

S

Strategram

Volume 21 • Number 3 • April 2009
The University of Kansas Center for Research on Learning

Inference Strategy

**Nanette
Fritschmann**
Lehigh University

“That was then—this is now” is a saying that is very familiar to most of us. It can be applied in most situations, including educational practices. In years past, teaching basic and low-level academic skills to students with disabilities and other at-risk students was acceptable. Allowing students to muddle through school with barely passing or failing grades also was acceptable. We know better now! We know that today, students are facing more difficult curricular demands than ever before. We know, based on research, that students with disabilities and those considered at risk can learn and apply tremendous amounts of information in a skillful manner. We also know that teachers can combine sound instructional methodologies with task-specific strategies to help students begin to make the gains required to be successful in today’s educational settings. Given this, we are called to provide much more to our students. “That was then—this is now” takes on a whole new meaning. Thankfully, much of this spirit is harnessed in the Strategic Instruction Model® (SIM) and the Learning Strategies Curriculum in which the *Inference Strategy* is embedded.

The Learning Strategies Curriculum has been designed to enable students to cope effectively with increased curricular demands and to teach them how to generalize their use of the strategies

to a variety of settings, including mainstream classes, home, and employment settings. The overriding goal associated with the Learning Strategies Curriculum is to enable students to learn skills and content and to perform these tasks independently. These goals are more important than ever if students are to realize their potential and succeed in today’s world.

WHY TEACH THE INFERENCE STRATEGY?

The *Inference Strategy* is a set of procedures readers can use to comprehend written passages and answer inferential questions. Inferential questions—such as “How was Boone feeling when he decided to leave home?” “What do you think will happen if they leave now for their trip?” and “What was the author’s purpose when she wrote this story?”—are questions that are not answered directly in the text. The reader is required to use background knowledge and clues in the text to answer them.

The *Inference Strategy* is founded on the very procedures that good readers use as they read and as they answer inferential questions. As a good reader yourself, you might analyze what you do when you read and as you answer inferential questions. For example, when you read a passage and attempt

Continued on page 2

INFERENCE STRATEGY

(cont. from page 1)

to respond to higher-level comprehension questions about the text, what steps do you employ before you read, while you read, and after you read the passage to ensure that you are able to understand and best respond to those higher-level comprehension questions? Do you look over the passage before you begin to read? Do you look over the questions before you read to provide a context for reading? Do you think about what you may know about the topic? While reading, do you look for clues to help you understand the passage? Do you reread portions of the text to help you understand more information? When you have completed reading and answering the questions, do you look over your work to be sure that all questions have been answered? Good readers employ combinations of these skills to better understand what they are reading and make inferences based on their prior knowledge and the information in the text.

Many non-skilled readers struggle because they do not know the steps required to make sense of what they read. When stuck, they often stop reading and simply guess at an answer. Older students who have word-reading skills but who have difficulty comprehending text often do not look for key information or clue words in the comprehension questions they answer. They do not know how to look for clues in their reading materials associated with those key words or clues to help them

make inferences. Further, they do not know how to approach the task of responding to inferential questions.

WHAT IS THE INFERENCE STRATEGY?

Students are being asked to respond to a higher percentage of inferential questions on comprehension measures, including standardized tests. In addition, many students have adequate word-reading skills (decoding), but they lack adequate comprehension skills to perform well on measures of reading comprehension. The *Inference Strategy* is a set of steps, encompassing the procedures that good readers use to make connections within text and respond to inferential questions. Instruction in the *Inference Strategy* provides a process for students to follow to execute key steps to better understand text, look for clue words in text and associated comprehension questions, and make connections to best respond to each question. This process is outlined in the five steps of the *Inference Strategy*. (See Figure 1 on page 3 for an explanation of the strategy steps.)

HOW IS THE INFERENCE STRATEGY TAUGHT?

The *Inference Strategy* was designed to be taught in either general education or special instructional settings (e.g., resource rooms, reading classes). It is taught through a quick series of four lessons in which the strategy is introduced and students learn to use the strategy in relation to factual questions and

three types of inferential questions: big picture questions, clarifying questions, and prediction questions. (See Figure 2 on page 4 for definitions and examples of the question types.)

After students have been introduced to the strategy and the question types, they can practice using the strategy in relation to a variety of reading materials. Practice activities can take place with specially provided reading passages and questions that are a part of the program, or they can take place as part of regularly scheduled activities in a literature course or other subject-area course.

STEPS FOR THE INFERENCE STRATEGY

When you introduce the strategy to students and when you prompt them to use the strategy, you will be referring to the steps of the strategy. These steps specify how a student thinks and acts while using the strategy. Below is a brief explanation of what the student does in each step.

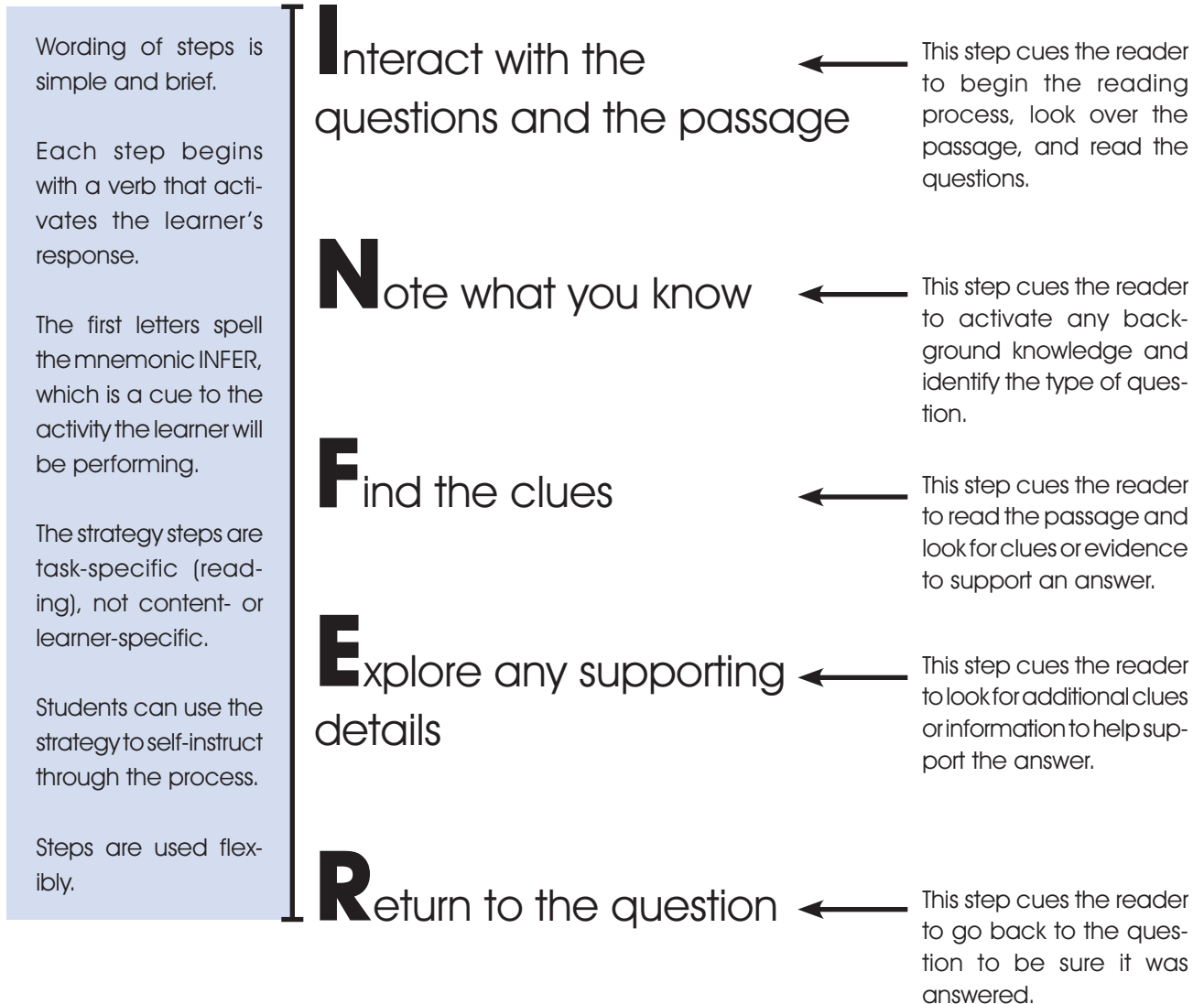
1 – Interact with the questions and the passage

When a student encounters a passage with comprehension questions, a good first step is to preview both the questions and the passage to begin to activate thinking about the questions and the passage. To “interact with the questions and the passage,” the student should quickly skim the passage by reading the title and looking to see how long the passage is. Further, the student should read the comprehension

Continued on page 3

Figure 1. An explanation of the steps of the Inference Strategy

ANATOMY OF THE INFERENCE STRATEGY



INFERENCE STRATEGY (cont. from page 2)

questions one by one, all the while looking for key words in the questions that will be helpful to identify clue words in the passage.

N – Note what you know

This step requires students to determine the type of question they must answer, identify a code

letter for that type of question, and think about what they may know about the passage (activate background knowledge). There are two main categories of questions: *factual* questions, where the information is right there in the passage, and *think and seek* questions, where the information is not clearly stated in the passage and the reader is forced to think about the answer based

on what they have just read and any background knowledge of the topic. There are three main types of think and seek questions: *big picture* questions (which focus on the main idea, author's purpose, summary, message, theme, setting, and tone), *prediction* questions, and *clarification* questions. Question types (factual, big picture,

Continued on page 5

Figure 2. Question types and sample questions

FACTUAL QUESTIONS

Require finding a fact in the information that you have read. The answer is found right in the passage.

Sample Factual Questions:

- What color is the boy's hair?
- What is the name of the girl's best friend?
- How many years have the people lived in their house?
- Where is the train going?

BIG PICTURE QUESTIONS

Require you to figure out the *main idea* or *big message*, or *theme*, of the passage. They may ask for the *purpose* of the writer. They may ask for *summary* information, including information on *setting* and *tone*.

Sample Big Picture Questions:

- What is the *main idea* of the passage?
- What is the author's *main message*?
- What is the *main idea* of the first paragraph?
- What is the *theme* of this passage?
- What was the author's *purpose* in writing this passage?
- What is the *setting* of this story?
- What is the *tone* of this passage?
- Which of these statements *summarizes* what this passage is about?

PREDICTING QUESTIONS

Require you to make a guess or forecast about what will happen in the future. Also, they require you to base your forecast on information you have read.

Sample Predicting Questions:

- What do you think will happen next?
- What is the most likely event to happen next?
- What will the main character do next?
- Where will the boy hide?
- When will she be found?
- Which of his friends will stay over night?
- If you were to finish this story, how would it end?

CLARIFYING QUESTIONS

Require you to make sense of something by explaining something, giving a cause or reason, explaining feelings, comparing something, or contrasting something.

Sample Clarifying Questions:

- What do you think the author *meant* when she used the word "satisfied" in paragraph 1?
- What was Jason *trying to do* when he hid the money?
- How do you think Paula was *feeling* when she went to the store?
- What *caused* Mrs. Jones to give away the puppy?
- What do you think the *reason* was for his angry behavior?
- How does Jim's behavior *compare* to Pedro's behavior?
- How does the parade *contrast* with previous parades?

INFERENCE STRATEGY
(cont. from page 3)

predicting, and clarifying) often can be identified by clue words within the questions.

F – Find the clues

In this step, students begin reading the passage line by line. While reading, it is important to keep in mind any of the clue words from the questions and also any other strategies that the student may have learned. It is critical for the student to look for clues specifically related to the question and possible answers. Also, the student should read the entire passage, find all the clues related to each of the questions, and, if possible, underline the clues. They should find at least one clue for each question. That is, if there are five questions, the student should have found at least five clues. Although the goal is to read through and find clues to respond to comprehension questions, students may have read enough to go back and mark an answer (especially when working with factual questions). The steps to the strategy are meant to be recursive; that is, students may be flexible in their use to be sure they understand what they are reading.

E – Explore any supporting details

In this step, students go back through the passage looking for additional clues that will either support or disprove their first answer. This step is an important step because non-proficient readers often give their first guess and then move on to the next

question, never looking back to what they have just done.

R – Return to the question

In this final step, once readers think they have found a clue and made an inference to respond to the question, they should go back to the question, look at the answers, and be sure to respond based on the information gathered through this process.

The mnemonic device, 'INFER'

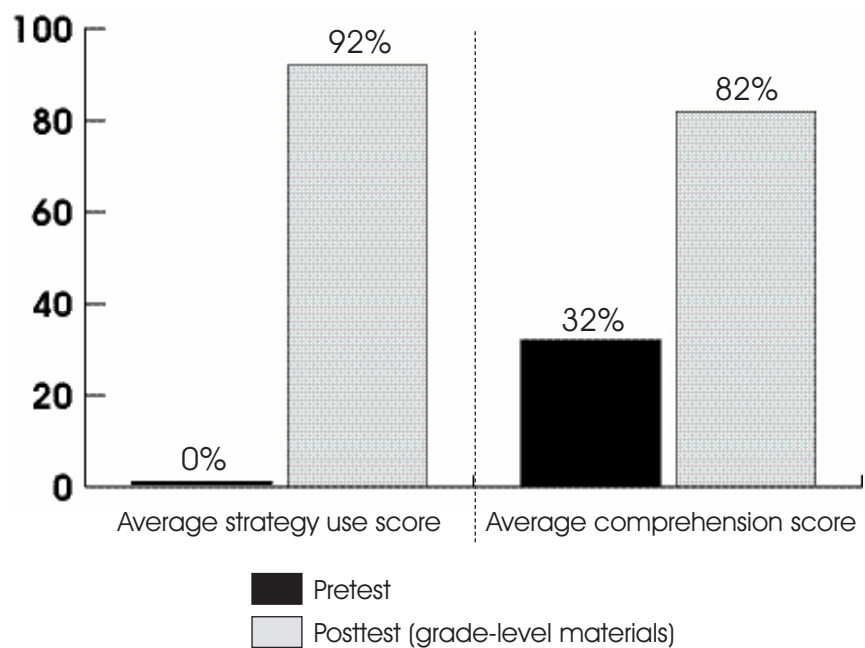
The word "INFER" is a remembering device (or a mnemonic device) that will help students remember the steps of the strategy.

FIELD-TEST RESULTS

The original research of the *Inference Strategy* showed that a small group of ninth-grade

students with special needs were able to learn to use the strategy to improve their ability to make inferences and also identify varying types of questions (see Figure 3). Recently, a quasi-experimental group design study was completed with 525 sixth-grade students in 17 English language arts classes within two middle schools. All sixth-graders in both schools were invited to participate in the study as part of their general education curriculum. The results showed that students who received instruction in the *Inference Strategy* performed significantly better on all posttest measures, including a standardized reading assessment. Further, the teachers reported high degrees of satisfaction with the strategy and their ability to teach it in their intact classes.

Figure 3. Initial field-test results



Ideas that support instruction of the Inference Strategy

The goal is to provide multiple opportunities within content-area classes for students to learn and use this strategy. Experience using the strategy on a routine basis has indicated that the following factors are important for improving the reading performance of a student in content-area classes.

- Explicitly introduce the strategy to the whole class, so students can understand how your use of the strategy and their own use of it can markedly improve their academic performance.
- Provide multiple models of how to use this strategy in comprehending difficult materials – make it a part of the way that work is done in your classroom.
- Actively involve the students as partners in using the strategy with you for the purpose of strategically approaching and comprehending difficult text.
- Encourage other teachers to teach the strategy. If multiple teachers in a building model and expect a specific reading strategy to be used, students will have a much better chance of learning and using it effectively.
- Use the strategy regularly so that both you and the students have ample opportunity to become comfortable with it as a learning tool.
- Adapt the strategy to meet the unique needs of the students, your own personality and teaching style, and the content of the course.
- Work collaboratively with colleagues to discuss student progress, to brainstorm new ideas for teaching the strategy, and to share ways to reduce learning barriers.
- Monitor students who have been known to struggle with reading to provide more support. Some students, especially those with learning difficulties, will need more practice and specific feedback. Contact teachers who are responsible for providing intensive reading instruction to arrange for additional instructional support.
- Provide bookmarks of the strategy steps for students to use as a reference when reading textbooks or books for pleasure.
- Display posters of the strategy steps on the walls to provide visual reminders for students who need them.
- Verbally cue students to use the strategy.

CRL DIVISIONS, INSTITUTES, AND LABS

**ALTEC: Advanced
Learning Technologies
in Education Consortia**
<http://altec.org>

Division of Adult Studies
<http://das.kucrl.org>

e-Learning Design Laboratory
<http://elearndesign.org>

Institute for Research on Adolescent Learning

Kansas Coaching Project
<http://instructionalcoach.org>

Professional Development Research Institute

Other KU-CRL Web sites

Content Literacy Continuum®
<http://clc.kucrl.org>

Instructional Coaching
<http://instructionalcoach.org>

KU-CRL Media Archives
<http://media.kucrl.org>

**National Research Center on
Learning Disabilities**
<http://nrld.org>

Partnership Learning
<http://kucrl.org/partnership/>

Pathways to Success
<http://kucrl.org/pathways/>

Stratopedia
<http://stratopedia.org>

Xtreme Reading™
<http://xtremereading.org>

Preparing Preservice Educators
<http://preservice.kucrl.org>

KU-CRL CALENDAR

May 26-30, 2009

SIM Learning Strategies Institute
for Preservice Educators
Lawrence, Kan.

May 26-30, 2009

Teaching Content to All: Content
Enhancement for Preservice
Educators
Lawrence, Kan.

June 16-19, 2009

SIM Strategies for Reading and
Writing
Lawrence, Kan.

June 16-19, 2009

More SIM Strategies
Lawrence, Kan.

June 22-26, 2009

Institute for Potential Professional
Developers in Learning Strategies
Lawrence, Kan.

June 23-26, 2009

SIM Institute: Introduction to Teaching
with Content Enhancement
Lawrence, Kan.

June 24-26, 2009

SIM for Administrators
Lawrence, Kan.

August 10-12, 2009

Instructional Coaching Institute,
Level 1
Lawrence, Kan.

August 12-15, 2009

Instructional Coaching Institute,
Level 2
Lawrence, Kan.

October 5-7, 2009

Instructional Coaching Institute,
Level 1
Lawrence, Kan.

October 8-10, 2009

Instructional Coaching Institute,
Level 2
Lawrence, Kan.

<http://kucrl.org/institutes>

Got a SIM tip, activity, or
suggestion for the classroom?
E-mail jtollefson@ku.edu

STRATEGRAM

Vol. 21: Issue number 3. Published six times per year
by The University of Kansas Center for Research on
Learning, Joseph R. Pearson Hall, 1122 West Campus
Road Room 521, Lawrence, Kansas, 66045-3101. Sub-
scription rate: \$15 per year. No part of this publication
may be reproduced without written permission from
the publisher, unless otherwise stated.

©2009 by The University of Kansas, Lawrence, Kansas,
66045-3101. All rights reserved.

Director of Communications

Julie Tollefson

Consulting Editor

Don Deshler

Contributors

Patty Graner

Mona Tipton

Art Director

David Gnojek

WWW.KUCRL.ORG

INSIDE THIS ISSUE OF STRATEGRAM

• Inference Strategy 1

Readers employ this new set of procedures to comprehend written passages and answer inferential questions using background knowledge and clues in the text. This article is accompanied by a full page of ideas to support strategy instruction in your classroom.

• Calendar 7

Time is running out to register for one of the SIM® institutes to be held in Lawrence, Kan., this summer. Act now to reserve your place. See the calendar for a list, then visit <http://kucrl.org/institutes> for more information.

NEW ONLINE

Stratopedia Webinar

The video from the March 10 webinar "Stratopedia Depot: Best Practices" is now online. Learn how to use Depot to support your work, then check out some of the other offerings in the Stratopedia webinar archives. <http://webinars.stratopedia.org/archives>

WWW.KUCRL.ORG