Adapting Reading Interventions for Online Students

Baiyun Chen
Atsusi Hirumi
University of Central Florida
Choosing Online

Advantages:
- Flexible accessibility (Golden, Wicks, & Williams, 2004)
- Individual paced (Golden, Wicks, & Williams, 2004)
- Assistive resources (Anderson-Inman, & Horney, 1998)
- Social label (O’Brien, 2001)

Problems

- One primary factor contributed to at-risk and drop out behavior is reading problems (O’Brien, 2001)
- eLearning current status relies heavily on reading and writing (Eagleton, 1999; Leu, 2002)
- Reading intervention and assessment are primarily designed for traditional text environment (Leu, 2002)

Purpose

To develop and test online reading intervention for secondary at-risk and dropout students

Key Questions

- What are present comprehension strategies for addressing reading comprehension difficulties?
- Can proven effectiveness of traditional reading comprehension strategies be successfully delivered online?
- Is there additional comprehension strategy needed for e-learning?

Critical Reading Skills

Phonemic awareness, Phonics, Reading fluency, Vocabulary, Comprehension (National Reading Panel Report, 2000)

Relative emphasis on five reading abilities among students of different ages (Duke, 2004).
Strategies

- Comprehension can be improved by instruction that helps readers use comprehension strategies.
  - (Armbruster, Lehr, & Osborn, 2001; Mastropieri, 2003; Swanson, 1999; Williams, 2002)
- Comprehension strategies are conscious plans and sets of steps that good readers use to make sense of text.
  - (Armbruster, 2001)

Challenges

- Terminology confusion between reading strategy and comprehension strategy
- Few researches address questions related to literacy in online education environment.

Comprehension Strategies

1. Activate prior knowledge
2. Recognize text structure
3. Construct visual representations
4. Draw inferences
5. Make summary
6. Generate questions
7. Think aloud
8. Monitor and repair comprehension

Activate Prior Knowledge

Recall background knowledge

Recognize Text Structure

Attend to and uncover the way the content and events are organized

Construct Visual Representations

Form graphic or mental pictures to deepen understanding of text
- Research Evidence (Chan, 1990; Gambell & Koskinen, 1982; Rose, Cundick, & Higher, 1983)
Comprehension Strategies

**Draw Inferences**
Draw conclusions, make critical judgments, and form unique interpretations from text

**Make Summary**
Organizes and restates information

**Generate Questions**
Ask questions to clarify and focus reading

**Think Aloud**
Translate your thoughts (and plans) into words and say them aloud

**Monitor and Repair Comprehension**
Adjust reading rate to best solve a given problem in a given reading situation
- Research Evidence (Brown and Palincsar, 1982; Paris, Lipson, and Wixson, 1983)

**Instructional Approach**
**Explicit Instruction**
Five components of “explicit” comprehension strategies instruction
1. An explicit description of the strategy and why and when it should be used
2. Teacher and/or student modeling how the strategy is used
3. Guided practice in how and when to use the strategy with gradual release of responsibility
4. Independent use / application of the strategy
(Ambroster, 2001; Duke, 2004)
Instructional Approach
Explicit Instruction

Researches have shown:
Explicit Instruction is an effective way to help students develop independent comprehension strategies and good reading habits (Dole, 2000; Hancock, 1999; Paris, Wixson, and Palincsar, 1986; Strickland, 1996).

Comprehension Strategies

Adapting Reading Intervention

Instructional method for face-to-face classroom

New techniques for online class

Recommended Intervention

Proposed online comprehension strategy intervention for at-risk students:

<table>
<thead>
<tr>
<th>Major Steps</th>
<th>Online Instructional Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Engagement &amp; explicit description of the strategy</td>
<td>Text, graphics, multimedia illustrations</td>
</tr>
<tr>
<td>2 Teacher and/or student modeling of the strategy</td>
<td>Audio, video illustrations</td>
</tr>
<tr>
<td>3 Guided practice using the strategy</td>
<td>Reading practice with guidance from mentor or parents</td>
</tr>
<tr>
<td>4 Collaborative use of the strategy in action</td>
<td>Recommended activities supported by BBBS, online chat, telephone call, etc.</td>
</tr>
<tr>
<td>5 Evaluation of verbal knowledge and independent use of the strategy</td>
<td>Quiz &amp; reading assignment</td>
</tr>
</tbody>
</table>

Recommended Intervention

Engagement and explicit description of the strategy: why and when it should be used

Recommended Intervention

Teacher and/or student modeling how the strategy is used in action

Recommended Intervention

Guided practice using the strategy with gradual release of responsibility
Recommended Intervention
Collaborative use of the strategy in action

Recommended Intervention
Evaluation of verbal knowledge and application of the strategy

Conclusion
- Comprehension strategies need to be taught in online reading program
- Instructional approach used in face-to-face classroom could be transferred to online environment with new techniques.

Research Implications
- Future researches are needed to test online comprehension strategy intervention
- Besides comprehension, online reading intervention needs to be designed to develop other reading skills in both separately and integrated fashion.
- Another comprehension strategy “Navigation” is important in online learning. (Lee, 2002; Schumar-Doblar, 2003)

Question & Answer