

Cognitive Wrapper Templates: Ideas for NIC Instructors

For more on the rationale and research of cognitive wrappers (or assignment, lesson, test or exam wrappers) see [Teaching Naked, J. Bowen's page](#) and Carnegie Mellon University's teaching and learning centre [web page](#).

This template is based upon research by Marsha C. Lovett, (2013), "Make exams worth more than grades: Using exam wrappers to promote metacognition" in Using reflection and metacognition to improve student learning, Kaplan, m, Silver, N, Lavaque-Manty, D., Meizlish, D., ed. San Francisco: Sterling, VA: Stylus and Mary-Ann Winkelmes (2013), "Transparency in teaching: Faculty share data and improve students' learning" Liberal Education 99/2 (Spring 2013), 48-55. See also Brown, P. C., Roediger, H. L. & McDaniel, M. A (2014) Make it Stick: The Science of Successful Learning. Belknap Press

Purpose of Wrapper: Rationale

Ask your students to answer this question **AFTER** they have completed an assignment or test.

- This assignment/activity/exam and this feedback was designed to help you/give you practice/improve [student inserts goals or what they think the intentions were here] and achieve [student inserts learning outcomes or objectives here].

Ask your students to answer this question **BEFORE** they have completed an assignment or test.

- The goal of this assignment/homework/reading/exam is to give you practice with [student inserts response here] or to help you analyze [student inserts answer here). Before you begin, rate your awareness of Y or think about Z.

Purpose of Wrapper: Reflection

1. How much total time did you spend preparing (or writing/reading/reviewing)?
2. When? How did you spread out your preparation?
3. How did you prepare for this exam/lesson/activity/class session?
4. How much time did you spend reviewing X, Y, or Z?
5. What % of your preparation was done alone/groups?
6. What % of your preparation time was spent on each of these activities?

- Reading textbook section(s) for the first time _____
- *Re-reading or highlighting textbook section(s) _____
- *Re-reading your class notes _____
- Reading/studying other materials _____
(From where? _____)
- Rewriting key concepts into your own words _____
- Rephrasing ideas _____
- Creating personal examples or analogies _____
- Self-Testing (or working on extra problems) _____

- Relating new material to things you already know _____
- Finding online content _____
- Thinking _____
- Preparing _____
- Researching _____
- Drafting _____
- Editing _____
- Listening _____
- Finding inspiration _____
- Analyzing posture _____
- Working on problems _____
- *Focusing on one thing at a time _____
- Interleaving (varying your studying) _____
- Playing through pieces _____
- Resting _____
- Memorizing _____
- *Repeating concepts by rote _____
- Flashcards _____
- Playing for fun _____
- Brainstorming or Conceptualizing _____
- Experimenting _____
- Sharing Ideas with others _____
- Practicing technique _____
- Working on new material _____
- Focusing ideas _____
- *Reviewing homework solutions _____
- *Reviewing your own notes _____
- *Reviewing concepts and ideas _____
- Contextualizing concepts in new ways _____
- Solving new harder problems for practice _____
- Reviewing other materials (which?) _____
- Other (Please specify: _____) _____

NOTE: Items with a * tend to be time-consuming and not very effective. Re-reading or highlighting, for example, create fluency (the material FEELS more familiar), but does not stick in long-term memory.

It is much better to switch to items with a “-” as elaborating on the material is faster and more effective.

For example, try thinking of new examples, making analogies (how would you explain this concept in baseball or fashion terms?) or looking for larger context and restating ideas in your own words.

Trying to remember the exact phrase or syntax of an idea is counterproductive: come up with your own rule or phrase.

Purpose of Wrapper: Comparison

Now that you have listened to my feedback, the feedback of your classmates, looked over your graded exam, read my response to your paper etc.

- What kinds of mistakes did you make?
 - Estimate the points you lost due to
 - Trouble understanding a concept (or list specific concepts) _____
 - Trouble remembering lines/formulas/structures _____
 - Trouble with definitions _____
 - Trouble with technique _____
 - Not concentrating/focused enough _____
 - Careless mistakes _____
 - Lack of preparation _____
 - Not being able to formulate an approach to the problem _____
 - Arithmetic/grammatical errors _____
 - Unclear expectations _____
 - Reviewed the wrong material _____
 - Not practicing enough _____
 - Anxiety (and specifically over what?) _____
 - Other _____
- After having completed this assignment, rate each of the following statements in terms of how true it is for you on a scale from 1-5 (similar list)

Purpose of Wrapper: Adjustment

- Name at least three things you will do differently next time in preparing. Be specific. For example, will you spend more time, start your preparation earlier, change a specific study habit, try a new one (if so, try to name it), sharpen some other skill (if so, name it), participate in more review opportunities or something else?
- What study /practice strategy worked best/worst?
- What aspect(s) of your preparation for this exam/session seemed different from your exam/session preparation? Did these changes have any effect?