible implementation plan that addresses all of the following: • How he or she will determine when the student should engage in guided practice and independent practice • If engaged in independent practice, when the student will have opportunities for complementary instruction that involves interaction with others • How he or she will formally assess the student's progress	Participant has chosen a support and outlined an implementation plan likely to be successful that addresses all of the following: • How he or she will determine when the student should engage in guided practice and independent practice • If engaged in independent practice, when the student will have opportunities for complementary instruction that involves interaction with others • How he or she will formally assess the student's progress	Participant has chosen a support and outlined an implementation plan not clearly likely to be successful and/or including some but not all of the following: • How he or she will determine when the student should engage in guided practice and independent practice • If engaged in independent practice, when the student will have opportunities for complementary instruction that involves interaction with others • How he or she will formally assess the student's progress	Participant has chosen a support but not outlined an implementation plan.
Whether you are able to implement your plan or not, write a paragraph or two of reflection.	Participant has written a thoughtful critique of the technological support's strengths and weaknesses.	Participant has written a critique of the technological support's strengths and weaknesses.	Participant has noted the technological support's strengths and weaknesses but with little or no support.	Participant has not considered the technological support's strengths or weaknesses.

| What do you see as the strengths and weaknesses of the technological support you have chosen?

What role does the assessment you developed play in your conclusions about the support?	Participant has persuasively analyzed the relationship between the assessment he or she will use and his or her assessment of the value of the support.	Participant has considered the relationship between the assessment he or she will use and his or her assessment of the value of the support.	Participant has minimally and/or not considered the relationship between the assessment he or she will use and his or her assessment of the value of the support.	Participant has not considered the relationship between the assessment he or she will use and his or her assessment of the value of the support.
Formal issues	Participant has made no grammatical errors.

Participant has organized paragraphs around clearly articulated main ideas.

Participant has written in an effective and eloquent style—i.e., has varied his or her sentence structure and made careful word choice. | Participant has made a few grammatical errors.

Participant has organized most paragraphs around clearly articulated main ideas.

Participant has written in an effective and eloquent style—i.e., has varied his or her sentence structure though not always found the right word. | Participant has made some distracting grammatical errors.

Participant has organized some paragraphs around main ideas but not others.

Participant has written in a style that communicates his or her thoughts but with no marked eloquence and insufficient attention to word choice. | Participant has made multiple grammatical errors.

Paragraphs are not organized around main ideas.

Participant has written in a style that does not effectively communicate his or her thoughts. |