Does teaching about metacognition improve metacognition?

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ABSTRACT: Students are often unaware of what they don't know. In other words, their metacognition is poor (Cameron & Duffy, 2017). Students' self-report indicated a vast overestimation of both their knowledge and performance. Here we examined whether explicit instruction on metacognition and learning strategies would improve exam scores (knowledge) and grade estimates (metacognition).

We compared performance on exams and self-assessments in three semesters, the final one in which we provided explicit instruction on metacognition and study strategies among students (~95 per term) in a team-taught Introduction to Psychological Science course. Following most exams students completed a self-assessment including number of classes missed, hours studied, office hours and study sessions attended. They rated how well prepared they thought they were (before and after taking the exam) and estimated their grade.

During the second week of class of the most recent semester students participated in two class-sessions (65 mins each) in which they were introduced to important concepts from cognitive psychology and their application to learning and study strategies (e.g., metacognition and levels of processing) in a lecture with an experiential demonstration, by completing a homework assignment and by watching 5 short videos on metacognition and study skills. Finally, after the first exam students also completed an "exam wrapper" in which they completed a detailed evaluation of their exam performance. At the end of the course students assessed the usefulness of this material.

Although overall exam scores were comparable across semester, students were more accurate in estimating grades and their self-reported level of preparation decreased. About two-thirds of students indicated that the metacognition and study skills material helped them in their studying during the semester. They mildly agreed with the statements that self-assessment was helpful and that as a result they changed their study habits. However, their primary method for learning course material was to attend class and they did not take advantage of other resources. Many students articulated understanding their role in their learning although they were unable to implement changes.

These results suggest that being aware of metacognition may improve metacognition but is insufficient to change behavior and enhance student performance.

REFERENCES

Cameron, E.L. and Duffy, K.L. (January 2017). Does Metacognitive Awareness Improve Student Learning? National Institute for the Teaching of Psychology, St. Pete Beach, USA.