**Write to Learn Exercises**

Write to Learn exercises differ from other types of writing assignments in that the instructor consciously foregrounds a *pedagogical* aspect of the exercise rather than an *evaluative* one. In other words, instructors emphasize that learning happens through the *process* of writing, whether or not specific feedback is provided. With this model, assessment of learning may be made on the class as a whole, rather than on an individual students' learning, allowing instructors to modify their in-class practices to address group deficiencies and successes. Thus, unlike the *transactional* writing of term papers, this kind of *expressive* writing is a useful way for students to think critically about a lecture and for faculty to evaluate the success of a class session.

This packet contains fifteen sample Write to Learn exercises: ten are geared toward written responses and five are geared toward oral responses. For the most part, the exercises are self-explanatory. Each exercise is marked with an approximation of the "out-of-class time required" by the instructor: either "minimal" or "moderate." In-class time should always take less than fifteen minutes. We have also marked suggested grading techniques. Most exercises suggest no grade be given, but only "credit for participation." Other suggestions are to use the "check/minus/plus" system or, in rare cases, assigning letter grades.

**Written Component**



**Oral Component**



**Sources**


Faculty Center for Teaching and Learning. *Teaching Tips*. University of Central Florida, 26 June 2012. Web. 12 November 2012. <http://www.fctl.ucf.edu/teachingandlearningresources/selectedpedagogies/teachingtips/>

Thomas A. Angelo and K. Patricia Cross. *Classroom Assessment Techniques: A Handbook for College Teachers*. San Francisco: Jossey-Bass, 1993. Print.

## Analytic Memos

Analyze a specific problem for the benefit of a stakeholder who needs to make informed decisions.

**Read or distribute to students:** (Example) Read the attached news article on contaminated groundwater. Analyze this situation to discover the major policy implications for the state. Take the role of an environmental analyst and write a two-page Analytic Memo to the state secretary of environmental affairs, laying out these policy implications.

**Out-of-class time required:** Moderate

**Graded:** Minus/check/plus

**Implementation:**

1. Locate or invent an appropriate, well-focused, and typical problem for the students to analyze.
2. Get background information or invent some plausible information.
3. Specify who is writing the memo and for whom it is being written, as well as its subject and purpose.
4. Decide whether you want students to work alone, in pairs, or in small groups.
5. Develop an explicit half-page directions sheet, specifying the students' role, the audience, the subject to be addressed, the analytic approach, the length limit (one or two pages), and the deadline.
6. Prepare a rubric that will allow for quick grading.

**Outcomes:** This exercise assesses students' facility with discipline-specific methods and techniques. It challenges to students to communicate their analyses clearly and concisely.

## Assignment Assessments

Evaluate student homework assignments as learning tools.

**Read or distribute to students:** Evaluate the homework assignment you have completed as a method of learning the material. How well did the assignment accomplish its purpose? Take ten minutes to write out your evaluation and provide feedback on the effectiveness of this assignment.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Give students ten minutes at the beginning of the class session to evaluate and provide feedback on an assignment they have completed at home and just turned in.

**Outcomes:** In addition to providing useful feedback to instructors, the act of reflecting in writing on how learning happens during homework assignments engages students with the material in both a primary and a "meta" level.

## Documented Problem Solutions

Justify each step in solving a problem.

**Read or distribute to students:** (Example) Fold a piece of paper in half. On the left side of the page, diagram the sentence provided by the instructor using Chomsky's transformational grammar approach. On the right half, write a brief note explaining and justifying each step.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Choose one or more problems for your students to solve.
2. Solve the problem(s) yourself and document your justifications. Assume it will take the students twice as long as it took you to solve and justify each step.
3. Hand out the problem(s), making clear it is not a test or quiz. It is more important for students to explain how they try to solve the problem than to get the right answer.

**Outcomes:** This exercise allows students to gain awareness of and control over their problem-solving techniques.

written assignment adapted from Angelo and Cross, 1993

## Minute Paper

Given 3-10 minutes at the beginning or end of a class period, write a reflection on what you have learned and how well you have understood a lecture or reading.

**Read or distribute to students:** Answer the two following questions in full sentences: 1) What was the most important thing you learned during this class session? [Alternatively, "What was the most important thing you learned from the homework assignment?"], and 2) What important question remains unanswered?

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Decide first what you want to focus on and, as a consequence, when to administer the Minute Paper. If you want to focus on students' understanding of a lecture, the last few minutes of class may be the best time. If your focus is on a prior homework assignment, however, the first few minutes may be more appropriate.
2. Using the two basic questions below, write Minute Paper prompts that fit your course and students.
3. Set aside five to ten minutes of class for students to write out their responses, as well as time later to discuss the answers.
4. Consider allowing students to hand in their answers anonymously, simply checking off names of students as they hand in their responses.
5. Respond to the results by addressing the class as a whole, rather than providing individual commentary.

**Outcomes:** Students will learn to evaluate what they recall from a lesson, as well as their own learning processes.

## Muddiest Point

Answer the question, "What was the muddiest point in the lecture (or reading)?"

**Read or distribute to students:** Reflect on today's lecture and answer the questions, "What was the muddiest point? What do you understand about that point? What do you not understand?"

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Select a lecture or reading that may have presented difficulties for students.
2. At the end of the lecture, or at the beginning of class for a reading, ask the students to write out answers to the question, "What was the muddiest point?" Let the students know how much time they have to answer. If you provide only a few minutes, answers will be brief, perhaps only a few words, yet will still give students a chance to reflect on their learning. If you provide additional time and encourage the students to write out what they do and do not understand about the "muddiest point," students will have the opportunity to engage in learning through that writing process.

**Outcomes:** In order to respond to this simple exercise, students will engage in higher order thinking, identifying and articulating what they do not understand.

written assignment adapted from Angelo and Cross, 1993

## One-Sentence Summary

In a single sentence, answer the questions "Who does what to whom, when, where, how, and why?" (WDWWWWHW) on a given topic.

**Read or distribute to students:** (Example) Summarize the hydroelectric power generation process in one sentence. First, answer the questions on the matrix provided by your instructor ("Who? Does what? To whom? When? Where? How? Why?"). The answer to the first question, "Who?," should be "water." Second, synthesize your answers into a single, grammatically correct sentence.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Select a topic or text that your students have studied recently.
2. Working as quickly as you can, answer the questions "Who did/does What to Whom, When, Where, How, and Why?" in relation to that question. Note the time it took you.
3. Next, turn your answers into a grammatically correct sentence that follows the WDWWWWHW pattern. Note how long this step took.
4. Allow your students twice the time you took to complete the two steps.
5. Give students clear directions on the technique before you announce the topic.

**Outcomes:** This assignment gives students practice "chunking" information—condensing it into smaller, inter-related bits that are more easily processed and recalled.

written assignment adapted from Angelo and Cross, 1993

## Picture Prompt

Explain in writing the processes or concepts visualized in a picture.

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| **Read or distribute to students:** Explain in writing the concepts, processes, or elements of the projected image. |

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Project an image that illustrates material covered in a reading or lecture. The exercise can be given at the beginning of class using material from a previous lecture or reading, or at the end of class using material from that day's lecture.
2. Do not provide any explanation of the picture after you have displayed it.
3. Give the students 5-10 minutes to write out their explanations.
4. Student papers may be collected for participation credit or to be quickly reviewed by the instructor to get a sense of what the class as a whole understands.

**Outcomes:** Through articulating in writing processes they can visualize, students will gain greater understanding of the relationships within the process.

## Punctuated Lectures

Listen, stop, reflect, write, and give feedback.

**Read or distribute to students:** At this point in the class session, take 2 minutes to reflect on your learning activities during the lecture. Consider these questions: How fully were you concentrating on the lecture? How well did you succeed in capturing the information you need in your notes? Next, take 2-3 minutes to write your assessment of what you are doing well to learn from the lecture and what might need to change, in your own actions or those of the professor, in order to help you learn.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Choose two spots within a lecture that introduces new material at which you can stop to allow student reflection.
2. At the first "punctuation," ask the students to reflect on the lecture. Give them a minute or two of silence for reflection.
3. Next, give the students 2-3 minutes to write out their reflection.

**Outcomes:** This activity was developed as a meta-learning technique, in which the students reflect on their mental and physical activities during the lecture, and what they might need to do to improve their learning process. The technique may also work as a reflection on difficult material and the making of connections between concepts.

written assignment adapted from Angelo and Cross, 1993

## RSQC2

Recall, Summarize, Question, Connect, and Comment.

**Read or distribute to students:**

1. Recall: At the beginning of class, ask students to make a list of what they recall as the most important or useful points from the previous class (1-2 minutes). Ask students to choose 3-5 of these points and rank them in order of importance (1 minute).
2. Summarize: Direct them to summarize as many of the most important points as possible in one sentence that captures the essence of the previous class (1-2 minutes).
3. Question: Ask them to jot down one or two questions that remain unanswered after the last class (1-2 minutes).
4. Connect: Ask students to explain in 1-2 sentences the connections between the main points and the goals of the entire course (1-2 minutes).
5. Comment: Invite the students to write an evaluative comment about the class. "What I enjoyed was…"; "What I found most/least useful…" (1-2 minutes).

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Choose which set of responses you will read closely (summaries, questions, connections, or comments). It is not necessary to read through and analyze all of them.
2. Focus your review of the responses and provide feedback to the class as a whole.

**Outcomes:** This technique provides students with a comprehensive framework for recalling and reviewing class sessions, as well as allowing them to engage their own learning behaviors.

written assignment adapted from Angelo and Cross, 1993

## Word Journal

Summarize the lecture in a single word. Write a paragraph to explain your word choice.

**Read or distribute to students:** Keep a journal for the semester in which you will summarize each lecture in a single word. You will follow that single word entry with a short explanation of why you chose that word for the lecture. You will complete your entry in the last five minutes of each class session. At the end of the semester, you should have a word entry for each lecture.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Give students five minutes at the end of each lecture to complete this exercise.
2. Collect the journals periodically to verify participation.
3. As an alternative, you may provide students five minutes at the beginning of the class session to summarize their out-of-class reading in the same way.

**Outcomes:** This exercise helps students learn to write concisely and "chunk" information for later recall.

written assignment adapted from Center for Teaching & Learning, U of Central Florida, 1993

**Ask the Winner**

Students who have answered a problem or understood a concept correctly explain their answer to students who have not answered correctly.

**Read or distribute to students:** If you answered the question correctly, raise your hand and keep it raised. If you did not answer correctly, find someone with a raised hand and listen to that person's explanation of how she solved the problem or understands the concept.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Provide a problem to solve or a concept to explain.
2. Give students 2-3 minutes to write out their answers.
3. After they have finished, provide the correct answer and ask students who have answered correctly to raise their hands.
4. Instruct students who have not answered correctly to find a student with a raised hand to get a better understanding of the concept or solution.

**Outcomes:** This exercise allows students to articulate verbally the concepts or problem-solving skills they have learned to an alternative audience (rather than the professor).

## Audio- and Videotaped Protocols

Demonstrate a protocol while being recorded on video.

**Read or distribute to students:** (Example) You have each been given a mathematical problem to solve. Prepare a ten-minute teaching demonstration outlining the steps needed to solve the problem. You will meet in your assigned group outside of class to record your demonstrations on video. A cell phone video will be sufficient. Your recorded videos should be submitted via email or a website like YouTube.

**Out-of-class time required:** Moderate

**Graded:** Not graded; Credit for participation

**Implementation: (**Example)

1. To help students develop effective ways to teach a mathematical concept, give each student a typical problem to solve.
2. Ask them to prepare a ten-minute teaching demonstration of the steps in the problem.
3. Next divide them into groups and ask each group to meet outside of class to record the demonstrations on video (using cell phones works fine).
4. Ask the students to submit their videos via email or online.
5. The instructor will choose five students randomly and review their videos.
6. During a class session, the instructor will use a few minutes from each video she reviewed to provide general feedback to the class and to provide a model for critiquing the videos.
7. Finally, she will ask the students in the groups to watch and critique their peers' video demonstrations.

**Outcomes:** This exercise provides practice in articulating a process or problem-solving skill before multiple audiences (the instructor, the peer group, the imaginary "student" audience). It provides immediate feedback to the students on their performance via the recorded video. Students gain experience in speaking within a given time constraint and with multimedia.

## Directed Paraphrasing

Paraphrase part of a lesson for a specific audience and purpose, using your own words.

**Read or distribute to students:**

*Example One:* In plain language and in less than five minutes, paraphrase what you have read about computer viruses for a vice president of a large insurance firm who is responsible for database security. Conclude your paraphrase with a recommendation on whether or not to spend money on better virus protection for thousands of workstations.

*Example Two:* First, in no more than two or three sentences, paraphrase the "punctuated equilibrium" theory of evolution advanced by Niles Eldredge and Stephen Jay Gould. Direct your paraphrase to a veteran science teacher who has taught the "modern synthesis" view for years and has never heard of this more recent theory. Next, write a paraphrase of the same theory but for a very different audience. Paraphrase "punctuated equilibrium" in two or three sentences for a bright seventh grader who knows a lot about dinosaurs but little about evolutionary theory.

**Out-of-class time required:** Moderate

**Graded:** Minus/check/plus or Letter grade

**Implementation:**

1. Select a concept that students have studied in some depth. The topic should carry implications outside the classroom.
2. Determine a realistic audience for a paraphrase of the topic, the purpose of the paraphrase, and the length of the paraphrase (in word count or speaking time).
3. Write or record your own response to the prompt as a "reality check." Can you write an effective paraphrase within the time limits?
4. As an oral assignment, different students may paraphrase different concepts over the course of the semester and then offer their paraphrases to their study groups or the class.
5. As a written assignment, instructor feedback may be simplified by a two-part process in which the instructor a) identifies patterns of clear points and patterns of muddy points in the class as a whole and b) provides each student a checklist of how they fared on those particular points.

**Outcomes:** Students use paraphrase for a purpose: in order to distill relevant information as evidence for a larger argument or line of reasoning.

oral assignment adapted from Angelo and Cross, 1993

## Everyday Ethical Dilemmas

Take a position on an ethical dilemma and justify your position to a classmate

**Read or distribute to students:** (Example) Imagine that you are the chief operating officer (COO) of a large city hospital. Faced with skyrocketing costs, you must decide either to make drastic reductions in services for the indigent and uninsured working poor in your community or to cover those costs by passing them along to insured customers. At the next class session, you will briefly explain (7 minutes or less) to a classmate what you would do and how you would justify your decision to the hospital's governing board. You may use notes from a 3x5 notecard as a memory aid, but do not write out your response in full.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Find or create a case that can be posed in a few lines.
2. Give the students copies of the case and, perhaps, 3x5 notecards.
3. Instruct the students to prepare their remarks for the next class session.
4. At the following class session, allow the students to pair up.
5. Each student will orally present her remarks to her partner in 5-7 minutes.

**Outcomes:** By verbally articulating their ethical decisions clearly and concisely, students become aware of how their personal values impact professional decisions.

oral assignment adapted from Angelo and Cross, 1993

## Jigsaw (Group Experts)

As a group, become "experts" on an assigned topic. Teach that topic to a new group of students.

**Read or distribute to students:** Students have been divided into groups and assigned topics. Each group should work together outside of class to become experts on their assigned topic. After a given amount of time for outside research, each student will teach her topic to a different group, in a 5-10 session.

**Out-of-class time required:** Minimal

**Graded:** Not graded; Credit for participation

**Implementation:**

1. Divide the class into groups of 5-7 students.
2. Assign each group a topic to research outside of class.
3. A few weeks later, mix up the groups so that each group now contains 5-7 students with different areas of expertise.
4. In a series of 3-7 class sessions, allow one or two students per session to teach their topic to the new group.

**Outcomes:** Through the process of preparing and delivering an oral lesson to their peers, students engage the material actively and receive immediate feedback from their peer group on the clarity of their understanding and delivery.