

NAMING WHAT WE KNOW

Threshold Concepts of Writing Studies

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As long as teachers keep this caution about entrenchment in mind, working memory and the benefits of automaticity are set to become powerful enabling concepts for modern writing studies. All writers can increase fluency and performance through naturalizing routines; just as letter shapes recede from children's consciousness (or more specifically, the frontal lobes) and free up working memory for higher-order composing goals, so too will even the most structurally elaborate academic and workplace genres eventually become assimilated into writers' routines (see 2.1, "Writing Represents the World, Events, Ideas, and Feelings"). Teachers and supervisors alike should remember that automaticity takes time, perhaps at a temporary cost to other skill sets (see 4.2, "Failure Can Be an Important Part of Writing Development," and 4.3, "Learning to Write Effectively Requires Different Kinds of Practice, Time, and Effort") and that writers taking on a new task are attempting to forge neurological connections that literally aren't there yet (see James and Engelhardt 2012; Richards et al. 2011).

In sum, insights from the social turn and insights from what some are calling the *neurological turn* appear to be converging, as can be seen in this recent definition from two cognitive researchers: "The writing process is supported by a single system—the writer's internal mind-brain interacting with the external environment (including technology tools)" (Berninger and Winn 2006, 108).

5.1

WRITING IS AN EXPRESSION OF EMBODIED COGNITION

Charles Bazerman and Howard Tinberg

Writing is a full act of the mind, drawing on the full resources of our nervous system, formulating communicative impulses into thoughts and words, and transcribing through the work of the fingers. Writers at the computer or desk carry the tension of thought throughout their full posture, can grimace at the difficult contradiction, and can burst into laughter at the surprising discovery or the pleasure of an elegant phrase.

This is as true of the reasoned and evidence-grounded academic writer as of the impassioned writer of love letters. The emotional engagement of scientific writers for their subject may entail careful attention to evidence and reasoning grounded in prior work in the field and an understanding of the theory and methodological principles of the field; yet without a passion for the subject that turns a writer's full

mind and thought to the task of producing new words and ideas, little of value would get written.

If cognition assumes complex mental processes at work, then embodied cognition draws in addition upon the physical and affective aspects of the composing process. While there is still much to learn about how the brain and mind work when engaged in the complex task of writing, it was evident to theorists as early as James Moffett (1968) and Ann Berthoff (1978; 1981) that writing comes from full engagement of the entire writer, which is developed across many years of a developing self. Both drew on the work of Lev Vygotsky (1986) who, in the early years of the twentieth century, explored the role of language internalization and externalization in the social formation of mind and emotions (see Bazerman 2012). More recently, psychologists such as Ron Kellogg (2008) have documented the extensive concentration and long time it takes a writer to develop. Howard Gardner (2008) as well has called for recognition of the full, human dimension of both readers and writers in the construction of meaning. Finally, a number of teachers drawing on psychoanalytic traditions have considered how writing challenges and exposes elements of emotions and psychological structures (e.g., Alcorn 2002).

5.2

METACOGNITION IS NOT COGNITION

Howard Tinberg

"Do you know your knowledge?" asks Samuel Taylor Coleridge, trying to point out the difference between knowing what we know and knowing that we know (qtd. in Berthoff 1978, 233). The first calls upon cognition while the second requires metacognition. In other words, to think through a solution to a problem differs from an awareness of how we came to resolve that problem, or, as Kara Taczak notes in this collection, writers engage in cognition when they reflect on "what they are doing in that particular moment" but display metacognition when they consider "why they made the rhetorical choices they did" (78). For those of us who teach writing, the objective is not just to have our students produce effective writing—that is, to respond in logical and thoughtful ways to the question posed. We also want our students to demonstrate consciousness of process that will enable them to reproduce success. Metacognition is not cognition. Performance, however thoughtful, is not the same as awareness of how that performance came to be.

Cognition refers to the acquisition and application of knowledge through complex mental processes. Writers draw upon cognitive processes when they

- demonstrate an understanding of the question;
- deploy accurately and purposefully concepts, knowledge sets, and terms that reveal genuine expertise;
- meet the needs of their audience;
- fulfill the requirements of genre; or
- exhibit a control over language, grammar, and mechanics.

But the effective accomplishment of writing tasks over time requires even more. It calls upon metacognition, or the ability to perceive the very steps by which success occurs and to articulate the various qualities and components that contribute in significant ways to the production of effective writing, such as

- discerning the structure of a draft;
- delineating patterns of error; or
- discriminating between what is necessary in a draft and what in the end serves little purpose.

Metacognition requires that writers think about their mental processes. Metacognitively aware writers are able, in William Blake's words, to "look thro it, & not with it" (qtd. in Berthoff 1978, 232). In other words, they engage in "thinking about thinking" (Berthoff 1978, 13). The need for metacognition assumes special importance when writers find themselves required to work in unfamiliar contexts or with forms with which they are unfamiliar. In those cases, metacognition allows writers to assess which skill and knowledge sets apply in these novel situations and which do not. In the end, while cognition remains critical to effective writing, it is metacognition that endows writers with a certain control over their work, regardless of the situation in which they operate.

Popular conceptions of what it means to write assume that knowledge of a subject (e.g., the history of the Civil War) is enough to produce a successful written report on that subject, or that knowledge of the rules of language, grammar, and mechanics is sufficient to produce an effective piece of written communication. In fact, cognition, while essential to thoughtful performance, cannot guarantee success, given the challenges of writing across disciplines, for varied audiences, and in diverse genres. It must be accompanied by metacognition.

5.3

HABITUATED PRACTICE CAN LEAD TO ENTRENCHMENT

Chris M. Anson

When writers' contexts are constrained and they are subjected to repeated practice of the same genres, using the same processes for the same rhetorical purposes and addressing the same audiences, their conceptual framework for writing may become entrenched, "solidified," or "sedimented." When this happens, they may try to apply that framework in a new or unfamiliar writing situation, resulting in a mismatch between what they produce and the expectations or norms of their new community (see 2.1, "Writing Represents the World, Events, Ideas, and Feelings," and 3.3, "Writing Is Informed by Prior Experience").

Repeated practice of the same mental task or activity can lead to what psychologists call *automaticity* or *unconscious competence*, the application of a process or the retrieval of information that doesn't require conscious attention (Van Nieuwerburgh and Passmore 2012). For example, among experienced drivers, the process of shifting gears becomes so habituated through repeated practice that it usually reaches a stage of automaticity, allowing drivers to do it while performing other tasks such as talking to a passenger and gauging the distance of the car from a stoplight. Although writing is far more complex than gear shifting, the principle of automaticity also applies. A veteran police officer who has written many hundreds of incident reports may apply habituated practices, such as being as highly objective as possible, in other situations that call for a different approach, such as sharing subjective impressions or using an elegant, elaborated style.

In writing, the misapplication of habituated practices often occurs among novice writers, such as those who are trained throughout high school to write five-paragraph-style essays for standardized tests (Anson 2008). Placed in a new situation where the audience, purpose, genre, and other aspects of writing may be very different from those required in five-paragraph themes, such writers may resort to their habituated practice and fail to meet the expectations of their new rhetorical community. Habituation also explains the struggles more proficient writers experience when they have practiced certain genres for years and then try to deploy their abilities in new settings. For example, even prolific academic writers who are highly skilled at producing research reports and articles may struggle to write in new or unfamiliar settings. A significant body of literature has accumulated around the problems associated with scientists who are unable to "translate" their complex knowledge and research findings