## Theoretical Background: Promoting Metacognitive Awareness

The field of metacognition provides a number of models and frameworks for helping students develop the ability to monitor their own comprehension and to make their thinking processes explicit to teachers (Hartman, 2001; Kuhn & Pearsall, 1998; Zohar & David, 2008; Bannert & Mengerkamp, 2008; Diaz et al., 2008). The following model, adapted from Schraw (2001), highlights three stages for intervention in the writing process. The use of metareflective comments in our research is an attempt to intervene in the **Monitoring** phase of students’ writing and critical thinking.

### Year One: Metacognitive Intervention

**Research Sites**
- Economics 432: Government Regulation of Industry (Jim Adams)
- Psychology 351: Advanced Laboratory in Developmental Psychology (Margaret Evans)

**Protocol**
As a strategy for Monitoring, students were asked to use the “comment” function in Word to insert 3 to 5 comments in the margins of their papers to communicate with their instructor about writing choices they had made. Comments were to address where students drew on key concepts from the course, felt they expressed ideas particularly well, or felt uncertain or confused.

**Data Collected**
- Student papers with student-inserted metareflective comments and instructor responses
- Pre-term and post-term surveys of students
- Pre-term and post-term interviews with instructors
- End-of-term student focus groups

### Metareflective Comments: Examples and Student/Instructor Feedback

#### Economics 432

**Feedback from Economics Student Focus Group**
- "I write the paper first and then read through to find places where I would put comments and through that revision process I think you get to edit your paper a little more, you get to think about it. Usually when you’re done with the paper you don’t want to read it again, so I think this was a good way to give it a second look.”

**Feedback from Economics GSI Interview**
- "It made writing the final comments easier because I had already addressed a lot of the specific stuff... I think I gave better feedback because if they didn’t explicitly say ‘hey I’m curious about this particular section,’ I might not have ever addressed it... and not known that it was something they wanted extra help on, and so that was useful. I liked it actually.”

#### Psychology 351

**Feedback from Psychology Student Focus Group**
- "It made me think about the answers to my own questions that I would have about my own writing... There were certain times when I was like ‘Oh! I have a question about this...’ but then [needing to insert comments] made me think about the question and made me realize I had the answer myself or I knew how to find the answer, and so I think it improved the overall quality of my paper before I even turned it in.”

**Feedback from Psychology GSI Interview**
- "I felt like I did them more justice in grading their papers because... I included whatever comments I would include [needing to insert comments] made me think about the question and made me realize I had the answer myself or I knew how to find the answer, and so I think it improved the overall quality of my paper before I even turned it in.”

### Findings

1. Metareflective comments are a “low-cost” source of insight into student thinking, easy to integrate into existing assignments.
2. Students reported that the strategy helped them reflect on the assignment and their own writing processes.
3. GSIs reported that comments created a new opportunity for dialogue with students that gave them better understanding of student struggles and allowed them to give feedback targeted to student concerns.

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