

SOME EFFECTS OF DIRECTED
IMAGING INSTRUCTION AS
REPORTED BY HIGH SCHOOL FRESHMAN

THESIS

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Abstract

The purpose of this study was to gain insight on any self-described advantages and/or disadvantages to students of the direct teaching of imaging which will lead to a better understanding of the imaging process. Ultimately, this should lead to improving teaching methods used in imaging instruction.

The subjects were 52 students from two freshman Regents level English classes in a suburban district in western New York. The program was designed to determine if the direct teaching of imaging had any impact upon students' reading.

The treatment consisted of the direct teaching of imaging and the practice of this technique over a two month period of time. The teacher started the procedure by modeling a process analysis to the students, and the students practiced writing process analyses in class. Students were assigned to do two process analyses for homework assignments.

Imaging was explained to the students, and they practiced directed imaging and wrote about the experience. Students were directed in imaging through the teaching of various short stories and a play. While doing all of these short works, the teacher would stop at specific points within the reading to ask guided imaging questions. The students also wrote in a reflective response journal any reactions they experienced to reading and using imaging. These were shared and discussed with the class. Of Mice and Men was the major work on which the students continued using this process. As they read the novel, they stopped frequently to practice imaging and discussed it. Students wrote in a reflective journal throughout the reading of the novel.

When they finished the novel, students answered a written questionnaire about the effects of imaging on their reading based on their experience. Due to a vacation, over a week passed before students were asked the same questions from the written questionnaire in an oral interview.

All interviews were taped, and journals and written questionnaires were collected. These were analyzed to determine if any significant number of students had similar

experiences. After analyzing the data, they were categorized and percentages were tabulated in order to draw conclusions.

Based on the written questionnaires and personal interviews, the direct teaching of imaging had a positive impact on the students' reading for a majority of the students. This program seemed most beneficial for students who had not previously used imaging; however, even those students who had used imaging prior to class instruction reported the benefits of the program as well.

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CHAPTER I

Statement of the Problem

Educators have struggled through the years with finding the best way to teach reading. Many different methodologies and various "cure-all" programs have come and gone, and still there are many poor readers who have yet to be reached. Still, there are high school graduates who have a difficult time reading the daily newspaper which is around an eighth grade reading level.

In the past two decades, learning theorists and psychologists have made great strides toward better understanding the complex processes that show how the brain works. Consciousness education is based on the psychology of consciousness. This includes the belief that a person's consciousness is a style of mental functioning and that people actually have 12 different subsystems of consciousness. People can be taught to control these various areas of consciousness in order to produce the state of consciousness voluntarily which is best related to the task needing to be accomplished. People's abilities and disabilities lie in one or

imagery in daily classroom lessons might help develop that ability in students who relied on other learning styles, as well as provide an area of success for those students who process information better visually or spatially. McKim's 1972 study (as cited in Greeson & Zigarmi, 1985) asserts that contemporary education fails to make the student aware of his or her own capacity for mental imagery and does not provide much opportunity to develop this inner resource. Educators must recognize and reinforce the visual and spatial functions that seem so obvious yet are taken so for granted in a society that is highly verbal and oriented to the written word.

Purpose

The purpose of this study was to gain insight on any self-described advantages and/or disadvantages to students of the direct teaching of imaging which will lead to a better understanding of the imaging process. Ultimately, this should lead to improving teaching methods used in imaging instruction.

(Oliver,1982; Pressley,1975). Imaging has also been shown to facilitate paired-associate learning of words (Lesgold, McCormick & Golinkoff,1975). The studies conducted to date have almost all followed a similar format of either teaching students the process of using mental imaging or informing students to “picture what they read so they will be better able to answer questions after they have finished,” followed by a test of some design to determine the effect of imaging on reading. It seems that an important source for information has been neglected. Thompson (1991) is one of the few educators who took her study a step further and asked the students to record their experiences with imaging and to consider the process that they used as well as the effect of imaging on their reading.

Educators need to know what students’ reactions are to the direct teaching of imaging and the effects it has on them. By learning the students’ reactions to imaging, educators can continue to search for methods to improve the teaching of imaging and their understanding of it. Hopefully, that will aid in increasing the number of life-long readers who are imaging their own colorful samurai.

REFLECTIVE JOURNAL The use of writing to keep a record of an individual's thinking and reading processes with some reference to how he or she is experiencing imaging.

PROCESS ANALYSIS The act of breaking down an action into the steps that are coordinated from the beginning to the end of it in order to successfully accomplish the action.

Limitations of the Study

1. Some students had a difficult time doing the process analysis well because it required the application of higher level thinking. Many of the written process analyses were very general and not as detailed as necessary to give a fully accurate indication of how students used imaging.
2. Due to teacher limitations, the individual oral interview with each student was conducted in the same room where the other students were reading silently. The students seemed to be uncomfortable in this interviewing situation which resulted in their answers being less detailed because they were in a hurry to be finished.

CHAPTER II

Review of the Literature

The study of imagery is a relatively recent phenomenon dating back about fifty years. Prior to this, the psychological theory of the behaviorists prevented studying that which could not be observed (Bower, 1972). However, in the late 1960's and the 1970's, Piaget and Paivio, along with some other learning and memory theorists led the way in researching mental imagery (Greeson, L. & Zigarmi, D., 1985). Most of the early studies focused on the use of imagery to improve recall of word pairs or single sentences. All of these studies found that instructions to create mental images from the words read strongly facilitated learning by causing subjects to process the words or sentences in a meaningful fashion (Anderson, R.C. & Hidde, J., 1971; Anderson, R.C. & Kulhavy, R., 1972; Bower, 1972). The results of these early studies indicate that "imagery plays a special role in children's thinking and learning by representing concretely the figural aspects of the child's environment ... Although it is recognized that verbal

Developmental Effect on Use of Mental Imagery

Researchers are still delving into the impact of development on one's ability to use imaging as a facilitator to remembering text. Based on the work done by Inhelder and Piaget (in Lesgold, et al., 1974), it seems that a trend exists which shows that imagery instruction of prose learning for young children, ages five to six, is actually detrimental to their understanding of the passage. Young children are at the preoperational stage which means they are not able to transfer their own experiences into the event suggested by the the text because they are egocentric. Between the age of six and seven, children develop the ability to use imaging instruction effectively (Varley, Levin, Severson, & Wolff, in Lesgold, et al., 1974). Bender and Levin's study of 96 individuals labeled educable mentally retarded confirms that the use of imaging is a developmental process. In their study, a group of EMRs was given imagery instruction to improve recall; however, there was no benefit from imagery instruction for these individuals. "Thus, consistent with previous speculations about

present results suggest that there may be age differences in some information processing components but not in others. For example, the contrasting results from the image generation and maintenance tasks suggest that there may be age differences in the processes that access long-term memory, but not in the processes that activate (or reactivate) visual memories (p.1009).

Rohwer discovered that it is between the ages of eight and fifteen that “children will spontaneously elaborate during paired associate learning” (Lesgold, et al., 1974, p. 14). Adults and older high school students will spontaneously use imaging to better recall a sentence (Anderson & Kulhavy, 1972). However, once people have the ability to use imaging as a reading strategy, it seems that the effect of imaging is facilitated by imaging instructions. The facilitative effects of imaging instruction have even been found in adults (Lesgold, et al., 1974). The imaging instructions may be as simple as “make a mental picture as you read the following in order to help you recall it at the end”, but that simple reminder has been shown to improve recall of sentences.

level found interesting results. A study undertaken by Oliver (1982) of fifth and sixth graders and another study by Pressley (1976) of third graders determined that reading comprehension can be improved by developing a strategy in which individuals intend to visualize from what they read. This indicates that teachers should try to aid children in developing the metacognitive skill of visual imagery as a strategy for improving reading comprehension. These studies show that skilled readers use imaging spontaneously; however, making them aware of this as a strategy could enable them to use it more effectively (Oliver,1982). Children with learning/reading difficulties are less likely to use imaging automatically and therefore would benefit comparatively more from imagery instruction (Pressley, 1976).

Anderson and Kulhavy (1972) instructed the imagery group of high school seniors to form a vivid mental picture of everything described in the 2,190 word booklet while they instructed the control group to read the booklet carefully. More than one-half of the control

throughout the longer prose passage. It also adds in the factor of using visuals to help retention. This needs to be further studied.

Understanding the Imaging Process **in order to Teach the Imaging Process**

In the previous study discussed by Hodes (1990), she emphasized the importance of examining exactly what imaging instruction entailed. Her premise is that simply telling someone to picture what he reads is not imaging instruction; rather that imaging instruction needs to be constant throughout the text and it needs to be directed. Hodes added to that belief in a 1994 study in which she continued studying the effect of imagery instruction. In that study she determined that "mental imagery as an instructional technique has great potential as a method to optimize retention and performance... there is evidence of an increase in retrieval speed." (Hodes, 1994-95, p.59).

Peters, Levin, McGivern and Pressley suggest that different forms of imagery instruction might be suitable

to record their thinking and reading processes while imaging. She used this method to help students discover the benefits of imaging and to help them better understand how each of them used imaging and how they could incorporate its use into other areas in order to facilitate learning. She proposed that “imaging is an important skill, which, as educators, we can help our students to identify, understand, and put to work for themselves” (p. 2).

She also used the reflective journals and subsequent class discussions to assess the effectiveness of her teaching and to determine how she could improve her teaching. This is what she referred to in the title of her article as “ a reflective teaching inquiry.” Thompson focused on a crucial element that more educators must face: How can the teaching of imaging be improved so as to make it accessible to all students?

Materials: A model of a process analysis

A model of a reflective journal entry

Written questionnaire

Interview questions

Reading material included Of Mice and Men, as well as various short stories and plays

Procedure:

The treatment consisted of the direct teaching of imaging and the practice of this technique over a two month period of time which was interrupted by a week long vacation. The teacher started the procedure by modeling a process analysis to the students. The students were then divided into groups and each group was assigned a different task for which they did a process analysis. The groups shared their end result with the class, and the class had to determine what the task was that the group was describing. Students were assigned to do two process analyses for homework assignments. One was on a process of their choice, and most students chose a very concrete task for this assignment. The second assignment was to do a process analysis on listening to music. This was

checking the journals was to be sure all students were comfortable with the procedures they would be using before they began the major work.

Of Mice and Men was the major work on which the students continued using this process. As they read the novel, they stopped frequently to practice imaging and discussed it. Students wrote in a reflective journal throughout the reading of the novel.

When they finished the novel, students were directed to read through their reflective journals and answer a written questionnaire about the effects of imaging on their reading based on their findings. Due to a vacation, over a week passed before students were asked the same questions from the written questionnaire in an oral interview.

Analysis of Data:

All interviews were taped, and journals and written questionnaires were collected. These were analyzed to determine if any significant number of students had similar experiences. After analyzing the data, they were categorized and percentages were tabulated in order to draw conclusions.

In responding in their reflective journals, the format students followed consisted of analyzing the process they used to read the assigned reading and then describing a specific passage as they imaged it while reading. Students wrote in their reflective journals for a number of short stories and all of the novel, Of Mice and Men.

There were two parts of the imaging questionnaire. The first part was similar to the other reflective journals that the students had done except there was not any specific passage chosen for the students to use imaging on, and there were direct questions at the end regarding imaging. For the first part of the imaging questionnaire, the students were asked to answer the following questions after reading a story silently in class: Describe the reading process that you used when you were reading "The Interlopers" silently in class. Did you use imaging? Which senses did you use most when imaging? When in the story did you use imaging? Why did you choose to use imaging for that particular part of the story?

The reflective journal responses and the responses from part one of the imaging questionnaire were analyzed together due to both the similarity of the tasks being done and the

the assigned reading; however, using imaging helped them better understand what they were reading. Only one student who had not previously used imaging continued not to use it and the reason he gave was "I don't really like to read when I have to image because I'm not very good at it." About 10% of the students commented that the unfamiliar vocabulary words made it difficult to use imaging because they were focusing on discovering the meaning of the words which interfered with their use of imaging.

The reflective journal responses about specific passages chosen by the teacher forced the student to actually write a description of what he/she was imaging. These responses ranged from scanty, insufficient descriptions to elaborate, detailed reports encompassing all of the five senses. Very few of the students chose to draw their descriptions. Those that did draw their descriptions usually added list of adjectives to describe other senses that could not be incorporated in their visual depiction of the passage.

There did not seem to be much improvement in students' ability to describe their imaging. Typically, students who began with outstanding descriptions continued to write

answered no, please go to #4.)

3) Has your use of imaging changed since we've begun using it in class? Explain.

4) Since imaging has been taught in class, do you use it now when reading? Explain.

5) Did the teaching of imaging have an impact on your reading? Why or why not?

The results of part two of the imaging questionnaire were quite revealing about the impact of the direct teaching of imaging on students. Of the 49 students who turned in their imaging questionnaires, 76% rated themselves as average readers, while 22% considered themselves excellent readers, and only 2% rated themselves as poor readers. Sixty-five percent of the students had used imaging before it was taught in class and the remaining 35% of the students had not used imaging until it was taught in class.

Of the 32 students who said that they had used imaging prior to class instruction, 75% said that their use of imaging had changed since it had been taught in class. The most common explanations given were that they used imaging more frequently after class instruction and that they incorporated

responded, "Yes, since we have been using imaging I have been using it in almost every story we read. I find books more interesting when I use imaging." These two examples typify many of the other replies for question #4.

Seventy-eight percent of the students who responded to the questionnaire said that the direct teaching of imaging had an impact on their reading. Many students said that even though they had used imaging before they had not been aware of using it; this new awareness of the imaging technique resulted in students using imaging more often and in more detail. One student responded to question #5 by saying, "When I started imaging, I read better. What I mean is that if I can't image something, I read that part again. This makes me read better and understand the story more."

Of the 22% of the students who said that the teaching of imaging had no impact on their reading, almost all of them said that they were already using imaging and that's why it did not help them. Three of the students who responded no to this question had not used imaging previously and seemed to have a difficult time mastering the technique. Two of these three students also had quite negative attitudes toward reading.

teacher's own evaluation of the results suspects that this technique is most helpful for students who tend to be word callers rather than readers because it forces the student to put meaning to the words. As students indicated in their reflective journals, it takes longer to use imaging when they are reading because they are actually trying to envision what the words say, rather than just saying the words.

Students' comments that challenging vocabulary in the reading made the use of imaging difficult is an issue that should be addressed with the students. Although it is understandable that difficult vocabulary might interfere with students' ability to image, it should be stressed to the students that if they are able to image most of a passage that should aid them in discovering the meaning of unknown words. Therefore, when reading an arduous work, imaging should be used even more as it might help the reader understand the text better and lead to comprehension of difficult vocabulary.

Likewise, students use of imaging for only interesting and descriptive passages defeats the true purpose of the strategy. Those are the passages that would naturally appeal to most readers and are imaged almost automatically.

CHAPTER V

Conclusions and Implications

Purpose

The purpose of this study was to gain insight on any self-described advantages and/or disadvantages to students of the direct teaching of imaging which will lead to a better understanding of the imaging process. Ultimately, this should lead to improving teaching methods used in imaging instruction.

Conclusions

After reading the students' reflective journals and listening to their responses in the personal interview, it is clear that the direct teaching of imaging is beneficial for almost all students. The degree to which students benefit from the direct teaching of imaging is dependent upon a variety of factors. The teaching of imaging is useful for those students who imaged spontaneously prior to imaging instruction because most of those students reported that they

detail and the number of senses incorporated in their use of imaging. Almost all of the students who reported using imaging indicated that they no longer relied solely on visual imaging but had expanded their use of imaging to include other senses, especially auditory and olfactory. The increased use of imaging and the enlarged scope for imaging are encouraging results reported by the students; however, the tendency to use imaging most often for descriptive and high interest passages diminishes the strength of imaging as a reading strategy. It is important for students to be encouraged to use imaging on passages that are less descriptive or even boring because it is only with the use of their imagination that they can bring these passages to life and gain a true understanding of the text. Often times it is these less interesting passages that students choose to skip altogether and likewise lose important details that are held within the reading. The direct teaching of imaging did seem to help fight this problem; however, students will need frequent reminders to use imaging for whole passages.

Another factor that had an impact on the use of imaging was the degree of difficulty of the reading passage. The more

readers to use imaging because it is truly the most rewarding for those readers and opens a new world to them.

Implications for Further Research

Further investigation is needed in the use of imaging as it relates to improved comprehension and increased enjoyment of text. More comprehensive research is necessary in the following areas.

1. Although imaging could be taught to young children, the emphasis of this program is the cognitive awareness of how a student is using imaging which requires a higher level thinking ability that elementary children may or may not have. The treatment program should be administered to younger students to determine if they are capable of analyzing the cognitive processes they use while imaging. An important factor to the success of this program for students who already used imaging was the increased awareness of imaging as a reading strategy. Students should be taught the use of imaging as a reading strategy as soon as they have the cognitive ability that is necessary to utilize it.

skills necessary to develop the use of imaging.

4. The benefit of the personal interview as it was conducted in this treatment program is questionable . Originally, it was believed that students would be more willing to report the effects of the direct teaching of imaging in detail if they could talk about it instead of writing it. The constraints of this testing environment required the personal interviews to be done in the same room in which the other students were reading silently. Many students were uncomfortable with this interview environment which actually resulted in shorter and less detailed responses than were found on the written questionnaire. Further studies should provide for a separate site for the personal interview.

5. Further research is needed to discover: for whom imagery works best, the long-term cognitive and personal gains from prolonged exposure to imagery work, the environmental conditions under which imagery activities are best received, and if there are individuals who should not work with inner imagery (Galyean, 1983).

should be started early in the school year as it will need continued reinforcement throughout the year.

4. Educators should not assume that all students can use imaging simultaneously as they are reading. Some students reported that it was necessary for them to stop at the end of paragraphs or pages in order to create the images for the words they had just read. Students should be reassured that it is okay if they do not create images instantly as they read the words. Hopefully, as students become more familiar with the use of imaging, it will become more automatic for them.

5. When beginning the direct teaching of imaging, reading passages chosen for students to use for imaging should be descriptive and appeal to the senses. As students begin to become more comfortable with the imaging process, the reading passages chosen should give fewer details and challenge the students to use their imagination more when using imaging. Those students who use imaging spontaneously usually do so for more descriptive passages; using passages which require more active participation from the reader will help develop the use of imaging as a reading strategy.

integral part of the process. It is important for students to realize that not everyone has the same image and that it is okay to have different images as long as all of them can be supported by the text. Finally, asking students to analyze their imaging process makes them more aware of the process they use and may help them find ways to improve their use of imaging.

Further research is needed: to develop tests to determine the ability to use imaging, to determine the necessary length of an imaging treatment program, to discover for whom imaging works best, and under what environmental conditions imaging activities are best received (Doore, 1989).

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