

An investigation of how the teaching of reading and writing metacognition influences second language writing expertise

Maggie Heeney

Ontario Institute in Studies in Education

May 6

**Opportunities and New Directions Conference
University of Waterloo**

Rationale behind the study

- Reading and writing expertise is essential for academic success in the university context
- University writing entails reading texts and writing skillfully about them by synthesising ideas and often critically assessing the ideas
- English Language Learners (ELL's) are expected to read and write at a similar level to native speakers
- ELL's are challenged with the volume of reading and the production of well-written texts

The Problem

- Hirvela (2004) states the it is impossible to be a skilled writer without being a skilled reader
- “the genesis of the problems may rest in the other skills – for example that problems in writing might actually start with problems in reading” (p.39).
- Hirvela comments about teaching:
- “. . . we construct the L2 classroom as a place where *literacy*, not strictly writing skill is the real focus of the course; where we believe that to learn about writing without learning about reading – and how reading contributes to writing – is to deprive our students of a true composing experience that is at the heart of writing” (p.40).

The problem . . .

- Written work seems that of a novice often with simple structures and simple vocabulary
- Synthesized information from readings seems plagiarized
- Professors perceive learners as poor writers
- Learners seem to have undeveloped awareness or knowledge of how to use effective strategies in both the reading and writing processes

Connecting reading and writing

- Knowledge and strategies from one skill transfer to the other (Eisterhold, 1990)
- One skill becomes the input for the other with a more common transfer from reading to writing
- Transfer from one skill to the other not necessarily automatic and that direct instruction is integral to raising awareness of the structural components, as they are shared in both modalities.

Two literacy building dimensions

- Reading-to- write
 - “goal directed activity of reading in order to write” (Flower et al, 1990, p.5).
 - Reader transforms information in order to write
 - Explicit method of reading that points learners to
 - understanding choices writers make (Kroll, 1993)
 - learning cohesive devices and linguistic features (Hirvela, 2004)
 - developing lexical knowledge (Stoll, 1995)
 - building rhetorical knowledge (Hyland, 2003)
 - using extensive reading to build linguistic skill and improve writing (Cumming, 1989).

The other literary dimension

- Writing-to- read
 - “writing before, during or after the reading, enables the reader to make sense of his or her reading, which in turn strengthens the quality of the reading and contributes to the development of L2 reading skills” (Hirvela, 2004, p. 74)
 - Writing-to-read includes
 - Writing margin notes while reading (Hirvela, 2004)
 - Writing critical thoughts about the reading after reading (Zamel, 1992)
 - Writing about the topic before reading to activate schema (Leki, 1993).

Cognition in learning

Anderson's (1983) Adaptive Control of Thought (ACT)

- Declarative knowledge (what is known)
- Procedural knowledge (knowing how to do something, knowing how to apply the rules)
- With practice, skills proceduralize to being automatic
- From declarative to procedural – three stages
 - Cognitive (learn the procedure)
 - Associative (figuring out how to do the skill)
 - Autonomous (skill is rapid and automatic)

Metacognition in learning

- In complex tasks, learners engage in metacognitive processes that attend to and regulate cognitive processing
- Entails in thinking about the self and the relationship to the task, and controlling learning (Flavell, 1987)
 - Metacognitive knowledge – awareness of the task and available strategies
 - Metacognitive experience – consciously planning to use strategies and monitoring and evaluating the success of their use (Flavell, 1987)
- This is strategic knowledge

Strategic Knowledge

- Strategies are deliberate actions or problem solving behaviours to improve proficiency and task performance (Garner, 1987)
- Awareness of strategic knowledge is generally connected to student success (Wenden, 1991).
- Strategic knowledge entails knowing what strategies are available, how, when and why to use them
- Wenden describes strategies as the actual process of learning rather than having an awareness of learning.

Taxonomies of reading and writing strategies as a basis of the study

Pressley & Afflerbach(1996)

- Monitoring meaning
- Considering the task
- Activating knowledge
- Thinking of other readings
- Summarising/paraphrasing
- Lexical level strategies to formulating questions
- Evaluating success and repairing failure

Grabe & Kaplan (1996)

- Monitoring text production
- Considering the task
- Activating knowledge
- Using reading resources
- Summarising/paraphrasing
- Setting and re-assessing goals
- Editing texts
- Getting feedback

Directly teaching strategies

- Metacognitive strategies need to be directly taught and scaffolded (Wenden, 1998)
- Teachers must focus on the what, why, when, where, and how of using a strategy plus evaluate the success of the strategy used.
- Explicit teacher modeling and scaffolding is essential for learner awareness (Zhang, 2008)
- Reading studies (Palincsar & Brown, 1984, Salataci & Akyel, 2002, Zhang, 2008)
- Writing studies (Carson & Leki, 1993; Ferris & Hedgecock, 1998; Hyland, 2003)

Research Questions

Main question: How does the teaching of metacognition in an EAP reading and writing course at a Canadian university occur and then relate to students' performance in writing tasks for the course?

Sub-questions:

- How is metacognition in reading and writing taught in the one EAP reading and writing course?
- In what ways does the teacher perceive teaching reading and writing metacognition as linking to students' writing improvement?
- How do students use reading and writing metacognition during their composing processes when engaged in a series of comparable writing tasks over the duration of the course?
- In what ways do the students perceive reading and writing metacognition as helpful when engaged in these tasks?

Constructs in the study

- Metacognition – awareness or knowledge of cognition
- Strategies – deliberate choices to control learning and problem solving
- Metacognitive episodes
 - Metacognitive Episodes of Awareness (MEA)
 - Activities in class are awareness raising but not practiced
 - Learner may have an awareness of the strategy but not use it
 - Metacognitive Episodes of Strategies (MES)
 - Activities in class are explicitly modeled and practiced
 - Learner may plan and use the strategies

Context and Participants

- University English credit course for ELL's focusing on course text readings and extra readings on the university web-learning environment that were used as a basis of writing development
- Class was held three times a week for 10 weeks, 5.5 hours/week
- Participants
 - Course instructor
 - 25 ELL university students ranging from first to third year
 - 6 of the 25 students were focal students in the study

Method

- Course instructor
 - All teaching was observed for metacognitive episodes
 - Three interviews conducted with instructor
 - Course beginning: teaching philosophy & goals
 - Mid-term: perceptions of course to the midpoint
 - What was taught
 - Perceptions of learning
 - End of semester: perceptions of course to the end point
 - What was taught
 - Perceptions of learning

All participants

- completed questionnaires at the beginning of the course and at the end of the course
 - Initial questionnaire was informational
 - Second questionnaire focused on
 - Perceptions of activities in class such as practicing parallel structure, discussing readings, making margin notes, practicing paraphrasing and summarizing techniques, practicing specific grammar points, getting teacher feedback.
 - Perceptions of important reading and writing strategies
 - Perceptions of reading and writing strategies leading to writing improvement.

Focal Participants

- After writing in-class, focal students did a 15 minute retrospective think aloud
- Read aloud the essay and spoke about the process
 - Compare- contrast essay – draft 1 and draft 2
 - Paraphrasing assignment
 - Summarizing assignment
 - Argument essay – draft 1
- First drafts of essays had a short accompanying questionnaire about class room activities, and perceptions of difficulty such as having content knowledge, having enough vocabulary, and having awareness of the text structure.

Focal Participant Interviews

- Semi structured interview at the end of the course
 - What activities did the teacher do in class that you think helped you with your writing?
 - Tell me your thoughts on how useful you found some of these activities the teacher did in class? How did they help your reading and writing?
 - Using vocabulary building strategies
 - Having class discussions about reading topics
 - Practicing paraphrasing activities

Some preliminary results

Taxonomy of Reading and Writing Behaviours Observed

Ideas and information (I)

- Activating previous topic knowledge
- Seeking further information on the topic

Language (Below sentence level) (L)

- Using spelling knowledge
- Inferencing words to figure out word parts or to figure out meaning in context
- Using the dictionary
- Being aware of sentence grammar
- Using punctuation
- Building vocabulary

Discourse (Language above sentence level) (D)

- Having awareness of text organization (text structure)
- Having awareness of text organization (genre)
- Using cohesive devices
- Creating outlines of text organization
- Having knowledge of paragraphing

Regulation of Reading and Writing Task Processes (R)

- Planning the task
- Being aware of audience
- Re-reading the text/ re-reading source texts
- Revising/editing text
- Assessing content
- Summarizing/paraphrasing
- Evaluating success of the task

Metacognitive Episode Teaching Observations

Strategy Focus	Rationale for learning	When and where used	How to use the strategy with extensive practice	How was success evaluated	M.E. A Awareness or M. E. S Strategy
(R) paraphrasing	Yes – academic context	Yes	Using various methods. Thought aloud while modelling	Gave strategies to evaluate success	M.E. S
(L) Vocabulary building	Yes – bank of words	Yes	Extensive practice - reading related vocabulary	Look for synonyms while writing	M. E. S
(L) Articles	Yes – improve writing	Yes	Thought aloud the strategies – Had student do same	Ongoing	M. E. S
(I) Using text/ other sources for ideas	Yes	Yes	Some class discussion/ mention of margin notes	Writing - Reading informs your writing	M. E. A.

Student perceptions: Paraphrasing

Class

- Paraphrasing was the most useful thing I learned
- Paraphrasing is a useful strategy as it makes writing more interesting
- Summary and paraphrasing help me read, yet the techniques need to be practiced more in the future
- Making notes after reading helped me understand the text, recall the content, and write a paraphrase

Focal students

- Paraphrase is new to me here, but I thought about the methods as I wrote
- I need to paraphrase in my field – I used different ways to do it
- Paraphrasing is hard, but I like the techniques we practiced

Student perceptions: Vocabulary Building

Class

- Vocabulary helped me develop content
- Learning the new vocabulary helped me read
- Good strategies to try to use academic words (e.g. 'obtain' or 'gain' instead of 'get')
- I learned choosing academic words rather than make, get to write more academic essays

Focal Students

- Vocab building strategies are perhaps most important. They really pay off in writing.
- I chose this word because we talked about it in class
- Words for sure – now I have more interesting way in writing rather than repeating

Student Perceptions: Articles

Class

- Practicing the grammar in class help me remember the points well, reducing grammar mistakes in my essay.
- The practice helped me think about my grammar when I write

Focal students

- It really helped me to watch the practice when to use articles – it helped me understand
- I used ‘a’ here because I knew it was first mention
- I really think about articles now

Student Perceptions: Using text/ other sources for ideas

Class

- Synthesising ideas helped me to expand the variety of writing
- Margin notes are least useful
- People didn't prepare before class so the discussion was meaningless
- Note taking is not useful

Focal Students

- Making margin notes helped me read and write
- Making margin notes helped me to understand the topic
- I don't take margin notes
- I think in my head and don't take margin notes

Student perceptions of linking reading and writing to writing development

- Writing is the process when we express our thoughts and by reading we accumulate someone's thoughts.
- I use plenty of the content from by reading and use it in writing.
- Writing is almost the same as reading. You need to learn things from reading, then you have the ability to write.
- Reading and writing are connected. The more I understand the article, the more clear I write an essay
- They are similar because I can improve my writing skill while I am reading

Preliminary conclusions

- The teaching of reading and writing are connected
- Students should be reminded of this relationship in order to raise awareness of how one skill informs the other
- Explicit teacher modeling including thinking aloud the process seems to have impact on students' metacognitive processes when they engage in a task
- Reading and writing metacognition does seem to influence writing development

References

- Anderson, J. (1983). *The architecture of cognition*. Cambridge, MA: Harvard University Press.
- Carson, J. (1993). Reading for writing. In J. Carson, & I. Leki (Eds.), *Reading in the composition classroom: Second language perspectives* (pp. 85-104). Boston: Heinle & Heinle.
- Cumming, A. (1989). Writing expertise and second language proficiency. *Language Learning*, 39 , 81-141.
- Eisterhold, J. (1990). Reading-writing connections: Toward a description for second language learners. In B. Kroll (Ed.), *Second language writing: Research insights for the classroom* (pp. 88-101). New York: NY: Cambridge University Press.
- Flavell, J. H. (1981). Cognitive monitoring. In W. P. Dickson (Ed.), *Children's oral communication skills* (pp. 35-60). New York: Academic Press
- Garner, R. (1987). *Metacognition and reading instruction*. United States: Ablex Publishing.
- Grabe, W., & Kaplan, R. (1996). *Theory and practice of writing*. Harlow, U.K.: Addison Wesley Longman.
- Hirvela, A. (2004). *Connecting reading and writing in second language writing instruction*. Ann Arbor: University of Michigan Press.
- Leki, I. (1992). *Understanding ESL writers: A guide for teachers*. Portsmouth, N.H.: Boynton/Cook.
- Pressley, M. & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. New Jersey: Lawrence Erlbaum Associates.
- Wenden, A. (1991). *Learner strategies for learner autonomy*. New York: Prentice Hall.
- Wenden, A. (1998). *Metacognitive knowledge and language learning*. *Applied Linguistics*, 19(4), 515-537.
- Zamel, V. (1992). Writing one's way into reading. *TESOL Quarterly* 17 , 165-187.



Thank you

[mheeney@oise.utoronto .ca](mailto:mheeney@oise.utoronto.ca)