Toward Writing in the Disciplines through Critical Thinking

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College students begin to accept or question new ideas and practice new skills in the classroom that will hopefully benefit them in their academic and professional life. As a writing teacher, I strive to provide a nurturing and open learning environment where my students are free to be critical, inquisitive, and expressive. In line with this, trying to advance a non-threatening atmosphere where they can successfully engage in a subject matter and with each other is commendable, especially if these activities allow them to develop their use of a disciplinary language. We know that college students must be prepared for all types of writing in order to succeed in their fields/degrees, but the question is how do we provide avenues for them to learn how to write in the disciplines?

Since writing in the disciplines (WID) is focused on learning how to write formal documents of a professional register (Carter, Ferzli, and Wiebe 278), it is important to note that each field or discipline has its own style, structure, and format when it comes to writing, and most composition courses seldom facilitate the transfer of these specialized skills in the classroom. The fact of the matter is that while student writers grapple with new concepts

pertaining to their majors in upper-division/content courses, research/composition and capstone classes also need to supplement these efforts with purposeful collaborative exercises to help them join the conversations of their field (Bartholomae 4-23; Bizzell 191-207). I believe that reading and critical thinking are all valuable skills to write effectively in the disciplines, and in order to foster them, I do what most writing instructors have already done in the classroom—i.e., require students to read texts that are pertinent to their majors, encourage them to mark off significant ideas or record their own questions/comments about these texts, and critique researched sources based on their social, historical, or normative contexts in the form of annotated bibliographies.

However, I posit that these college writing assignments might not be enough and must be supported with in-class activities that involve critical thinking to enable student acquisition of field-specific diction, syntax, stylistics, content, rhetorical structure, and so on. These task-based pedagogies will introduce students to the conventions and special formats typical of a certain discipline and, at the same time, train them to learn how to think and write in that genre. Because engaging in "discipline-specific writing [and reading] develop important professional and critical thinking skills" (Trachtenberg 5759), classroom exercises that boost deeper thinking impact student success. Some of these analytic thought exercises may involve underlining, annotating, or note-taking of specialized articles; identifying the purpose of the analysis; explaining how highlighted sources support arguments, observations, interpretations, etc. (Schmoker 25). Toward this, I promote metaheuristic analysis activity as a form of cognitive exercise to

supplement research-based assignments in college writing courses and enable the learning and acquisition of WID. I also argue that students be given enough opportunities to explore and critique discipline-specific texts through the following tasks based on Richard Coe's metaheuristic analysis:

- Examine the content, rhetorical structure, language use, etc. of these texts.

- Discuss their observations freely in a collaborative space.

- Articulate their findings in class presentations.

More specifically, I believe that critical thinking activities in which students describe the structure of scholarly articles will help them become more effective and comfortable writers in the disciplines. First, as they perform close reading, they acquire various elements of structural content, logical inferences/evidence, and stylistics/vocabulary conventions necessary for disciplinary writing that goes beyond basic understanding of texts. According to Douglas Fisher and Nancy Frey, teachers who are more successful in this approach adapt close reading scaffolding techniques, such as repeated reading, text-dependent question-and-answer practices, collaborative conversations, and source annotations, and also offer contingency plans for further assistance that include re-establishing purpose, prompting and cueing, modeling, etc. (279-85). The analytical practice of close reading allows students to not only decipher what each text explicitly says, but also grasp its rhetorical language when writing field-specific research. The more classroom activities promote critical thinking through close reading, the more developed,

prepared, and confident student writers become, especially if they are also encouraged to share their analyses in groups.

Second, when students engage in group work and freely discuss their observations with one another, they become active co-participants in meaning-making and skills development. As regards collaborative critical reflections, textual examinations of "commonalities, interrelationships, differences, and aberrations can result in…the development of higher-order thinking skills" (Chittooran 80). Sharing analytical points about a journal article that has been dissected for review invites fruitful dialogues in reference to its content, rhetoric, and structure. Students openly share among themselves what each reading material contains, how meaning is conveyed by the author, and why a particular text creates rhetorical impact to the discipline overall. Most importantly, since each member tends to contribute more effectively to knowledge construction within group settings (e.g., face-to-face, online, or hybrid) than lecture format, subtle initiation into the discourse community happens as students "co-construct[...] knowledge [and] com[e] together with a clear understanding of how and why [they] are working together" (Jordan and Kaplan 30). And because everyone takes part in a team-building effort, the process of exchanging ideas collaboratively becomes more valuable in the long run.

Finally, following group conversations with whole-class discussions leverages active engagement as each group reports their findings to their peers, including the teacher. This task completes the critical analysis activity and sustains active learning with students applying oral and written communication skills, developing close reading and critical thinking skills, and

gaining better understanding of disciplinary writing on the whole. In fact, class presentations in groups enhance cooperative learning experience creatively (Anderson 40), where each group receives relevant information from other group reports thereby expanding multivariate perspectives. The point here is to make whole-class discussions more stimulating, challenging, and inviting through collective demonstrations of analytical skills. Preparing students for WID is a significant challenge for writing teachers and while writing assignments that enable disciplinary writing skills abound and are already recognized/practiced (e.g., research papers, long reports), classroom activities in support of these WID assignments need more attention.

The Classroom Exercise

Based on the concept of "metaheur" by Richard Coe (203-16), this modified metaherustic analysis activity allows college students to critically analyze the production of research-based writing samples through a set of heuristics and arrive at a framework for writing discipline-specific texts. In particular, "metaheur" refers to a heuristic "for analyzing any particular type of writing in order to learn [from] it" (Coe 212). For this activity, students are divided into groups of three or four according to their fields and are asked to discuss a common scholarly or research-related article following a set of heuristics. The teacher may opt to either give each group pre-assigned articles or suggest possible research databases/resources where they can find scholarly works of disciplinary experts.

When used as a classroom exercise in support of annotated bibliographies or research papers, this critical thinking exercise helps student writers attain knowledge-base and familiarity with the subject matter, rhetorical context, and structure/style of a disciplinary text, building their skills and confidence not only to write about a research topic in a given field, but also to join the conversations of a discourse community. This activity may be implemented in three parts to provide more opportunities for analysis, collaboration, and sharing. The first session may be devoted to giving instructions and individual close reading, the second session to group discussions, and the third session to class presentations. Ultimately, this three-session activity employs critical discourse analysis for students to become better critical readers and writers across the curriculum.

Figure 1 shows a set of questions for students to respond to once they have selected a common disciplinary text within their groups. It is a flexible prototype of the activity patterned after Coe, in which responses are discussed collaboratively either face-to-face or online using Canvas, Blackboard, or other types of learning management system; toward the end, each group is expected to give a brief oral presentation in class to share their findings.

Metaheuristic Analysis Activity* (*Suggested Length*: **Three 50-minute class-sessions**)

First session: *Individual Close Reading*

Read the scholarly article selected by your group and answer the following questions to describe its subject matter, rhetorical context, and structure/style:

- **Subject Matter**

  o What is the focus of the text? How is the material treated? (e.g., approach, method, technique)

  o Are there certain key terms, root metaphors, or standard analogies that recur in this discourse? Are there "buzz words"?

- **Rhetorical Context**

  o What basic purpose does the writing serve?

  o Who reads this type of writing? Why?

  o Where is this type of writing usually published? How would you name and describe the discourse community that reads this type of writing?

  o Does the writer take a particular stance and, if so, what does it imply about readers' expectations? How formal are the word choice and usage?

- **Structure and Style**

  o Is there a standard format or typical structure for the whole writing or any part of it? Which of the basic patterns of development are used regularly?

  o How does the writing begin? How does the writing end? What sort of transitions predominate? Do most paragraphs have topic sentences (and if so, where)?

o How long is the writing in your sample? How long and difficult are the words and sentences? What is the level of readability?

o Do any particular sentence patterns stand out? Is there a standard jargon? How would you rate this writing on a scale of abstraction? Does the text have texture (i.e., many cumulative or embedded modifiers)?

o What unique features does this discourse have that were not elicited by the preceding questions?

o What other significant features characterize this type of writing?

Second session: *Group Discussion*

Share your responses within your groups and be prepared to share your discussion to the class.

Third session: *Class Presentation*

Present your collaborative work in class by emphasizing key points from each category.

*Adapted and modified from Coe, Richard M. "Advanced Composition as a Fishing Pole: Principles, Processes, Practices." *Landmark Essays on Advanced Composition*, edited by Gary A. Olson and Julie Drew, Lawrence Erlbaum Associates, 1996, pp. 203-216.

Figure 1: Metaheuristic Analysis Activity

Teaching Reflections

The metaheuristic analysis activity gives my college students the opportunity to explore further relevant field-specific texts in terms of the following: **subject matters**, **rhetorical conventions**, and **language/stylistic patterns**. I find that they get to develop critical reading and thinking skills prior to writing their own research papers, and I am often surprised with the conciseness of their responses to the heuristics when each group goes over relevant points during class presentations.

One aspect of this activity is building familiarity with a subject matter by thoroughly examining an article's focus, approach, method, technique, register, and so forth. Students are often pushed toward deeper thinking when they first grapple with a given problem individually (Sussman 79); this type of reflective work seems to cultivate a positive habit and should garner more attention pedagogically, such as when teaching how to elucidate critical thinking in film (Tan, et al. 428), structured debate (Field 144), etc. Writing instructors need to take a risk and try something new in class to break away from common patterns/routines and dig deeper into specialized texts. If disciplinary content/context were understood through creative thought exercises, purposeful writing in that field becomes evident and substantial ideas generated. I noticed my students are ushered into their field emphasis more seamlessly through this analytical

activity, which lessens most of their anxieties when writing for a new discourse community in capstone research.

Another facet is when we add rhetorical context to critical thinking to springboard WID. Following James E. Warren's claim in his article "Rhetorical Reading as a Gateway to Disciplinary Literacy," the activity in this case becomes even more meaningful since teachers "help foster disciplinary literacy by teaching students rhetorical reading practices" (391). Along these lines, I make it a point to demonstrate how rhetorical skills may be developed by learning the importance of audience, purpose, context, and argument. This modeling strategy illustrates to my students how different disciplinary texts produce knowledge autonomously that go beyond authors merely regurgitating or repeating information. So, they practice critical assessment of articles in terms of rhetorical impact, significance, and contribution to discipline-specific communities, which likewise bolsters their research writing preparation. Last of all, closing the analysis with comments about document structure and stylistics seems to increase their awareness on standard format or sentence patterns, etc. characteristic of a given field. And most importantly, as novice writers get introduced to the writing styles/habits of disciplinary experts in various domains, they also tend to acquire the structure, format, and/or language use of these models for future application.

Since there is no right or wrong answer, I find that students get to freely engage in critical thinking while understanding at the same time the roles of content focus, rhetoric, and language in research-writing. Even as they work in groups, students participate in a non-threatening

environment through this exercise, diffusing the lecture format necessary for more effective, workshop-oriented classrooms. To close the loop, my students tend to feel more comfortable writing their own research papers as they transition from critical analysis to WID. Overall, I think the habit of frequently doing critical thinking exercises in the classroom benefits most writers as they apply critical perspectives in just about anything they read, see, hear, or investigate. My students learn through this activity how to detect the language of printed/online scholarly texts and critically assess their implications, which may also expand to other forms of textual analysis including visual, audio, and the web. Because this group activity is meant to expose them to "what's out there" in relation to a specialized topic of their choice, it helps them become more knowledgeable as they wrestle with possible researched sources while becoming more comfortable and prepared scholars/writers.

Finally, the collaborative discussions that are either synchronous or asynchronous—face-to-face, online, or hybrid—have trained my students to work in groups more productively when examining specialized texts as they recognize pre-existing dialogues before starting their own research. Sharing ideas with one another in groups, especially about technical subjects some of them may have encountered for the first time, requires learning how to communicate effectively and/or negotiate meanings and contexts more clearly. When they interpret, clarify, interrupt, or expose the ambiguities of scholarly texts using Coe's metaheuristics guide, they likewise take part in the dialogue (Bialostosky 11-22) and critically evaluate what constitutes effective or ineffective WID by "explor[ing] course content through a critical lens" (Jani and Mellinger 150).

For this reason, I believe the proposed metaheuristic analysis activity effectively supplements research-based assignments in college writing/capstone courses and moves students toward learning how to think critically and write in the disciplines.

Other Classroom Projects

The following projects may also be used or modified to elicit critical thinking skills, especially in research-based composition and capstone courses, and usher in WID practices:

- **Critical Literacy Autobiography (individual project)** – Preferably done at the beginning of the semester, ask students to write a short autobiography detailing their early literacy formation to their present literacy practices. As they consider a broad definition of literacy, they may include not only their reading and writing skills, but also the way they value and understand these skills in their field of study.

- **Critical Analysis of a Visual, Audio, or Web Text (collaborative project)** – Students in blocked groups of the same majors/degree emphases are assigned to select an argumentative visual, audio, or web text related to their field of study and analyze its rhetorical features, argument, purpose, audience appeal, and overall effectiveness. Each group will write a 2-3 page critical analysis of their selected text and share their group's findings in class.

- **Critical Reflection Essay (individual project)** – Have students write a 3-4 page essay describing their chosen discipline's writing style, including but not limited to the following questions:

  a) What constitutes "good" writing in your discipline? Describe its rhetorical and linguistic/stylistic components.

  b) What constitutes "bad" writing in your discipline? Describe its rhetorical and linguistic/stylistic components.

  c) How might you differentiate "good" writing from "effective" writing? Consider the rhetorical and linguistic/stylistic components in your discussion.

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