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# Reading Comprehension Strategy Instruction in a First-Year Course: An Instructor's Self-Study

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**Abstract**

The primary purpose of the study described here was to document the first author's experiences delivering a repertoire of evidence-based comprehension strategies in context of a first-year university course. We first provide an overview of the literature related to students' transition into the postsecondary environment, arguing for the need to engage in comprehension strategy instruction within first-year courses. We then overview the literature related to the provision of comprehension instruction to selected groups of postsecondary students. We next outline the study methodology including a description of the instructional program provided here. In an attempt to provide insights for others who may wish to provide similar instruction, we conclude by discussing emerging themes related to student learning and curriculum design as related to strategy instruction at the postsecondary level.

L'objectif principal de l'étude décrite dans cet article est de documenter les premières expériences de l'auteur à présenter un répertoire de stratégies de compréhension basées sur l'évidence dans le contexte d'un cours universitaire de première année. Nous présentons tout d'abord un aperçu général de la documentation qui existe sur la transition des étudiants vers l'environnement post-secondaire en exposant le besoin de s'investir dans l'enseignement de stratégies de compréhension dans les cours de première année. Ensuite, nous exposons un aperçu de la recherche qui traite de l'enseignement de la compréhension à des groupes ciblés d'étudiants du niveau post-secondaire, puis nous énonçons la méthodologie de l'étude, y compris la description du programme d'enseignement présenté dans cet article. Pour tenter de fournir des informations à ceux qui souhaiteraient pratiquer un tel enseignement, nous concluons en discutant les nouveaux thèmes liés à l'apprentissage des étudiants et à la conception de programmes d'études qui se rapportent à l'enseignement de stratégies au niveau post-secondaire.

First-year university students face many challenges as they transition from secondary school to postsecondary environments (Francis & Simpson, 2009; Pawan & Honeyford, 2009). Among these challenges is the need to meet rigorous academic expectations, largely through independent reading and learning (Donald, 2002; Halpern, 1998). Specifically, first-year students, who are often older adolescents, are expected to meet the standards of a text-based adult learning environment (Pawan & Honeyford, 2009). Despite their secondary school success, many first-year students are surprised by the critical role that texts play in discipline-specific study and indicate having little experience reading them extensively (Freebody & Freiberg, 2011; Mulcahy-Ernt & Caverly, 2009). Although professors may expect these students to possess fully developed metacognitive abilities, many first-year students may still be developing cognitively (Alexander & Fox, 2011) and thus may benefit from guidance and support in meeting these new reading challenges (Alexander, 2005; Alvarez & Risko, 2009; Pawan & Honeyford, 2009). The primary purpose of the study described here was to document one professor's (first author) experiences delivering a repertoire of evidence-based comprehension strategies in context of a first-year university elective English course designed to introduce students to the conventions of academic reading and writing. As research describing professors' attempts to integrate comprehension instruction within postsecondary settings is limited, we believed that this description would be of particular interest to researchers and educators.

## Reading Comprehension and Strategy Instruction

In order to succeed academically, students need to enact a repertoire of effective comprehension strategies as well as possess the self-regulation skills to employ them appropriately (Holschuh & Aultman, 2009; Schunk & Zimmerman, 1997; Shanahan, 2009; Taraban, Rynearson, & Kerr, 2000). To this end, researchers have identified several critical strategies that have been demonstrated to promote students' reading comprehension including, but not limited to, activating prior knowledge, identifying main ideas, questioning, and summarizing (International Reading Association [IRA], 2007; Pressley & Wharton-McDonald, 1997; Research and Development [RAND] Reading Study Group, 2002). Readers who are metacognitively aware are able to monitor their understanding while reading, deploying and manoeuvring within their strategy repertoires to address any gaps when deriving meaning from text, thus facilitating comprehension (Hong-Nam & Leavell, 2011). One of the goals of this study was to provide university students with explicit instruction about a repertoire of evidence-based comprehension strategies intended to promote their metacognitive awareness.

There is substantial evidence that providing younger students with explicit strategy instruction, or what is sometimes referred to as direct instruction (Duffy, 2009), can enhance their comprehension of text (e.g., Almasi, 2003; Brown, 2008; Israel & Duffy, 2009; Keene & Zimmerman, 2007). Briefly, explicit instruction involves providing students with metacognitive information related to the target strategies including defining the parameters associated with their use (i.e., *why* use the strategy, *when* to use the strategy, *where* to use the strategy, with *what* materials). Modeling also is a central concept of explicit instruction, with teachers called upon to demonstrate strategy use (usually via think/talk alouds) frequently and in context of authentic materials, especially when introducing students to new or unfamiliar cognitive processes. As students acquire greater familiarity with the strategic processes, teacher-directed modeling is replaced with guided or scaffolded instruction. Here, the instructor and/or other learners can cue, prompt, and assist each other in using relevant strategic processes as they encounter new

information and tasks, with students demonstrating independent use (Almasi, 2003; Woloshyn, Elliott & Kaucho, 2001). Unfortunately, this type of explicit instruction does not often occur as part of daily instruction beyond Grade 6 (Alexander & Fox, 2011; for an exception involving secondary school students see Lapp, Fisher, & Grant, 2008), even though the demands of reading continue to become more complex as students progress through consecutive levels of schooling (Donald, 2002; Shanahan, 2009).

More positively, there is evidence that postsecondary students identified as "striving" or "at-risk," or those with reading disabilities, benefit from strategic instruction (Caverly, Nicholson, & Radcliffe, 2004; Falk-Ross, 2001; Hong-Nam & Leavell, 2011). For instance, Hong-Nam and Leavell (2011) provided university students enrolled in developmental reading courses with strategy repertoires (e.g., paraphrasing, summarizing, questioning), noting gains in students' appropriate use of evidence-based reading strategies as well as their metacognitive awareness about their reading processes. This type of instruction is often provided within the context of developmental reading courses or supplemental sessions provided by professional staff versus faculty, thus removing instruction from academic lecture and minimizing the likelihood that students will transfer this instruction across their university studies.

There is less exploration of the integration of reading comprehension instruction as part of discipline-specific content courses intended for first-year students (for an exception see Shepherd, Selden, & Selden's, 2009 research exploring reading instruction as part of first-year mathematics). Even when such studies exist, they are often limited to the use of a specific comprehension strategy versus promoting an extensive repertoire. For instance, Smith, Holliday, & Austin (2010) prompted first-year undergraduates enrolled in a biology course to use elaborative interrogation ("why" questions) when reading course materials, documenting increases in students' learning gains following instruction.

## Theoretical Framework

We are two faculty members who hold over 25 years of collective postsecondary teaching experience and who share interests in students' reading processes and meaning-making experiences. Through conversations with each other and colleagues, we became particularly interested in the instruction of strategic reading processes within postsecondary contexts. In this study, we adopted a social constructivist approach to teaching and learning where emphasis is placed on the co-construction of knowledge based on interactions with others and the world (Schwandt, 2000; Vygotsky, 1978). We acknowledged the importance of individuals' prior knowledge in the acquisition of information, understanding that learning involves the process of forming connections between new information and existing knowledge networks. We recognized the important role of language in learning, drawing upon Bruner's theory of instructional scaffolding (Wood, Bruner, & Ross, 1976) where experienced learners can assist less experienced ones through the use of guided verbal cues and prompts. Like Gordon (2008) we believe that constructivist approaches to teaching require a "balance between teacher- and student-directed learning" where teachers are, at times, required to assume "an active role in the learning process, including formal teaching" (p. 324). Like others (Brookfield, 1995; Pinnegar & Hamilton, 2009), we believe in the importance of reflection and discussion for professional growth, recognizing that new possibilities and insights often emerge when colleagues share and discuss critical instances.

This study provided us with an opportunity to reflect on the nature of comprehension instruction as well as challenges and limitations associated with the implementation of explicit strategy instruction in the first-year classroom. Specifically, we provide a general description of Cynthia's efforts to implement strategic reading comprehension instruction in context of her first-year English course while Vera played the role of critical friend, advisor and vested colleague. We then analyze these experiences as documented through Cynthia's instructional reflections and supplemental student data, elaborating on criteria that we believe are necessary for successful implementation at the postsecondary level.

## Methodology

### Research Design and Context

This research represents a qualitative case study drawing upon principles of self-study and action research (Bullough & Pinnegar, 2001; Yin, 2009). Self-study is characterized through its self-initiation and focus on improvement, as well as on exploring the interactivity between instructors and students, and at times, between researchers (LaBoskey, 2007). Tidwell and Fitzgerald's (2007) comparison of self-study to teaching resonates here, as the cyclical process of planning, action, observation, and evaluation was integral to the implementation of the strategic curriculum. Cyclical research processes also are consistent with Creswell's (2012) description of action research as a "'spiral' of activities" that is intentional, focused, practical, collaborative, and dynamic (p. 586). Consistent with these notions, we explored the ways in which Cynthia enriched her practice by integrating comprehension strategy instruction within existing course content as realized through reflective practice and critical discussions with Vera (Costa & Kallick, 1993).

After receiving ethical clearance from the Research Ethics Boards at the researchers' home institutions, this study was conducted in the context of a first-year, undergraduate English course housed within a small, multidisciplinary program with an enrollment of 1,400 students. The elective course, completed predominantly by first-year students across the Humanities and Social Sciences, introduces conventions of academic reading and writing in order to assist students to navigate through their university studies. The course was held in the fall semester and consisted of 12, three-hour weekly classes. Nine classes incorporated introduction and integration of comprehension strategy instruction with other course content, while the remaining sessions were devoted to course introduction, course review, and exam preparation. Throughout the course, students were assigned readings from *The Active Reader: Strategies for Academic Reading and Writing* (Henderson, 2008). Readings ranged from 1,900 to 5,300 words (average length of 3,322 words), represented a variety of writing formats and authors, and were used to provide an authentic context for strategy instruction and student experimentation. Learning objectives associated with this course included reading actively and effectively for a variety of academic purposes while employing a repertoire of comprehension strategies; using punctuation and grammar effectively; planning and writing a critical response and analysis; and demonstrating understanding of basic research skills and principles. Student learning was assessed on the basis of short exercises, reflections, written assignments, quizzes, completion of online research modules, and a final examination.

During the first class, two of Cynthia's colleagues invited students to participate in this study. It was explained that the expectations for participation involved having students release

their course-required reflective journals and questionnaire responses for subsequent analyses. Of the 37 students enrolled across two sections of the course, 26 (11 males; 15 females) elected to submit these documents for review as part of the study. Five of the 26 students were completing their second year of studies, with the remaining students completing their first year. Participating students' responses were withheld from the authors until the submission of grades at the completion of the term. Regardless of their decision to participate in the study or not, all students received identical strategic instruction and completed the same course assignments.

**Comprehension Strategy Instruction**

Throughout the duration of the course, the cognitive skills of monitoring for meaning, analyzing text features/structures, questioning, paraphrasing, inferring, summarizing, and synthesizing were presented as cumulative processes. Instructional sessions followed a similar format with Cynthia introducing successive comprehension strategies (Table 1).

Table 1
*Reading Comprehension Strategies*

| Strategy | Cognitive Processes/Instructional Prompts |
|---|---|
| Monitor for Meaning | Activate relevant prior knowledge (What do I already know?) |
| | Check understanding of text while reading (Does this make sense?) |
| | Take action if text doesn't make sense (How can I resolve the inconsistency?) |
| Identify Text Structure | Graphic features and visuals (e.g., font changes, diagrams) |
| | Writing patterns (e.g., cause & effect, descriptive lists) |
| | Signal words/phrases (e.g., for example, however, contrarily) |
| | Writing structures (e.g., opinion essays, research articles) |
| | Consider how elements affect text |
| Question | Clarify (What does this mean?) |
| | Analyze (Why does this matter?) |
| | Speculate (What would happen if…?) |
| | Contextualize (How does this relate to…?) |
| | Use generic stems to generate questions |
| Paraphrase | Divide complex passages |
| | Reorganize sentence parts |
| | Question specific phrases |
| | Translate difficult wording |
| | Analyze connection of ideas |
| | Reword and compare with original text |
| | Assess whether original passage is represented completely and fairly in paraphrase |
| Infer | Read, wonder, think |
| | Connect ideas in text with prior knowledge |
| | Ask "So what?" "If… and…, then…" |
| Summarize | Identify and paraphrase local and/or global main ideas |
| | Combine main ideas into a cohesive description of the original content |
| Synthesize | Identify categories/themes in or across texts |
| | Gather ideas relevant to each category |
| | Connect, question, infer to construct meaning in and across texts |

Instruction included instructor modeling adapted for delivery to postsecondary students (e.g., focus on student use versus teacher use) as well as the provision of metacognitive information. Each week, students were challenged to integrate previously discussed strategies with novel ones and/or recognize embedded strategic processes.

For example, while introducing questioning and the use of generic question stems (King, 1992), Cynthia contextualized questioning as a function of human curiosity and presented various types of questions that could be used to achieve different purposes (e.g., clarify, analyze, speculate, contextualize) while reading university-level materials. Students were reminded that asking questions before, during, and after reading could help them comprehend text deeply – a skill that was especially important at university as such understanding could increase their world knowledge and enhance their discussion contributions, writing ideas, and overall academic success. Students and Cynthia discussed and provided examples of questions that they employed while reading and explained methods for finding answers to their questions (e.g., searching in and across texts, making inferences and discussing, seeking additional information/research). Cynthia explained that although there may not be definitive answers for some questions, the process of question generation encourages readers to formulate and share new ideas and gather others' perspectives. Students were also encouraged to integrate the use of questions with prior strategies introduced in the course (e.g., as a method of comprehension monitoring) as well as carry them forward when using subsequent strategies (e.g., questioning as part of summarizing and synthesizing).

Cynthia then concretized learning goals associated with the strategy by modeling its use with the course text. Students were encouraged to use the strategy to clarify and enrich their understanding of the assigned reading, especially sections that were challenging, and to reflect on this process as part of their weekly reflective journal. Each session ended with Cynthia and the students considering potential applications across discipline-specific courses (e.g., psychology, science). Students were then asked to employ the strategy independently while reading unfamiliar text for the following class where a brief discussion of their reading experiences preceded the introduction of a new strategy. This general pattern was repeated for each comprehension strategy introduced, with latter sessions focused on strategy repertoires.

As the course progressed, students increasingly were encouraged to integrate the use of multiple strategies when reading. For example, Cynthia began the discussion of synthesis by analyzing the structure of an assigned article. Cynthia described synthesis as similar to completing a jigsaw puzzle (Harvey & Goudvis, 2007) or baking (Keene & Zimmermann, 2007) and then defined its purposes and uses in academic reading, writing, and studying. Students were reminded that before synthesis can occur, text needs to be comprehended fully, a process that is aided by questioning, paraphrasing, and drawing inferences. The relationship between synthesis and summary was also discussed, with Cynthia explaining that synthesis complements summary, as ideas need to be understood, organized, and reduced effectively in order to present a coherent, clear representation of authors' arguments and positions. Conversely, summary also complements synthesis, especially when working with multiple texts, as summarizing key ideas can facilitate linkages across them. Students then worked in pairs to synthesize two articles addressing the same topic and then synthesized a related article independently as part of their weekly reflections.

**Data Collection and Analysis**

Throughout the term, Cynthia maintained field notes and weekly reflections as she planned and delivered instruction, gauging student responses. Cynthia and Vera conducted bi-weekly conversations intended to further deconstruct Cynthia's instructional experiences, connect them to the literature, and develop subsequent lessons. These discussions were audio-recorded and transcribed for subsequent analysis. Students completed pre- and post-instruction questionnaires related to their understanding and use of reading comprehension strategies (e.g., "How would you characterize your ability to read new academic material and understand its content?"; "How would you explain making inferences? How might this strategy affect your reading?") Students also completed weekly reflections related to their use of the targeted comprehension strategies in context of reading unfamiliar text assigned for subsequent classes. The triangulation of these multiple data sources served to strengthen the credibility of the self-study (Pinnegar & Hamilton, 2009).

Using line-by-line analysis and comparative-contrast axial coding, we independently reviewed and coded Cynthia's reflections, our discussion transcriptions, and the students' questionnaires and reflective comments (Bogdan & Bilken, 2007; Creswell, 2012). We then met to share our emergent codes and negotiate convergent themes across the data sources. Four predominant themes emerged from this process: (a) instructional flexibility, (b) student learning, (c) efficiency and effort, and (d) repurposing of familiar strategies and promoting strategy repertoires.

## Findings and Discussion

**Instructional Flexibility**

Learning about and from strategy instruction became a co-constructive process shared between the students and the instructor and between the researchers, consistent with Gordon's (2008) assertions that meaning making and constructivist practices are enhanced by the connectedness formed through such relationships. Cynthia discovered that, in part, instructional success was contingent upon the ability to be responsive to her students' abilities, needs and interests as well as to be flexible with respect to strategy delivery. For example, Cynthia made the following observations as part of her weekly reflections:

> It made more sense to use a reading with which students are already familiar where they can focus more on the strategy than on trying to look at a new text…
> This week's presentation of questioning as a strategy is very specific and more structured than last week's presentation of text features. It includes modeling of generic question stems using a passage from the essay we will have already discussed earlier as well as the opportunity for students to ask their own questions using the stems. I suspect that using specific question stems will appeal to the students because they're only partially prescriptive and have obvious flexibility.

Cynthia also discovered that students responded most positively to comprehension instruction that was age and task appropriate. Important criteria for such instruction involved the use of authentic content, credited students with the ability to acquire new skills (or refine existing

ones), and promoted student experimentation. Cynthia reflected on how to incorporate such instruction in her lectures:

> One of the challenges in teaching strategic reading to this age group is how aware [first-year students] are of artificial situations and how quickly they can tune out…. An artificial situation can easily arise if I over-use the vocabulary of strategy instruction and over-emphasize the processes…I have to be so careful to provide genuine purposes for the strategies and practical applications…It also seems important to respect the students' belief that they understand what is being said, especially if the first explanation is clear and carefully constructed…They won't know whether the strategies work for them until they try them on their own while they read, and they could easily become impatient with over-teaching.

Task appropriate instruction also involved capitalizing on the requirements of other courses. For instance, Cynthia perceived that students were especially receptive to the session reviewing synthesizing as they were in the process of writing final papers for many of their other courses as well as the one described here. Reaching the critical balance between instructional clarity and situational relevance may influence students' self-regulation of strategy use (Holschuh & Aultman, 2009) and therefore appears to be a fundamental consideration when integrating strategy delivery in a first-year, discipline-specific course.

## Student Learning

For some students, completing the course facilitated an appreciation for the complexities associated with university-level reading. For instance, one student acknowledged that reading requires active comprehension:

> I realized that "reading" is far more complex than I thought prior to starting school. To be a successful reader, I need to fully understand what it is I am reading. (Student 24, Post-Instruction Questionnaire)

Another student recognized the higher level processing required for academic reading:

> Reading and thinking in university is a complex process. A student must know how to synthesize material from many different sources. Thinking and processing information is very complex. (Student 19, Post-Instruction Questionnaire)

A third student learned that higher level processing can assist students in meeting university expectations:

> I feel that reading and thinking are very important in university, especially reading because in many classes … you learn by reading your textbooks (Student 15, Pre-Instruction Questionnaire)…

> We need to read critically and make sure we understand what we are reading. Our profs will expect us to do so. (Student 15, Post-Instruction Questionnaire)

Over the duration of the course, students also provided comments indicative of changes in their reading behaviours and understandings of strategic processes as related to either refining their existing reading practices and/or adopting new ones. One student wrote, "I find that reading now, after understanding the different tools that I can use, is great. I can now understand the content and I find it easier to stay focused. I find that I am a better reader now. I am more confident" (Student 1, Post-Instruction Questionnaire). For others, there was a greater sense of engagement and depth while reading. For example, one student noted that s/he was, "Very active now, write all over the pages… monitor for meaning and ask questions…afterwards I will summarize the main parts of what I am reading" (Student 20, Post-Instruction Questionnaire). For many students, there was an enhanced appreciation of the connection between processing skills that promote deep comprehension and their evolved reading awareness and behaviors. One student described becoming increasing strategic and reflective while reading:

> I start with a quick review of the piece we have to read paying attention to anything that stands out in the structure. I try to be conversational with the text and make notes about what I think about what I have read. My strategies here are more defined and specific (Student 3, Post-Instruction Questionnaire).

Another student recognized an ability to prioritize information:

> The ways I read my text are different than what I used to do. I used to just read and most of the time did not understand what I was reading and now I am able to pick out key words or ideas. (Student 10, Post-Instruction Questionnaire)

A third student recognized advantages to approaching challenging texts strategically:

> My ability [today] with reading academic material has surprised me. With all the strategies given, I now can understand text that I would not have before. (Student 24, Post-Instruction Questionnaire)

For students who were uncertain about their reading abilities, participating in this course provided them with the "know how" and confidence to engage in university-level reading. At least one student identified task and time efficiency as outcomes associated with using strategic reading processes.

I normally would read a chapter a couple of times and if there are words I don't understand I will look them up either in a dictionary or a thesaurus. (Student 7, Pre-Instruction Questionnaire)…

I found the way I read has changed. The way I read now is more organized and I take less time compared to the beginning of the year. (Student 7, Post-Instruction Questionnaire)

Another student echoed benefits associated with increased comprehension while reading:

This is something that I need to work on. I think that I need to start reading more so that it becomes easier for me to fully understand the material that I have to read. (Student 9, Pre-Instruction Questionnaire)… I believe that I have become a lot better at reading and writing at the academic level and I believe that this course has really helped me for my university studies. I feel that I am able to understand academic material a lot better now after learning these strategies. (Student 9, Post-Instruction Questionnaire)

Students also described more sophisticated understandings about specific strategic processes as evident across their pre-instruction and post-instruction responses (see Table 2 for selected excerpts). In general, students' post-instruction responses demonstrated increased awareness of strategy use as conscious and intentional as well as a layered process. Furthermore, students articulated how engaging in such processes increased their comprehension and reading engagement.

Collectively, statements to this effect are reflective of the findings of other researchers (e.g., Smith et al., 2010) who have documented enhancements in students' reading performances following strategic instruction and thus provide some validation for the inclusion of these strategies in this introductory first-year course.

Table 2
*Selected Student Pre- and Post-Instruction Responses for Specific Strategies*

| Strategy | Pre-Instruction Questionnaire | Post-Instruction Questionnaire |
|---|---|---|
| Monitoring for Meaning | I would guess this would be searching for the main points and the overall purpose of the reading. This would help to create a concise understanding of what is being read. (Student 3) | Monitoring for meaning is a strategy where one is consciously making efforts to be sure they are paying attention to what they are reading and stopping to think about what it means. More about keeping focused throughout than searching for main arguments than I thought. (Student 3) |
| | This fits in to my type of reading because monitor for meaning means that you have to be able to find pieces of importance within the text. (Student 21) | While reading, your mind is alert, searching for a deeper meaning. I have a different perspective on monitoring for meaning now than in September. (Student 21) |
| Identify Text Structure | Analyzing text structure is being able to understand the material. (Student 9) | Analyzing text structure is when you analyze the structure of the text. This strategy is helpful because it allows the reader to understand how the author intended the material to be read. (Student 9) |
| | I think analyzing means to constantly reread the text, somewhat memorize it which is something I do not usually do unless I'm studying. (Student 21) | Looking at how the structure of a reading is set (i.e. indents, new paragraphs, spacing, etc.). This affects your reading because you know that when it is a new paragraph it usually means a new idea. (Student 21) |
| Question | It might make you look back on what you've just read in order to fully understand what you're reading. (Student 2) | Questioning while reading is asking questions about certain things one may not understand; terms, references, words, and so on. It helps the reader to comprehend the essay/ article… better. (Student 2) |
| | I question the text (author) and try to understand their point-of-view. (Student 19) | Questioning while reading is when you ask questions in regards to the article. You may ask why certain things are relevant or you can also ask yourself about your previous knowledge of the subject. (Student 19) |

Table 2 Continued

| Paraphrase | This means to take the main points of an article and explain it in a short piece. (Student 13) | Paraphrasing is the act of taking a point in an article and simplifying it by putting it into your own words. This is used to help the reader comprehend the article more thoroughly. (Student 13) |
|---|---|---|
| | [Paraphrasing is] summarizing and shortening, using the author's words. Useful for studying/taking notes. (Student 16) | Using new words/writing structure to describe the idea(s) of the text. Must have a clear understanding of the text in order to paraphrase, so this strategy helps to reach that understanding. (Student 16) |
| Inference | No response (Student 19) | Inferences are used when you read between the lines. You are able to ask questions, or you may think about previous knowledge. This enables you to have a better, deeper understanding of the text. (Student 19) |
| | No response (Student 25) | Inference is applying previous knowledge to your understanding and reading of text. It is also useful to connect other sources together. (Student 25) |
| Summarize | This means to take the whole reading and shorten it in your own words. This can help you understand what this reading is about by just reading a small amount. (Student 1) | Summarizing is using the information and writing an organized way of writing down the information in the text in your own words. This will be great when going back to the reading and having to read your own understanding of the reading. (Student 1) |
| | Summarizing is the processes of taking a large amount of information and breaking it down into your own words. (Student 11) | Summarizing is basically paraphrasing the whole article. It involves looking at the main points of an article and explaining them in your own words. It is expected that summaries will be shorter as they include only important details. I learned that summarizing is more than just putting something into your own words, it is also connecting ideas. (Student 11) |
| Synthesize | No response (Student 8) | Synthesizing is using a few different readings and linking them together in your own words. This will be great when looking at journals articles to write a paper in order to get views of many different people. Didn't understand at the beginning of semester, now I do. (Student 8) |
| | I feel that synthesizing is shortening what you just read. I feel like this is a good strategy to save time. (Student 15) | Synthesizing is when you take ideas from different texts and you combine them together to prove a point. It helps you think of ideas you possibly never thought of. (Student 15) |

**Efficiency and Effort**

Cynthia believed that efficiency was a dominant consideration in students' initial responses to comprehension instruction. Some students seemed resistant to the idea of employing an "extra" process that required additional effort and time on their part, especially in light of their extensive academic workloads, "I found that paraphrasing while reading can help me to understand concepts an author was trying to get across better than just reading it. But it also took an annoyingly long time… don't know if I can get used to it" (Student 2, Reflective Comment). One student reflected about his initial resistance to using higher-level questions when reading, explaining his preference to reread instead:

> I don't always question what I read, especially if it's a fairly lengthy piece and on top of all the other readings I have to do as a university student. I usually just try to take in what I read, and memorize it long enough to reiterate it on a test or in a paper. (Student 11, Reflective Comment)

A few attributed their reading difficulties to authors' use of difficult language, incoherent structure or inability to engage readers, "His choice of words and the structure was the main cause of my lack of interest" (Student 24, Reflective Comment). Another reiterated authors' responsibilities in engaging readers:

> I view time as an important commodity, so I see no advantage in wasting my time in an article that I find dry or uninformative…if they [authors] want a reader to take the time and focus on their reading it will have to appeal to the reader right off the bat. (Student 8, Reflective Comment)

Some prioritized the visual appeal of text:

> It was a hard read at points simply because it wasn't visually appealing…The structure of the essay was not appealing to my eyes… I felt I was overwhelmed with information. So much that I did not retain it. (Student 13, Reflective Comment)

Conducting this study provided Cynthia with an opportunity to reconsider the complexities of students' first-year experiences, specifically in terms of academic learning requirements and the need for students to assume ownership and responsibility over their learning. After reading an early set of student reflections, Cynthia noted:

> Connecting strategic reading with increased speed and efficiency of reading seems to be part of the buy-in for learning strategies. I'm not sure that this is necessarily problematic, although obviously I would prefer that students also saw the potential for increasing their depth of understanding as they learned new strategies…

Students' approaches to the complexities of first-year studies can be characterized in terms of tensions (Loughran, 2005) between their desires for academic success and their motivation and

willingness to invest targeted effort into realizing those desires. This tension was evident especially in some students' initial reflective comments acknowledging comprehension strategies as useful but not necessarily practical because of the time and effort required to employ them effectively.

As the term progressed, students expressed appreciation for the integrality of reading to university studies and commented on the effort required to read well, "Reading and thinking requires time and detail…. Experiences throughout the semester taught me more than just extra reading is necessary for gaining an understanding" (Student 11, Post-Instruction Questionnaire). Students' comments became more favorable as they gained proficiency in the use of strategic processes and recognized resultant learning gains. For instance, one student described the relationship between effortful reading and increased comprehension:

> It [question answering] was a longer process and took a lot of time for me to do, I definitely found it different compared to other readings I had done before. I found I was able to understand the basic arguments in the article and I was confident enough to explain what I had read to someone else in a discussion. (Student 7, Reflective Comment)

Another student recognized similar advantages as well as increased reader engagement:

> I used monitoring for meaning on several arduous readings. It kept me from reading the same parts over and over again. Using questions kept me from falling asleep, and saved me time. By making sure I understood the pieces of the article, I was able to understand the whole article and better able to write about it. (Student 5, Post-Instruction Questionnaire)

Students' increased openness to strategy instruction and use as a function of their personal academic experiences is consistent with research suggesting that receptivity to comprehension strategy use is influenced by complex social and cultural factors that affect motivation (Miller & Faircloth, 2009).

## Repurposing Familiar Strategies and Promoting Strategy Repertoires

Students appeared to be most engaged with a strategic process when they could appreciate its purpose and applicability to their reading assignments. Conversely, they also appeared to disengage with instruction when they perceived familiarity (either correctly or erroneously) with the target strategy and thus, instructional repetition. In response, Cynthia believed that it was essential to illustrate how familiar cognitive processes could be "ramped up" for use with university-level reading assignments. Vera and Cynthia discussed this process:

> Vera: And if they're not [engaging with an explanation], how can we say it differently? I think that's the real journey in this sort of instruction… how do we say [it] in different ways so that students listen differently?

Cynthia: I found that really worked well with the students this week … to talk about    ramping up what they already knew… 'Of course you know how to read… But there are specific things that you can do as you're reading for    university that can help you tackle that material more effectively.' So they really tuned into that idea of expanding what they already know… I think that's a door in for this group.

In one poignant example, many students appeared familiar with paraphrasing as a writing technique but less familiar with it as a comprehension strategy. As part of her instruction, Cynthia articulated paraphrasing steps (divide, question, reorganize, translate, analyze, reword) that students could use to aid their comprehension of a difficult passage. Several students responded positively to the concretization of this process and recognized advantages of expanding the functionality of paraphrasing:

Overall, I found paraphrasing helped me to stay focused on the article as well as helped [me] to understand it, which in turn allowed me to retain more information from it. I feel like paraphrasing will come in handy when I am reading articles and journals, for papers and projects that contain language that may be a step above my vocabulary level. (Student 11, Reflective Comment)

Cynthia optimized the students' recognition of relationships among reading, writing, and studying by integrating discussions of common strategic processes:

I wanted to present summarizing as an essential skill in university-level reading, writing, and studying, related to but different from paraphrasing and reliant upon identifying main ideas in text. Things came alive once I mentioned summarizing for specific assignments like annotated bibliographies (one student needed to write one in the next couple of weeks, and she had several questions). Addressing summarizing for this purpose gave me a chance to demonstrate its importance at the same time that I previewed a common assignment in university – there were many questions during this discussion.

Although students initially focused on summarizing as a writing skill and did not speak about summarizing as a way to deepen comprehension, by the end of the semester several students demonstrated understanding of multiple functions associated with this strategy, including its benefits for reading comprehension. One student wrote in the post-instruction questionnaire that:

Summarizing is when you take multiple ideas that are joined somehow and you paraphrase them into a paragraph. It is another strategy that ensures that you understand the material. Plus it helps you remember it because it is in your own words (Student 15).

In addition to emphasizing the functionality of strategies, Cynthia discovered that discussing strategies in terms of their interconnectedness was an effective instructional approach. Synthesis, for example, employed elements of monitoring, analyzing text structures, questioning, paraphrasing, inferring, and summarizing. Students appeared to develop a deeper appreciation

for strategic processes once these connections were made explicit. In a conversation with Vera, Cynthia commented that she "sensed the most excitement from the students about synthesis because all of a sudden it was like they got it, and they could see how everything fit together… in order to summarize you needed paraphrasing, in order to synthesize you needed summary…"

Students' immediate engagement with multi-functional, integrated comprehension strategies is encouraging. The strategies of questioning, paraphrasing, summarizing, and synthesizing seem particularly relevant to higher-order thinking across disciplines (Donald, 2002) and eminently usable in contexts of university-level reading, writing, and studying. Developing the presentation of 'umbrella' strategies such as these also aligns with the postsecondary literature addressing the complementary functionality of "reading to write" as well as "writing to read" (Jackson, 2009).

## Conclusion

The study presented here provides insights for other faculty who may wish to implement strategic comprehension instruction as well as those who design and deliver professional development programming at the postsecondary level. Our findings suggest that age-appropriate instruction that is explicit yet flexible can be integrated within existing course content successfully. However, the results of this study also suggest that such programming is not delivered without effort.

While pedagogically enriching, the integration of comprehension strategy instruction into an already intense first-year course required consideration of time, layering of content, and instructional perseverance. In the process of positioning the strategies, developing her instructional approach and completing this self-study, Cynthia recognized the value of a supportive critical friend who provided guidance and acted as a "sounding board" (Tidwell & Fitzgerald, 2007). Instructor reflection and dialogue with an informed other proved to be important components for instructional planning and the continuation of the self-study, especially when the momentum of the course requirements threatened to derail the latter (LaBoskey, 2007). Concerns about providing "perfect" instruction were tempered with reminders that all learning occurs along a continuum. While it seems important to acknowledge that the presentation of several strategic processes does not guarantee transfer and generalization for all students, it also seems important to remember that learning is not always immediately apparent. The literature emphasizes that educators learn to teach strategies explicitly and effectively over time (Almasi, 2003; Keene & Zimmermann, 2007) with each attempt enhancing the learning process for students and instructors. Providing strategy instruction also often requires instructors to trust that students will draw upon these processes in the future when presented with complex, challenging tasks (Keene & Zimmermann, 2007).

We acknowledge several limitations associated with the present study, including the relatively ideal match between this course (i.e., a first-year English elective course intended to introduce students to the conventions of academic reading and writing) and targeted comprehension instruction. We believe that the nature of the course lent itself well to the delivery of comprehension strategies and that students who registered for this elective course were likely to be motivated to acquire skills that could enhance their academic performance. However, student enrolment and interest in this course also underscores the importance of offering such instruction to *all* students versus those considered "at risk" or specifically selected for "developmental" courses (Caverly, Nicholson, & Radcliffe, 2004). Offering the instruction

over the duration of a term and in context of a discipline-specific course also provided an authentic context for the instruction that we believe would not be possible through the provision of a stand-alone workshop or abridged program. The 12-week interval appeared to provide students with sufficient time to hone their beliefs about the demands of university-level reading (including professors' expectations), develop and refine their use of comprehension strategies and recognize their utility in context of completing assignments for this and their other classes. Time and opportunities for authentic practice are key elements for successful strategy acquisition and metacognitive development and are likely to promote skill generalization and transfer (Holschuh & Aultman, 2009).

We also acknowledge the limitations associated with the use of student reflections for data collection. Students were asked to reflect on their use of strategic reading processes in context of processing unfamiliar text for classroom discussion. For some students this was a difficult task, with their initial reflections either repeating text or instructional content. Ironically, these students, like many of their peers (Colley, Bilics, & Lerch, 2012; Grossman, 2009) may have benefited from modeling and guided practice (the foundations of explicit instruction; Woloshyn et al., 2001) in order to produce deep and meaningful reflections. We also acknowledge that these reflections, as in the case of all self-report data, may not be a true reflection of students' reading behaviours, may reflect response bias, and are restricted to those individuals who agreed to participate in this study (Creswell, 2012). More positively, the student reflections provide some evidence that students' knowledge of evidence-based comprehension strategies increased over the duration of the course and provide triangulation for Cynthia's perceptions of learning and growth. We acknowledge the need for continued research including the use of quantitative measures such as grade point average and achievement scores for determining students' use, transfer and generalization of strategic processes as introduced within the context of this and similar courses.

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