# **Applying Schema Theory in Teaching Reading Comprehension**

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#### Abstract

This paper is aimed at discussing reading strategies used by teachers in teaching reading. One of strategies discussed here is schema theory. In this theory, teachers implement types of connections in reading. The connections can be divided into three categories, namely: text-to self connections, text-to world connections and text-to text connections. By applying this schema theory, the students are involved actively in reading activities. The more they are involved in reading, the more they can comprehend the reading text. For this reason, the students should do total involvement, that is, physical and psychological involvements. These involvements are very important because the students will try to comprehend three levels of comprehensions, namely, literal level, inferential level and evaluational level. Reading literally is often called reading on the lines or reading stated information. Meanwhile, reading inferentially is reading between the lines or implied meaning. The last one reading critically is reading beyond the lines or making evaluation toward the writer's message. These levels of comprehension will affect the students' comprehension about a reading text. By applying three types of connections in reading, it is expected that the students will be able to increase their reading comprehension.

**Key words**: schema theory, text-to self, text-to world, text-to text, literal, inferential, evaluational, involvement.

#### A. Introduction

Reading is still regarded as a difficult skill by many students at any level of education—from elementary to university level—so far. This reality is true because reading is not only reading literally, but also reading inferentially and critically. Reading literally is often called reading on the lines or reading stated information. Meanwhile, reading inferentially is reading between the lines or implied meaning. The last one reading critically is reading beyond the lines or making evaluation toward the writer's message. These levels of comprehension will affect the students' comprehension about a reading text.

In addition, the problems in reading are not only about the inability in understanding meaning, but are also related to the knowledge of vocabulary, grammar, punctuation, text mechanism and contents of a reading text. These aspects will determine the students' comprehension any time they read. The vocabulary and grammar are the basic units of a language. Without sufficient knowledge about these units, it seems impossible for the students to comprehend a text they are reading. Moreover, punctuation and text mechanism also affect the amount of comprehension in reading. Meaning can be caught only if the students can use punctuation and text mechanism knowledge during reading. At last, reading contents are the key points in reading. These will become indicators of reading comprehension whether the students understand the writer's message or not. They are related to the nature and culture. If the students have enough knowledge about the nature and culture, they will easily understand the contents of the text.

To overcome all those problems, the students should have reading strategies. The problems in reading might be increased whenever the students do not know reading strategies. As a matter of fact, in reading a reader uses his schema to grasp the meaning of the text. For this reason, they should understand schema theory. This theory will help the students to comprehend the text better. By schema theory, the students actually use all potentials and efforts they have.

They do not only read the text, but also read the nature or the world. At the same time, they are demanded to use their experiences in catching the writer's messages.

One of the ways to help the students to comprehend the text is by understanding types of connections in reading. These connections are related to schema theory which can be used by a reader in reading. In this paper, the writer tries to elaborate and discuss these connections, so he hopes that teachers can apply it in teaching reading.

### B. What is Reading?

In teaching reading teachers or students should first know the concept of this language skill. This is important in order that the teachers can teach it well and the students can learn it easily. Alderson (2005:13) states that reading involves perceiving the written form of language either visually or kinesthetically. It is not just looking at words. Reading is a complex, diverse process. The reading process, like many other processes, involves a number of distinct, yet connected, stages. An often overlooked stage in the reading process is preparing to read, preparing both your mind and your surroundings, so that you are able to concentrate on the material. Another stage in reading process involves your eyes (looking at the page) working together with your memory. To learn new material by reading, you 'hook' it to what's in your memory. Knowledge builds on knowledge. To build the knowledge base required in college, you need to marshal your self-discipline so that you actively engage with all interactions between your eyes and your memory.

Meanwhile, Grabe and Stoller (2002:9) say that reading is the ability to draw meaning from the printed page and interpret this information appropriately. The ability to use the reading process skillfully takes concentration and self-discipline. Before you start a reading session, seek out places where, and times of day when, you'll not be interrupted or distracted by people or noise. Never mislead yourself into thinking you can concentrate adequately when you're in a room where people are talking, or the TV is on, or music is playing loudly, or when you're expecting phone calls. If you are uncomfortable with silence, as some people tend to be, experiment honestly with what gives your comfort: soft, nondstracting music, a clock that ticks reassuringly, or other options. If there's little private time where you live, schedule yourself to read in a quiet corner of the library or a spot in a park or public building with minimum human traffic. Check out which college classrooms are empty during off-peak class hours.

Aside from external influences on your concentration, internal factors can also get in your way. These include daydreams, personal problems, anxiety, and failure to stick with what you set out to accomplish. Concentration takes your total mental immersion in what you're doing. Developing an outstanding ability to concentrate is a major challenge facing college students. At all times, try to work with fierce determination to concentrate and focus with razor-sharp intensity. This is a learned ability. It doesn't come to most people automatically. The good news is that everyone can learn to concentrate and focus. You'll find that the more you practice, the stronger and more stubborn becomes your refusal to tolerate distractions, either external or internal.

One way to monitor your powers of concentration is to place a short stroke (vertical mark) on a sheet of paper each time your mind wanders. Doing this reminds you that you're not concentrating. At the end of the page or article, count the number of strokes you have accumulated. The next time you read, compete with yourself. Reduce the number of strokes you make per page or article. Soon, with practice, you can decrease the number of strokes.

Use the following paragraph to test your powers of concentration. Place a short stroke (vertical line) within the lines each time your mind wanders. Then, count the strokes as your baseline to measure your progress toward reducing the number of strokes as your read.

According to Andie and Shagoury (2006:36), in teaching reading teachers often start with the strategy of making connections. This is not surprising, since reading researchers believe that schema theory, or the idea that learners must connect the new to the known, is the basis for all comprehension instruction. Schema theory comes to life in classrooms when students

experiment with making text-to-self, text-to-text, and text-to-world connections as they read. Typically in comprehension strategy work, educators use the term "text-to-self" to talk about how texts connect to our lives. Mickulecky (1996:21) states that comprehension is part of life. Every waking minute, your brain is busy making sense of your world. It could be compared, in fact, to a very complicated computer. Messages are constantly coming in about what you see, hear, smell, touch, or taste. Your brain receives these messages, interprets them, sorts them, and save them.

When new information arrives, your brain looks for some connection to information already there. If it finds a connection, the new information becomes part of a network and is saved in our long-term memory. When it does not find a connection, the new information is quickly forgotten and lost. The same process happens when you are reading. As you read, your brain tells your eyes what to look for in order to make connections. Sometimes the connection seems to happen by itself—especially when the information is important or interesting to you. But at other times, it is not so simple. The text may seem a mass of information with no meaning that will stick. However, you can learn how to make sense of what you read and remember it.

Meanwhile, McNamara (2007:3-4) states that reading is an extraordinary achievement when one considers the number of levels and components that must be mastered. Consider what it takes to read a simple story. The words contain graphemes, phonemes, and morphemes. Sentences have syntactic composition, propositions, and stylistic features. Deep comprehension of the sentences requires the construction of referents of nouns, a discourse focus, presuppositions, and plausible inferences.

The reader needs to distinguish given versus new information in the text and implicitly acknowledge what is shared among most readers in a community (called the *common ground*). At more global levels, the reader needs to identify the genre, rhetorical structure, plot, and perspective of different characters, narrator, theme, story point, and sometimes the attitude of the author. The coding, interpretation, and construction of all of these levels are effortlessly achieved at a rate of 250 to 400 words per minute by a proficient adult reader.

Comprehension is not always effortless and fast, of course. When beginning readers struggle over individual words, reading is slowed to a near halt and deeper levels of comprehension are seriously compromised. This happens when proficient adult readers struggle with technical expository text on unfamiliar arcane topics, such as a mortgage on a house or the schematics of computer's operating system. Cognitive strategies are particularly important when there is a breakdown at any level of comprehension. A successful reader implements deliberate, conscious, effortful, time-consuming strategies to repair or circumvent a reading component that is not intact. Reading teachers and programs explicitly teach such reading strategies to handle the challenges of reading obstacles.

One could argue that reading strategies are also important for many adults who consider as skilled readers. There are basically three arguments to bolster this claim. First, many readers do not know whether they are adequately comprehending text. Second, many readers have an illusion of comprehension when they read text because they settle for shallow levels of analysis as a criterion for adequate comprehension Shallow readers believe they have adequately comprehended text if they can recognize the content words and can understand most of the sentences. However, deep comprehension requires inferences, linking ideas coherently, scrutinizing the validity of claims with a critical stance, and sometimes understanding the motives of authors. Shallow readers believe they are comprehending text when in fact they are missing the majority of contradictions and false claims.

Acquisition of better reading strategies is apparently needed to crack the illusion of comprehension in readers who are settling for low standards of comprehension. They need to acquire and implement strategies to facilitate deeper levels of comprehension. Third, nearly all adults have trouble comprehending technical expository text at deep levels even though they are skilled readers. Deep comprehension of technical text is a difficult challenge, because the reader has minimal knowledge of the technical terms, key conceptualizations, mental models, and

other forms of background knowledge. Even those with high relevant background knowledge and general reading skills can struggle.

Before and after training, there was a pretest and a posttest with multiple choice questions similar to the Force Concept Inventory, a test that taps deep physics knowledge. We were thrilled to learn that there were substantial learning gains from Auto Tutor, but that is not the main news from the present standpoint. We were surprised to learn that the college students had zero learning gains from reading the textbook, and their posttest scores did not differ from reading nothing at all. A similar finding was obtained on the topic of computer literacy. Results such as these strongly suggest that the reading strategies of literate adults are far from optimal when considering deep comprehension. Our college students did not achieve deep comprehension on texts about physics and computer literacy even when they had a nontrivial amount of world knowledge on these topics and sufficient reading strategies to land them in college. Acquisition of better strategies of reading comprehension may best be viewed as a lifelong mission.

Some researchers do not routinely agree that it is worthwhile to teach reading comprehension strategies as an explicit reading objective. Some skeptics argue that the comprehension strategies will follow naturally from reading a large body of texts and from being intrinsically engaged in the content. The problem with this conclusion is that it fails to explain the above findings on comprehension calibration, illusions of comprehension, and the poverty of deep comprehension. Readers do not at all optimally comprehend texts even after decades of practice with reading. Other skeptics raise the concern that there is a cognitive overhead in applying comprehension strategies and that this overhead can potentially interfere with learning the substantive content. There are two rebuttals to the second worry. Regarding the first rebuttal, a comprehension strategy will have a cognitive cost when first implemented, but these costs will diminish over time as the cognitive strategy becomes more practiced and eventually automatized.

Blachoqicz (2008: 33-34) states that a great deal of research has explored and supported the notion that comprehension is a process demanding strategic approaches. Good comprehenders have learned that they have control of the reading process. They actively construct meaning as they read, and they also direct their ocomprehending by using basic strategies and by monitoring their own understanding. They know how reading works because they have knowledge about how sounds, letters, and print work (declarative knowledge); they know what strategies to use to help them understand (procedural knowledge); and they know when to use which strategies (conditional" knowledge).

Researchers also suggest that good readers have plans for comprehending, even though these plans can vary for different types of text and different learning tasks. We'll try to begin making sense of these plans by talking about some "big strategies." These strategies are moves and actions that readers of all levels engage in all the time while reading almost all materials. We call them "strategies" because they can be consciously controlled by readers, even though they may be applied almost unconsciously during easy reading and/or when readers are skilled in them..

Ostrov (2002:33) says that if you find any confusing words stop and look them up, or else you may end up "reading" something different than what the author wrote. This is a great cause of poor comprehension. It's not that you totally don't understand the author, but that what you think he is saying is different than what he is actually saying. This can happen because what you think a word means may be different than what the author thinks it means. When you speak with someone, you can always check to make sure that each of you understands the other. This is a two-way flow of communication. When you read, this opportunity doesn't exist; there is a one-way flow of written symbols from the author to the reader.

The written symbols represent spoken words. The spoken words themselves represent other things in the real world. Since you learned to speak as a child, your vocabulary is partially based on what your parents and others around you thought words meant and how they should be used. These meanings may not be correct, complete or applicable even though you have used

them your entire life. No one is "to blame" for this. They just passed them along. Luckily for us all, there is a collection of word rules and meanings we can check against — this is the dictionary.

Unfortunately, the dictionary is not used enough. What often happens is the reader guesses at the word and continues. Then, what the reader thought the author meant is not quite what the author actually intended. Again, this stems from the fact that what the reader thinks a particular word means is not the same meaning that the author used. It might be close, then again it might not, but the dictionary is the place to find out for sure.

Suppose for a minute we consider each word to be a brick. The author has a building in his mind which he takes apart brick-by-brick and passes one-by-one (via printed or written words) to the reader. The reader then reconstructs them in his own mind, brick-by-brick (or word-by-word). Thus, if the reader exactly and correctly rebuilds the structure, he will correctly perceive what the author had in his mind.

#### C. Applying Connection Types in Reading

Keene and Zimmermann (1997:21-24) suggest that readers make three types of connection: text-to-self, text-to-text, and text-to-world. Readers can use each of these frames to identify the source of their prior knowledge connections. These frames also provide ways to think and talk about books and help readers build schemas. Questions related to each of these types of connection provide educators with tools to engage students in active reading. After educators practice metacognition by thinking aloud and sharing their connections orally, they can use these questions to engage students in making their own connections and thinking about how connections help them comprehend texts.

As with all the strategies, young readers should ultimately internalize these questions and utilize them as a means of exploring the ways they are connecting to what they read, hear, and view. We know that connections help us remember what we read. Connections also give value to literacy events in which we engage. Building connections not only supports comprehension, it also enriches our literate lives by giving deeper significance to literacy experiences.

Before Reading	
Making Connections	How Connections Support Comprehension
From reading the book title and looking at the cover, I know this book is going to be about living in the mountains. I have visited the mountains, but I've never lived there. I remember that it's quieter in the mountains than in the city where I live. (Text-to-self)	Knowing that this story is set in the mountains and probably takes place some time ago, I suspect this story will be quiet and slow. I think I will learn some things about living in the mountains long ago because I don't know that much about it now. This helps me listen for what is different about the characters' lives from my own life.
The characters' clothes make me think this story happened some time in the past. We don't wear clothes like this now. (Text-to-world)	These connections help me get ready to enter the story.
During Reading	
Making Connections	How Connections Support Comprehension
I have had the same experience as the narrator, but not from eating okra. (Okra was my grandmother's favorite vegetable yuck!) One	These connections help me think about how the character feels and what she experiences. I realize now that, even though we live in

time I ate too much chocolate candy, and I had to pay the price.

I swam in a muddy creek once. I couldn't see the mucky bottom. It felt a little creepy because I didn't know what other creatures were swimming with me! (Text-to-self)

different locations, we have some of the same feelings and experiences.

This helps me get into the story, share the character's life, and connect it with my own.

#### After Reading

#### Making Connections

How Connections Support Comprehension

This story reminds me of a movie called to live with her grandfather. At first she was unhappy there, but then she came to love her grandfather and her new mountain home. Heidi even got homesick for the mountains and grandfather when she had to return to the city. (Text-to-text)

Heidi. In the film, a girl went to the mountains

Like the narrator, I'm happy about where I live. Part of that feeling comes from the place, but it also comes from the people who live with me and the things we do together. (Text-to-self)

This connection reminds me that the setting in a story can make a difference. Different things happen in different places.

Both of these stories help me make a connection to something I believe: people are an important part of what we think of as "home."

This connection helps me understand the message of the story.

I think the author wanted to tell readers it's important to have loving people in your life. I agree with this idea.

#### a. Text-to-Self Connections

Text-to-self connections require that educators know the children in their care and be familiar with students' home lives and local communities. Classroom teachers often bring a deeper knowledge of individual students to the classroom-library collaboration. Teacherlibrarians often bring a broader knowledge of the literature available in the school library, through interlibrary loan, and by way of Web resources. Through collaboration, classroom teachers and teacher-librarians can connect children's background knowledge with a rich array of children's literature and resources, thereby providing readers with exceptional opportunities for making connections based on the familiar experiences of the students themselves.

When modeling text-to-self connections, educators can use think-aloud questioning to share their thinking processes. Posing and answering questions can be an effective vehicle for making comprehension through background knowledge accessible to students. These sample questions center on three areas of text-to-self connection: feelings, experiences, and ideas:

- 1. Have you ever felt like the character(s) in this story? Describe what happened and how vou felt.
- 2. Have you had a similar experience? Compare your experience to that of the character(s).
- 3. Have you heard or read this information before? What does this information mean to
- 4. How does connecting a story or information to your own life experiences help you better understand it?

#### b. Text-to-Text Connections

When educators make effective connections between children's home and school lives, and as children build their school-based background knowledge, learners can be guided to make connections between texts. In a broad sense, a text can be any communication from which a person makes meaning. This includes all forms of paper-based documents as well as oral communication, visual images, and electronic resources. This view of a text offers learners a wide range of possible sources for making connections. When children begin to notice commonalities between texts situated both inside and outside of school, they may begin to find more relevance in their school-based learning experiences.

The following sample questions center on making text-to-text connections. They can be used to guide educators' and students' thinking as they model and practice this strategy:

- a. Have you ever read another book or seen a movie in which the characters have feelings or experiences similar to the ones in this story? Describe how they are the same.
- b. Have you ever read another book or seen a movie in which a story element (setting, plot, conflict, theme, or style) is similar to the one in this story? Describe how they are the
- c. Have you read another book or seen a movie in which the writer used language or text structure similar to that in this story? Describe how these texts are similar.
- d. How does making connections to familiar texts help you comprehend the new text?

#### c. Text-to-World Connections

With text-to-world connections, readers stretch their thinking beyond the particulars of what they read, hear, and view to connect story themes with larger life issues. These topics often include social and political problems related to historical or current events. For instance, before reading Fly Away Home, written by Eve Bunting and illustrated by Ronald Himler, educators can share a current newspaper article about homelessness. During the reading, educators and students can compare the situations and issues in the story to those in the article or to other experiences or information related to this social problem. During or after the reading, some students may make connections to homeless people they have seen or to news broadcasts or other newspaper articles on this topic.

When students make inter textual connections such as these, they are beginning to explore using literacy as a tool for forming opinions about social and political issues. Readers can grow to understand that authors and illustrators create for purposes that may include messages or perspectives on world events. The author's intention, part of Rosenblatt's reading transaction, should be one ingredient of the meaning made by the reader. These are some questions that can be used to guide educators' or students' thinking as they practice making text-to-world connections:

- a. What do you think the author's message or purpose was in writing this story or presenting this information?
- b. Did the author suggest a message that connects with bigger ideas about the way things are in the world? What do you already know about these issues?
- c. What do you think was the author's opinion or perspective on the big ideas in this text? Do you agree? Why or why not?
- d. How does making connections to larger issues help you comprehend this text?

#### D. Implementing the Connections in Teaching Reading

The connections in reading discussed above should be implemented by teachers in the classroom by arranging certain reading activities. The students are helped to operated those connections—text –to text, text-to self, and text-to world—in order they can achieve the reading purpose. For that reason, the teacher tries to think what activities can be used in each type of connection.

As mentioned at the previous part, the three connections can be applied in all stages of reading, that is, pre, while and post-reading. For pre-reading activities, the teacher can use textto self and text-to world connections to activate background knowledge. This is done in exploration or observing and questioning stage of teaching and learning process. The activities that be done are as follows:

- 1. Previewing the text by looking at the title, the pictures, the graphics, and other relevant items (chapter headings, summaries, etc.), to evoke ideas, thoughts, and relevant memories and experiences. This starts to activate what a reader already knows; it "primes the pump."
- 2. Predicting from the preview what is already known about the topic, content, and/or genre that can help the reader understand, as well as what is known about the form of the reading material. This previewing helps the reader draw on background knowledge about both the content and the type of reading material. For example, if there are time lines in the material, chronology is important to this piece of reading material. Perhaps it's historical description or biography.
- 3. Setting purposes for reading by asking questions that need to be answered. Choosing an appropriate strategy based on predictions and questions (I'm going to skim this quickly to find out where he is," or "I am going to read the summary of this physics chapter first to get the overall gist").
- 4. *Checking understanding* by keeping track of the gist of the material. This can be done by paraphrasing, by imaging, or by asking, "Does this make sense?"
- 5. *Integrating the new information with what is already known* by making connections, making inferences, creating images, or adding elaborations to what the author says.
- 6. *Monitoring comprehension* by using all cueing systems to figure out unknown words, by determining what is important in the reading material, and by using "fix-up" strategies (such as rereading and reading ahead) when difficulties are encountered.
- 7. Continuing to predict/question, to refine those predictions and answer orreformulate the questions, and to ask new questions.

Meanwhile, the connection of text-to text can be operated after reading by the following activites:

- 1. Summarizing and synthesizing what has been read by dealing with the plot and/or central ideas, as well as the author's purpose and perspective. This constructs a meaning for the whole that goes beyond the meaning of the individual parts read (chapters, sections, etc.).
- 2. Responding appropriately: personally, critically, and/or creatively. Reading multiple sources and cross-checking information when appropriate, or making other connections across texts and knowledge types.
- 3. Checking for fulfillment of the purpose of reading. Were questions answered? Was the author's presentation adequate? Does the reader need or desire to read or learn more or search further for information?
- 4. *Making comparison*. Comparing the information in the reading text to other reading selection that they have already read before which is similar to the current text they are reading.
- 5. *Using what is read* in some application.

All of these sets of strategies—ones used before, during, and after reading—assist readers in being active, constructive readers who can gain and use information.

## E. Conclusion and Suggestions

In teaching reading a teacher should be able to provide the students with some reading strategies to help them increase their reading comprehension. This is important because by those strategies the students will read well after they finish studying a reading subject. In other word, the teacher does not only distribute the text and ask the students to read in the reading class without providing their students with reading theories or strategies, but also teach them how to read. One of the ways to help the students read better is by applying types of connections in reading.

These connections are implemented in reading class by certain activities. All activities in reading class should be in accordance with the target competence. These activities are categorized into pre-reading, while-reading and post-reading or nowadays are commonly categorized into exploration activities, elaboration activities and confirmation activities. For this purpose, pre-reading, while-reading and post-reading activities designed in teaching reading can be tailored to these three stages in teaching.

In choosing the activities, it is suggested that a teacher should consider the students' level of ability, social background, characteristic of reading texts, students' interest and needs and level of text difficulty. The success in teaching reading will chiefly be dependent on teachers' preparations, methods or techniques and media chosen.

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