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CCT 655

USING WRITING TECHNIQUES TO TEACH METACOGNITION

As a writer, I’m fortunate to have a background in journalism, curriculum writing, fiction writing and drama. This has influenced me not just to be more empathetic or creative, but to apply a variety of thinking skills to reading as well—both reading content and reading people.

My writing buddy, Mary Lou Horn in CCT 694, has been working on an undergraduate literacy course for her thesis and one of the things I’ve learned from her is that literacy is not just about printed text, it’s about “reading the world” (personal communication, April 27, 2013). In order to read the world though, I am starting with the printed text, a comfort zone for both the writer and teacher. I wanted to define some techniques used in writing to adapt for use in metacognition to see if this enhances learning for me and others. As I write about these ideas, I have actually taken texts from our course chronologically to test and share the results of using these methods personally. By practicing modeling, I hope to better teach and “think out loud” as I explore and explain my ideas.

In one of my other graduate courses, *Writing across Curriculum*, the idea of writing was based on a “writing to learn” and “writing to communicate” dual purpose model. Writing to learn was described as tools for the individual to process ideas while writing to communicate provided means and opportunities to creatively share ideas with others (Daniels, Zemelman and Steineke, 2007, pp. 14-15). My adaptation of this dual role for writing is actually a sequential reversal that emphasizes “writing techniques to communicate that become writing techniques to learn” metacognitive skills. There are actually various research models that help affirm this idea and its implementation. In a parallel strategy to use writing samples rather than writing devices, Stolarek reports there are research studies supporting the premise that “novice writers who are given a model of unfamiliar prose to imitate respond in a manner which is more introspective and evaluative and far more similar to the responses of expert writers than do novice writers who are not given a model” (1994, p. 154).

“Writing as Transformation” models the writing to learn emphasis as a “synthesis of thinking and feeling” through writing as intuition, writing as metacognition and writing as change agent (Brown and Stephens, 1995, p. 15). Although the authors concentrated on this use for school children, metacognitive writing was single out as the one component potentially best able breaking down barriers such as passive learning. Brown and Stephens also stressed that “predictability in writing is no longer acceptable” and that, when facilitating students “only when we challenge them” through risks will there be “a growth in meaning…to achieve true authenticity in their writing (p. 16).” Writing techniques for metacognition then could also offer this unpredictability and challenge for active learning in students.

The writing process itself contains metacognitive knowledge about text structures, audience targeting, organization, purpose and selection of best presentation methods (Raphael, Englert and Kirshner, 1989, p. 344). Researchers studied students for declarative, procedural and conditional knowledge (p. 350), finding measurable connections between metacognition and writing performance and even that the writing content taught transferred to other school subjects such as social studies (p. 377). This means of communication requires not only the intentional monitoring and assessment of thinking during the process for the student to write, but can enhance and benefit applications in other courses. Metacognition is actually proven to be an aspect of expert writing (Flower; 1989; Flavell, 1979, Scardemalia and Beriter, 1986, Brown 1980 as cited by Stolarek, 1994, p. 156). Co-teaching of metacognitive and writing skills then should complement each other.

The design of metacognitive activities is an important consideration before trying out my writing techniques as learning rather than just as communication tools. To teach and practice metacognition, strategic training and creating a supportive social environment are two foundational approaches offered in the research review provided by Xiaodong Lin. These are linked to teaching content based on knowledge of a specific domain (such as writing) and learning to create knowledge of self (2001, p. 24). The methods suggested for strategic planning include modeling and prompting within a domain and self-learning through self-rewarding and self-orienting as well as practicing peer modeling to develop the social aspect of metacognition. The additional methods that utilize social environment to support metacognition include providing communities of learning and building individual identity along with them (p. 25). The main ideas I would like to adopt here is first to use prompting which asks students to highlight conflicting thoughts, build understanding and then generate inferences (p. 27) and then concentrate on the instructor’s systematic facilitation with the class on defining how each person in community has a role to help each other, accept diversity and collaborate better (p. 28).

Giving equal time to the construction of writing courses brings other ideas to light too. “The development of writing ability and metacognitive awareness is the primary objective of a writing course” (David et al. as cited by Gottschalk, 1996, p. 596). Note that the author deliberately uses a singular verb to clearly link these inseparable items of writing ability and metacognitive awareness, even if grammatically incorrect. One practical tool to assess and recall learning includes writing summaries as a specific writing tool, but these summaries can also generate ideas beyond merely organizing them (Hill, 1991, p. 537) if students are given helpful structures to “abstract” information such as concept maps or text frames (p. 539).

As I present the various writing devices that I feel might promote “thinking about thinking,” they are not given in any specific order from my original pre-writing brainstorming. This was an attempt to try out tools as if they would equally and easily work in the articles that I chose, rather than hunting for specific articles that best fit using my ideas. By challenging myself to these metacognitive writing tasks, I hope to illustrate that they can be used in more than one reading text, even if it might ultimately be helpful for the instructor to pick specific texts that are more intuitively natural fits for these exercises.

One of my first undergraduate playwriting courses had an interesting idea about something called a “plant.” This was in some ways the very opposite of the better known mystery concept of a red herring. A ‘red herring’ is a clue to throw the reader off from the real solution or path to the solution, but a ‘plant’ is a very inconspicuous true lead or clue to a path or solution. It has been described as the one little thing, whether a line of dialogue or an action, that a reader or audience would tend to not notice but in retrospect, was key or critical, even a turning point in the play or in screenwriting (Cowgill, 1999, p. 230).

If students were asked to read a text and look for the plant, that key idea or solution, the one thing necessary to make or break the article, wouldn’t this be great focusing tool? I chose to act as if there are “plants” in articles and chose two from our course to try out this method, a way for me to also review the class before finishing.

The first reading for our class, the Fogerty article, focused on the “architects of intellect” and yet the line I felt was the “plant” or necessary to the whole article is as follows: “*Their mission is a daunting one, as their design invite students to connect knowledge and make meaning of the world*” (p. 144). This signaled not just that we would be introduced to various models of learning, but that we are “invited” to construct our own thinking ideas from them, instead of accepting the ones given by the experts without question. I appreciate that the very beginning of the class promotes inquiry based judgment and selection. Any design that allows both connection and purposeful creation of rationale is not only a flexible and durable structure, but also one that can give freedom of interpretation without losing integrity.

The second article in our course by Schraw has a sentence that could be removed from the text since it is implied throughout, but meets the key point of being critical to the article without being obvious at first glance. “*Metacognition is flexible and indispensable in my view*” (p. 118). This could easily have been the author’s lead sentence (if he were writing a reverse pyramid style newspaper article) or his conclusion. Yet he set it very quietly in the middle of his research and persuasive arguments even if it is the crux of his beliefs. Because of all the research presented, it would have been acceptable or even expected to write this sentence without the last “in my view” phrase, yet because the author willingly placed this statement out there as an opinion instead of a fact, he showed some openness to differing views, even if most wouldn’t argue with his premise.

Another interesting writing technique that I believe is useful to combine differing views comes from both playwriting and novel writing. This is a linking concept to keep the reader interested. In novels, for example, the last line of a chapter is often meant to encourage the reader to turn the next page since this would be a natural stopping point if someone was a casual reader such as during bedtime or if reading during a break from work. An example that I can include here from my own experience is as follows: “She felt like the true battle had just started, one in which she had to remind herself that he was the problem, not she” (Cartwright, 2007, p. 90). In the original draft of my romance, this was not an ending line to a chapter, but was added when the editor requested more dramatic transitions in my work. While it is not the most dramatic line like those found in an adventure novel, it is slightly more compelling than this original chapter ending sentence stating, “it wasn’t her deliberate play acting that was driving him away but her normal actions” (p. 90) that merely revealed a concluding thought of the heroine. The first example, the sentence sharing that the “true battle” is now coming, seems logically more likely to keep the reader interested in what happens next than the heroine’s confusion about how she was driving her suitor away.

This linking idea in playwriting can actually be found within the lines of dialogue to help the actors remember them and to provide a smooth flow. An example of this might be shown through these lines from *Christmas Presence*.

Seth: I didn’t want this for Christmas.

Jordan: I don’t think *anybody* would want this for Christmas. There’s always next year, right? (Cartwright, 2011, p. 96)

Note that words given by the first person are actually very overt cues to what the next person is supposed to say in response. Even though there are more subtle cues in playwriting, giving a very explicit example might make it easier to imitate as a metacognitive writing tool. Looking for these linking examples in modern day plays or novels before starting this activity might also be helpful for students before they make links between diverse academic readings.

Asking students to link articles with one sentence as a bridge (from novel writing) or two lines (from playwriting) might be an exercise in metacognition that emphasizes finding connections and potentially analyzing the instructor’s purpose for the order of readings. As an example for me to try out what was proposed, I took the articles “Critical and Creative Thinking” and “A Broad BACEIS for Improving Thinking” to do the one sentence bridge as if chapters in a book to encourage further reading. The sentence from the conclusion of the first article is included before my own added bridging sentence while the first sentence of the second article concludes the following paragraph.

“Thus I would advocate the encouragement of critical thinking and of creative thinking as joint and inseparable goals in education” (Bailin, 1987, p. 29). *Going from theory to practice is easier said than done, but researchers have found some strategies beyond encouragement to employ that are documented as significant successes and worth considering.* “While many educators are now integrating the improvement of thinking and learning into instruction, few have documented significant success in teaching students to make and transfer what the learn across tasks and contexts” (Hartman and Sternberg, 1993, p. 401).

The playwriting method of linking to bridge transitions allows some freedom and extra explanation for the following two articles, “Developing Students’ Metacognitive Knowledge and Skills” and “Enhancing Creativity” which were chosen as examples to experiment on with this thinking method. The words within the quotes were actively re-used to create a bridge instead of merely summarizing a transitional idea as in the one sentence ‘chapter linking’ method in novel writing which was given in the last paragraph.

“Finally, and most importantly, teachers should repeatedly emphasize, and demonstrate through actions, that students are responsible for and can control their own outcomes in their education and their everyday lives” (Hartman, 2001, p. 63). *If students see activities modeling and emphasizing personal control of results, then they might consider them in learning and living. The resulting activities might also allow them creativity to define the terms for the outcome of their actions as they learn from repeated emphasis and teacher demonstration.* “Creativity is typically defined in terms of the results of the activity” (Nickerson, p. 362).

The next idea to bring to metacognition is the reverse, a switch in thinking, the comedy writing technique to surprise the reader or audience (Helitzer & Schatz, 2005, p. 11). This is an intriguing pairing with the next article randomly and chronologically selected because, according to Fisher’s “Thinking about Thinking: Developing Metacognition in Children” used for this reversing or turning around concept, he mentions that “meta” refers to the columns in “each end of the Circus in Rome to mark the turning point in the race. Metacognition can be seen as a turning point in our understanding of the mind” (1998). A comedian might turn this idea around by promoting why metacognition is *not* important or how to *prevent* it in children. The reverse might come from noticing and building on the author’s predilection for creating new “meta” words by adding the ironic turnaround ones of “meta teaching to the test,” “meta indecision making” or even “meta mind control.” Like my classmate Todd’s recent satire journal entry about the cruelty of subjecting children to mental monsters in the box, this technique of arguing and championing the opposite and illogical requires deeper thinking into the actual persuasions that work best in the article itself.

The statement that “very able or gifted children…have a clearer grasp of what they know or what they do not know” might be material for a reversal in which a teacher laments “if my students are thinking about thinking then I’m thinking that their thinking leads to my unemployment.” This use of humor might already be part of the metacognitive activities in this class, but sharing how I might try to include this at least shows some possible similarities in thinking or at least an acknowledgement of how important metacognition is to humor and vice versa.

A similar technique from curriculum writing is not to make humor like in reverse thinking, but to pursue something that might be called the “unintended lesson” from a reading or researcher’s conclusions. This was taught to me when I did freelance work for Group Publishing. Because most of my writing was meant to teach children, I was asked to always re-examine any activity I created to make sure there wouldn’t be any underlying contradiction or negative message within the activity or the debriefing questions used to engage the interest of the students. An example of this might be choosing to make a maze for a faith activity which could imply that God is “hard to find.” Another example is creating a “Biblical trivial pursuit” game which can unintentionally lead to the inference that seeking out Biblical knowledge is a ‘trivial pursuit’ too.

The article “Older Adults” was chosen for this exercise by re-reading the study given to younger and older adults (without ages listed). In reviewing the research to find “unintended lessons,” these are some ideas that might be inferred, though not what the researcher intended. For the studies of self-testing, paired words such as “bee-noodle,” “dog-spoon” and “icebox-acrobat” are assumed to be relevant indicators of memorization and retention. They were some of the paired nouns used by the researchers for subjects to learn by creating mnemonic sentences or internal visualizations, yet these scientists concluded that not remembering the word pairings is due to the length of study time given to the task by their subjects. Their belief is that older adults spent less time on this task before testing because they didn’t use successful retention strategies (Dunlosky & Metcalfe, 2009, pp. 287-289), rather than the possibility that there might actually be a lack of interest in these items. The unintended lesson here is that the older adults always fail because of poor monitoring techniques rather than any other consideration in the actual tool used for testing as whether it is culturally and intrinsically motivating to learn. Testing did include the hint to self-test before taking the actual test, but the unintended lesson might be that the elderly are not good at learning (permanent senioritis) rather than just bored.

Of course, the collaborative effect of this writing exercise would be to share and examine each person’s answer for his or her own bias in picking certain items out. After reflecting on my reason for focusing on this item out of an entire article that had some other problems in research methodology and reporting, I feel that I chose this portion specifically to refute the idea that older people seem to get “more stupid” as they age by not using the same methods or expending the same amount of time on what might be perceived as a trivial test—because they are compared younger adults who have just finished school, who probably respect academic hierarchical requests more and who probably don’t mind the time needed to succeed at this task. Research for its own sake may have been of interest to the participants, but learning for self generally has other goals to encourage the best efforts and promote the truest results. If this paired word testing had no applications for the subjects outside the study, then I believe this evaluation really wasn’t fair to the subjects. In fact, after finding out the conclusions of the researchers, perhaps the older subjects believed they were less apt than they were so that the cycle of self-fulfilling prophecy could continue the downward spiral. My bias here is that I believe there should be a goal given in the research for the people to also benefit from participation, not merely see them as subjects to test hypotheses.

A very different goal setting technique for creative expression can also aid metacognition. In a query letter, the author creates a “hook” or one line pitch that engages the reader’s interest (Wood, 1996, p. 135). This invitation into a story is meant to intrigue the mind and suggest a reason to continue into the text. Even if this seems like the linking activity, there are actually different skills involved to promote metacognition. Linking sentences encourage continued reading, but one line pitches have to get the reader to start. In some ways it is comparable to physics and Newton’s laws of motion in which it is harder to get something in motion than it is to maintain that momentum once started. “Pitching” is also different from a “plant” in which the author has already placed their key component phrase. This writing exercise asks the student, not the author, to create his or her own personal “hook” to bring in other readers. By practicing appreciative advertising, the metacognitive skill developed is not only synthesis of the reading, but community building through communication. Collaborative metacognitive dialogue can then be facilitated through the comparisons of the student pitches and explanations for the process used to make them and why.

Because there were four chapters of Evensen and Hmelo in our readings, I randomly chose Chapter Ten since a middle chapter in my view might be harder to pitch than a beginning or an end. This chapter was entitled, “Becoming Self-Directed Learners: Strategy Development in Problem-Based Learning.” The research followed medical students using Problem-Based Learning and how they were statistically superior in testing than students in the traditional teaching control group. This reading seemed to not only promote the idea of self-directed learning but linked it with PBL as the means to become better self-directed learners.

I thought it would be interesting to pitch more than one line, using various cultural references such as “America’s Next Top Model: Self-Directed PBL” or “You can be MacGyver too!” Some more serious pitch lines might include “Self-Diagnosis, the next big medical thinking practice” or “What can PBL do for you?” While it’s difficult not to include humor such as “PBL, not a drug, but an education,” the point of the pitch is to ethically pull the reader in and deliver the promise in the message. If hyperbole is overused, such as the “MacGyver” pitch line—then the reader may end up resenting being manipulated to read for a purpose that isn’t fulfilled. This writing technique provides not only the opportunity to condense the reading into a tweet size promotion, but allows the writer to reflect on whether there is also truth in the advertisement. I also believe this activity is going to be more important in the future since I envision abstracts eventually containing these shorter pitches or even having these pitches in some ways supplant the abstracts themselves.

A final thinking tool from writing that fulfills a different purpose is actually a character addition in a story known as an “agent of change.” This is usually considered the initial opposition or conflicting viewpoint to the protagonist’s perspective, yet by the end of the story is appreciated for his or her value to the personal growth of the main character (Cowgill, 1999, p. 60). To experiment with the appreciative search for this change agent, the final chosen article is “Identifying Complex Thinking Skills Associated with the Creative Problem Solving Model.” Since I realize that an “agent of change” can’t be an actual person in this case, I had to look for something in common within the six types of thinking throughout the Creative Problem Solving model given. This was actually easier than I had expected. The author Puccio aided my search by acknowledging the one item that might seem to be at times a barrier, but then could be the catalyst to the change which is the completion of the Creative Problem Solving cycle from beginning to end.

“Creativity, or the production of change, is a result of both thinking and emotion; it is a matter of both the head and the heart” (2006, p. 51). Although there is an irony to look for a change agent within the act of change itself through Creative Problem Solving, the author did follow-through on the affective side of metacognitive processing. Within diagnostic thinking he identifies curiosity as the facet of the emotion change agent (p. 54) while dreaming as another expression of the same affective skillset is paired with visionary thinking (p. 55). Strategic thinking requires intuition of how to “fill the gap” (p. 56) and ideational thinking needs “playfulness” (p. 57) while evaluative thinking requires patience (p. 57) and contextual thinking needs sensitivity (p. 58). These may seem like different “agents of change” to create change within the thinking process, yet just as the thinking can be seen as facets of the same thinker and process, so too can these affective skills be seen as within the same positive affective domain with various expressions for different purposes and times. It is also worth noting that the emotions used at the “wrong time” or “wrong way” in the Creative Problem Solving model could truly become the barrier to the change itself—such as playfulness during the evaluative thinking or not enough curiosity during the initial diagnostic thinking stage. Students looking for the seemingly contradictory, but actually useful “agent of change” may need to elaborate on how this went right and helped as well as any negative or less utilized aspects of the agent of change too.

There are many more writing techniques that could crossover in creative ways to analyze content or even consider problem based learning even further. These writing strategies that I’ve presented would be meaningful to me because of my background; however, I am aware that others such as chemists or architects might not find them as useful. Because I know that student driven learning is highly individualized, I have presented my own scaffolding models as examples of how even a self-directed learner could take their preferred structures of interest and convert them into thinking tools.

These personalized thinking tools can apply to any occupation or field of mastery. A chemist, for instance, might make mind maps that resemble complex carbon molecules with double bonds (two parallel drawn lines) between items that are more strongly related than single bonds connected ideas with only one line. Formulaic balanced equations might showcase a linear thought process symbolically rather than using SEM. An architect might use the a form of brainstorming and create an arch of ideas in which the most important is at the center top like a keystone while the rest create the support structure for the main idea. His blueprint structure to attack a PBL activity might show a statement in the door way with the questions forming different rooms of thought instead of the tree like “why” question branches currently utilized.

It’s important to present the structures and ideas already in place for metacognitive thinking because they provide tangible stepping stones and diverse ideas about the complex, evolving thought processes into better and deeper thinking. Yet I also believe that there is an intrapersonal meta-metacognition which can be an important freedom and skill to cultivate further. This is the next step of bringing the students’ background more to the front of the class as part of the content. I am suggesting that metacognition not be just applied to our workplaces that we document in our journal and become “habits of the mind.” I am stating that metacognition models become more influenced and changed by the individual practitioners themselves. That the teaching of metacognition requires the learner to teach their occupational or preferred interest structures as their metacognitive thinking tools to each other. I am proposing that once we become more established as self-directed learners, we are obligated to explore becoming self-directed teachers (similar to Professor Szteiter’s “the teaching mind” concept).

Even though these writing activities were created for this final paper and not part of my thesis, metacognition is very much part of my curriculum. The idea of having the learner create their own thinking tools is an integral concept within it as well. I have incorporated a method to teach thinking tools into my creativity course using an “adopt-adapt-create” sequential process within my four kinds of creativity theory. I explain it in my thesis as follows:

*Adopting* ideas and skills is akin to copying or “trying on” other ideas like the king’s armor in “David and Goliath.” “Imitation is the sincerest form of flattery” and this is the instance when we are so inspired by a creative person or his creative product that we actually “borrow” his creativity for our own. To cut and paste artwork, to “steal” a teaching idea or even to quote someone’s words are all ways that we may allow others’ creativity to influence our own. The important distinction though is to credit the source and recognize even where smaller portions of ideas come from in our own creative work. Intentionally looking for the inspiration and then remembering and crediting the source allow the person to recognize patterns and some tendencies to rely on preferred sources. Crediting sources also keeps integrity and authenticity in the creative person.

After learning to identify the creative ideas, patterns and inspirations in the personal experience, it is then possible to *adapt* ideas. This is not merely fixing or tailoring an idea to suit preferences or situation. It also includes permission to mix and match concepts, to experiment with the combinations that provoke learning and insights as well as creativity. It is deliberate play. Adaptation, without acknowledging the sources though, risks using the ideas or thinking tools without analytical judgment and monitoring.

I believe many people are great at adopting ideas and good at adapting them. Some may even be better at building on other’s ideas than creating their own, especially if they prefer being “pioneers” rather than “inventors” in the four kinds of creativity. Even as the four kinds of creativity are useful in adopting and adapting creative thinking ideas, processes and products, these four components are even more valuable in the *creating* of ideas, processes and products in the individual, team, organization and culture.

Going even further, actually *creating* ideas, processes and products has some connection to adaptation. Ideas can be traced to inspirations much like adaptation. What makes this process different though is that the person chooses from personal preferences and situations to make this meaningful and to transform the original inspiration (pp. 67-68).

I believe the reason that people are content to adopt metacognitive frameworks and tools is that they generally work. But adopted tools or even adapted tools can wear out; they can fail especially when someone is confronted with the ill-defined problem. This is why the ‘created’ tool is vital to me. It is the one personalized, with meaning and with some basis for use in the individual’s life. This is the focus I’ve tried to use in my own life so that I can be more flexible and open to new situations, risking experimentation because the idea of creating more and better thinking tools instead of just relying on others could teach me more overall, no matter the outcome of the process.

It is not just an individual pursuit though. We also can also promote deeper communities of learner-directed teaching as we do to some extent now in this course, but could allow even more through shared projects and more than surface introductions to our backgrounds and life experiences. Not only would each student be affirmed and recognized in self-efficacy, but the class itself would be even more unique each session. As I’ve shown in my writing experiment with this paper, learning can come from anything chosen for that purpose as long as it has meaning to the user and clear intentional goals for the use of it. Reading the world to me means reading what people learn best from—themselves. It’s learning that keeps us always student teachers in metacognition.

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