

COURSE SYLLABUS

Course: Technology Applications for Teaching and Supporting the Struggling Reader

Presenters: Margaret Bausch and Ted Hasselbring

Hours: 45

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 with PowerPoint presentations (teacher workshops and additional resources)
- Text (units based on required reading)
- Reflection questions (open-ended questions at intervals throughout the videos where educators 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)

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.

Passing Requirements:

In order to complete the requirements of the course, the participant must complete all course work. We do not award partial credit.

- Quizzes 40% of total grade
- Reflection Questions 60% of total grade



KDS Self-Assessment Rubric:

	Distinguished	Proficient	Basic	Unsatisfactory
Quizzes	100% Correct	80% Correct	60% Correct	0-40% Correct

	Distinguished	Proficient	Basic	Unsatisfactory
Reflection Questions	Participant provides rich detail from the content of the course in his or her responses Participant makes his or her responses to the questions personally meaningful	Participant includes appropriate content from the course in his or her responses Participant makes thoughtful comments in direct response to the questions	Participant includes some content from the course, usually appropriate, in his or her responses Participant answers the questions directly, not always fully	Participant includes no content from the course in his or her responses Participant does not address the questions posed