



## Using Reflection and Metacognition to Improve Student Learning: Across the Disciplines, Across the Academy

Kaplan, Matthew; Silver, Naomi; LaVaque-Manty, Danielle; and Meizlish, Deborah, eds.

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### Book Review

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This collection of essays has its origins in a three-year research project at the University of Michigan (funded by the Teagle and Spencer foundations), which intends to find ways to improve undergraduate education by developing “targeted, exportable classroom strategies to help bridge the gap between students’ and faculty’s (or novices’ and experts’) understanding of disciplinary writing and thinking” (2). Based on research that recognizes metacognition as “most important to good learning outcomes” (2), this collection explores whether disciplinary metacognitive strategies will assist students “to better connect diverse disciplinary writing tasks and develop more versatile identities as disciplinary writers” (3). To that end, they include essays on the use of metacognition in several different disciplines: biology, engineering, mathematics, psychology, humanities, and composition. They conclude that both “student and faculty engagement with course material and writing tasks is resoundingly improved by the introduction of metacognitive strategies” (3).

The basic premise upon which this collection rests is that people can learn how to learn. This generally takes two forms. In the first, students might be asked to “reflect” on their learning, by attending to their discomfort, ambiguity, and uncertainty, and revisiting a learning experience again and again in order to discover new insights and a more sophisticated understanding (6). In the second, students might engage metacognition (thinking about thinking): they establish a plan to learn (for example, make predictions, set aside sufficient time, gather appropriate resources, and decide which approach will be most efficient based on experience), monitor their learning (with self-tests, for example), and evaluate success (their

ability to recall the idea a week later). Attention to metacognition facilitates students' ability to transfer understanding across disciplines.

Teachers in religion and theology might be particularly interested in a number of immediately useable teaching strategies. Consider "exam wrappers": after giving a test, ask students to describe how they prepared for it; collect their responses, and return them as they begin to prepare for the next test. In this way, students can monitor and evaluate their learning and give their "future selves some advice" (24). Or invite students to monitor their thinking by including comments in the margins on their writing assignments; for example, they might say, "I am not sure I understood how these two ideas connect," or "I think I have this correctly stated but I may have to check my facts" (122). Or consider inviting students to design a fifteen-week project using a template to identify purpose, audience, context, genre, media, and arrangement strategy; this type of assignment encourages students to make deliberate rhetorical choices and to revise both their design and their product iteratively. Or try this: invite students to "repurpose" their content knowledge in alternative formats (written page, presentation, image, video, blogging, and so forth) in order to develop skills as emerging experts in their profession (178). Each essay provides concrete, practical descriptions of how reflection and metacognition can be used in different disciplines, with abundant samples of assignments, templates, surveys, and student examples.

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