The Importance of Timing in Metacognitive Strategy Instruction

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Metacognition

Metacognition is often defined as thinking about one's own thinking. Although this appears to be an oversimplified definition, it does reflect the essence of how one learns. If knowledge is constructed, what one knows must evolve by relating what is known to new information as it is being acquired. A more specific definition of metacognition could be the ability to apply appropriate strategies to aid in understanding when meaning is lost or breaks down. When thinking of the purpose of metacognition in the role of reading instruction, the second definition implies many things. First, readers must know that the purpose of reading is to acquire meaning. It also indicates that readers must possess a variety of strategies to aid them in constructing meaning. Finally, it assumes readers continually monitor their reading for meaning and apply appropriate strategies when meaning breaks down. "The process of selecting, evaluating, or regulating one's strategies to control comprehension and long-term recall are essential for effective comprehension experiences." (Irwin, 2007, p. 5). If strategies are essential for comprehension to occur, the next step would be to identify when and how strategies are developed in readers.

With metacognition being an important aspect of comprehension, teachers must consider when to introduce metacognitive strategy instruction. Students should begin learning metacognitive behaviors in kindergarten across the curriculum (Hammond & Nessel, 2011, p. 173). Although research shows that students of all ages can and do use metacognitive behaviors, additional research shows that the timing of metacognitive strategy instruction can have an impact on student comprehension. Therefore, my research question focused on when to begin metacognitive strategy instruction as well as what methods of instruction appear to be most effective. This synthesis will focus on two articles that researched the effects of metacognitive

strategy instruction on specific populations. McKeown & Gentilucci (2007) focused on the think aloud strategy with English as a Second Language students. Kolic-Vehovec & Bajsanki researched metacognitive strategies and reading comprehension on students in fifth through eighth grade.

Research Process

All articles used for this paper were accessed through the Texas Woman's University Library website. I used the Reading subject guide to begin my search, which included the following databases: **Academic Search Complete, Education Research Complete, ERIC, Professional Development Collection, and Research Starters – Education.** From these databases I performed Boolean searches using key words; metacognition, metacognitive strategy instruction, metacognitive reading, metacognitive reading strategy instruction, and metacognitive reading strategies. These searches resulted in locating articles from the following journals: Journal of Adolescent & Adult Literacy and the European Journal of Psychology of Education. One article included research on the affect of the think aloud metacognitive strategy on Limited English Proficient (LEP) students that ranged in ability from Early Intermediate to Early Advanced. The second study focused on students in grades 5 through 8 and their use of metacognitive strategies.

Studies

Although I located several studies that addressed metacognitive strategy instruction, I chose two articles that focused on specific populations. These articles were selected for this synthesis because they centered on how the use of metacognitive strategy instruction affected certain populations and when metacognitive strategies were most often used by certain

populations. Although both studies used different methods for gathering data, they both

reflected sound research practices.

The first study completed a pre and post test measure that used the think aloud strategy to

build metacognitive behaviors in LEP students. In this study, the researches chose not to use a

control group and administered the High Point Comprehension Assessment for both the pre and

post test. The assessments included six multiple-choice questions over an expository text.

Students read the expository selection silently and then completed the High Point Reading

Comprehension Assessment. Data was analyzed by using the mean difference between the pre

and post tests. The difference was tested under the null hypothesis $X1=X2$.

The second study used a metacomprehension test, a reading comprehension task, a cloze-

task, and a strategic reading questionnaire to measure student use of metacognitive strategies. A

750 word narrative passage followed by 11 open-ended questions measured reading

comprehension. Fully correct answers received 2 points and partially correct answers earned 1

point. Comprehension monitoring was determined using monitoring questions and the cloze-

task. The strategic reading questionnaire measured students' perceived use of reading strategies.

Measures were tested by two-way ANOVAs. All post-hoc comparisons were made with the

Newman-Keuls tests.

Another difference between the studies was the populations being studied. The first

study focused on LEP students in Middle School (grades 6-8), while the second study focused on

students in grades 5-8. Another notable difference between the studies is the location where they

were conducted. The first study was conducted in the U.S. and the second study was conducted

in Croatia. Although comprehension and metacognitive strategies are universal, the differences

in educational settings could influence the results.

Findings

The first study showed that only Intermediate LEP students benefited from using the

Think Aloud metacognitive reading strategy. Early Intermediate students showed no change

while Early Advanced students were hindered by the strategy. The authors supported their

findings by pointing out Early Intermediate students "were stuck at the word level due to

decoding and vocabulary difficulties." (McKeown & Gentilucci, 2007, p. 144). Just as

interesting was the authors' explanation of Early Advanced students decrease in performance.

The authors state, "findings suggest that these readers already possess metacognitive skills

developed in their second language—they did not need to make metacognition covert through

the use of think-aloud to increase comprehension." (McKeown & Gentilucci, 2007, p. 145). This

study is representative of the role language development plays in reading comprehension.

Teachers must be aware of the stages of development in order to provide the right instruction at

the right time.

The second study provided similar findings. This study compared results of each grade

level to determine at what level students used strategies most effectively. The study showed that

fifth grade students estimated using strategies more often than eighth grade students (Kolic-

Vehovec & Bajsanski, 2006, p. 446). This did not mean eighth grade students used strategies

less than fifth grade students, but that fifth grade students appeared to be more aware of using the

strategies. However, Kolic-Vehovec & Bajsanski (2006) point out, "measures of perceived use

of reading strategies were not consistently related to comprehension monitoring until the eighth

grade." (p446).   The authors explain that fifth grade students may have overestimated their use of strategies because metacognitive knowledge was still developing at this age (Kolic-Vehovec & Bajsanski, 2006). Conclusions were logically drawn to support the authors' statement that, "metacognitive awareness requires a lot of experience with the use of different reading strategies and adequate feedback about their effectiveness obtained by comprehension monitoring." (Kolic-Vehovec & Bajsanski, 2006, p. 446). Students must not only be aware of different strategies, but must be able to apply them effectively to help construct meaning when reading. Therefore, metacognitive strategy instruction must be introduced early so that students have an opportunity to apply a variety of strategies to different reading experiences.

Synthesis

Based on the findings of both of these studies metacognitive strategy instruction is necessary in developing independent readers. However, educators must be aware of how students develop as readers to ensure they are pacing strategy instruction effectively. Of course, students can be introduced to the fact that reading should be meaningful at an early age, but they might not be developmentally ready to tackle certain metacognitive strategies until they have certain language and reading skills. While students are focusing on learning to read, they will attend to such tasks as decoding words or connecting words together to gain meaning. As the first study suggested, if students are in the word level of reading, strategy instruction will not improve their reading comprehension. This indicates that although metacognitive strategy instruction can be provided to students in this stage of development, the effects of this instruction will most likely not affect student comprehension until years later. The second study indicates that strategy instruction might need to be introduced at this stage so students will have multiple opportunities to use the strategies and learn to use them effectively. Therefore, metacognitive

strategy instruction will not interfere with students learning to become fluent readers, but should not be expected to improve student comprehension until they have developed fluent reading skills.

Another important aspect of the studies was that metacognitive strategy instruction could decrease student comprehension if he has already developed and uses metacognitive strategies. Requiring students to interrupt their thinking by making them "think about their thinking" causes students to change their focus from content to strategy. Both studies appear to support that once metacognitive strategies are developed in readers those strategies become automatic for readers. Once readers have developed metacognitive skills, they appear to continue to incorporate additional strategies with little thought. Skilled readers appear to understand that problems must be resolved and therefore develop new strategies when complex problems arise in their reading.

Although additional research needs to be done, these two studies indicate that students become more aware of metacognitive strategies around fifth grade and apply them more effectively by eighth grade. Language acquisition also influences at what grade level students acquire and effectively apply metacognitive strategies. Both research studies support the idea that metacognitive strategy instruction could be introduced as early as kindergarten, but will most likely not improve comprehension until students reach upper elementary. Additionally, students who are skilled readers and use metacognitive strategies effectively should not be required to demonstrate their skill as this often interrupts their ability to use these strategies automatically and has negative effects on their comprehension.

References

Hammond, W., & Nessel, D. D. (2011). *The comprehension experience: Engaging readers through effective inquiry and discussion.* Portsmouth, NH: Heinemann.

Irwin, J. (2007). *Teaching reading comprehension processes.* New York: Pearson.

Kolic-Vehovec, S., & Bajsanski, I. (2006). Metacognitive strategies and reading comprehension in elementary-school students. *European Journal of Psychology of Education, XXI*(4), 439-451.

McKeown, R., & Gentilucci, J. L. (2007). Think-aloud strategy: Metacognitive development and monitoring comprehension in the middle shcool second-language classroom. *Journal of Adolescent & Adult Literacy, 51*(2), 136-147.