**First-Day Exercises: Motivate Class Preparation, Discuss Course Design, and Show You Care**

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Abstract

Two class exercises are adapted from classic psychology experiments to give students first-hand experience in how class preparation makes it easier for them to comprehend and recall information. The active learning experiences are applicable regardless of course content and are especially beneficial to students early in their higher education experience. The goals of the exercises are to increase student motivation for class preparation, encourage student success, and begin building student trust in the instructor’s course design and caring for students. The use of these exercises can be an active learning way of introducing a first day discussion of course design.

*Keywords:* motivating class preparation, first-day exercises, active learning

Completing class preparation work (e.g., reading, homework) is key to many class structures. Discussions, seminars, in-class exercises, and flipped classrooms operate at a deeper cognitive level when students have completed the class preparation work (He et al., 2016). Unfortunately, many students do not do this on a consistent basis (Sappington et al., 2002). Students may not see the point, especially if they are not going to be graded on their preparation. Some students have had the experience that the teacher will summarize the material during a lecture, so they perceive no downside to skipping the class preparation. Other students have developed a study habit of reading just before the exam (Fernald, 2001). They find it inefficient to read material prior to that studying period. Still others have life issues (e.g., work, family) that make consistent class preparation a lower priority.

The exercises described below can be used in any course but are especially appropriate for courses with active learning or innovative course designs, gateway courses, student orientation workshops, and professional development courses. Early undergraduate students, particularly first year, sophomores, or transfer students, are most likely to find these exercises valuable, but this exercise has been used successfully with business school juniors and seniors.

**Theoretical Foundation/Teaching Implications**.

Research suggests several ways faculty can motivate students to prepare for class. While instructors can explain to students the value of reading before class, Sappington et al. (2002, p. 273) found “[i]n general, students are reluctant to read their assignments, even after urging from instructors.” Quizzes, participation points, extra credit points, and graded homework are also regularly cited in educational research as ways to motivate college students to prepare for class (Clump et al., 2004). While evidence suggests these activities do increase student class preparation, the downside is these assignments can take precious faculty time to prepare, administer, grade, and record.

A personal, active learning experience can be a positive approach to motivate students and help them to see the causal connection between class preparation and class performance. In keeping with experiential learning theory (Kolb, 1984), two short exercises are explained that give students a concrete experience, a reflection on that experience, and an introduction to drawing conclusions from their experience. The exercises are particularly useful as first-day icebreakers that encourage students to be active participants in class and begin to build a trusting bond with their instructor.

The active learning exercises are adapted from experiments conducted by Bransford and Johnson (1972) and Craik and Tulving (1975). These papers are classics in psychology about comprehension, learning, and memory and how prior exposure to concepts enhances future learning. Bransford and Johnson (1972) demonstrates the enhanced recall that comes from generally knowing about a topic before being given specific information. For many instructors, this is often why reading is assigned before class time. Reading about a topic before class, even if it is not deep comprehension, can develop a framework into which future details can be stored. This neural organization increases the likelihood of comprehension of the work done in class and increases the availability of that knowledge during a later exam or assessment. In a similar fashion, experiments crafted in Craik and Tulving (1975) showed that the deeper the thought process is when first learning a concept, the better the recall for the concept later. This reinforces the positive learning effect of pre-class assignments like quizzes and homework in the student learning process. While faculty can summarize this research to students to try to motivate the completion of class preparation assignments, the value of the active learning exercises comes in the student experience. One in-class exercise was adapted from each of the above studies.

In addition, an important learning objective for the first day of class is building a relationship between student and instructor (Curtis and Moore, 2018; McKinley and Jones, 2014). The use of these exercises shows that the instructor has deliberately considered how to design the course with the intention of trying to help the student do well. The course is not designed to grade the student but rather is there to optimize the student’s learning. The active learning exercises aid in demonstrating the instructor as caring and thoughtful about the student’s individual educational experience. Chasteen Miller and Mills (2019, p. 82) find “[t]eaching strategies that were engaging and responsive trumped faculty demeanor as a determining factor in students seeing a faculty member as ‘caring.’” Developing supportive relationships can also permit instructors to include rigorous content in the course because the perceived caring facilitates the struggle to master difficult material (Burke-Smalley, 2018; Meyers, 2009). Effective teaching through active learning exercises can be perceived as engaging, trying to improve student learning, and is seen as active and authentic instructor caring by students (Chasteen Miller and Mills, 2019). The use of these exercises generates an opening to a further discussion of how instructor’s intentional course design increases student engagement and learning.

**Learning Objectives**

Students will experience a change in attitude toward pre-class preparation. This attitudinal shift will result in greater preparation including completing assigned readings, additional quizzes, and coursework.Student motivation and course design are particularly relevant to this session.

**Exercise Overview**

We encourage instructors to use these exercises on the first day of class or very soon thereafter. Exercise 1 is designed to encourage students to complete reading before class. Exercise 2 is designed to motivate the completion of pre-class applied assignments, activities, or exercises. We suggest using Exercise 1 before Exercise 2 as Exercise 1 is a simpler explanation and prepares students for deeper thinking when exposed to Exercise 2. As the exercises are focused on the effects of doing class preparation work, these exercises are explained for use in face-to-face classes, but they could easily be adapted for use in an online environment to explain the sequential nature of an online course design.

Preparation for these exercises is minimal and mostly involves copying. Appendices A and B explain Exercise 1 including detailed instructions for running the exercise and debriefing. Appendices C and D provide similar information for Exercise 2.

**Running the Exercise**

Each exercise takes approximately 20 minutes to run in a 45-student classroom and follows a similar format: (1) exposure to the experimental task, (2) a distractor task, and (3) a recall task. Each exercise is delivered in the same manner. The timing listed below has an expanded debriefing time as compared to the usual use in the classroom to allow for additional questions that may come because of participant engagement in the session.

*Exercise 1*

Step 1 – 5 minutes

Inform students they will complete an in-class activity. Pass out sheets of paper with the experimental task printed on it (see Appendix A for exercise 1 and Appendix C for exercise 2). Students should read the paper and turn over the paper and set it aside when finished.

Step 2 – 2-3 minutes

Pass out sheets of paper with the distractor task printed on it. Students complete the distractor task and set aside the paper.

Step 3 – limit to 3 minutes

Pass out the recall task. Without looking at the original task, students should write as much of the information from the experimental task as they can recall.

Step 4 – 18-20 minutes

Students should turn over the experimental task sheet and compare the original task to their recall to assign themselves a grade (A-F) on how well they were able to recall the information. Most students grade themselves as less than a C. Ask students why they thought students as a whole did so poorly on the recall. Student responses are surface level at first and sometimes focus on the distractor task. It is important to delve into what they see as the purpose of the distractor task to bring the learning to the difference between how we learn in the real world in comparison to rote memorization. If research methodology is a significant part of the course, this area can be explored more deeply as it relates to the content of the course. Students often report how the experimental task paragraph was confusing. They find it hard to figure out the point of what is being described in the experimental paragraph.

When the student responses die down, ask the students if the title “Laundry” would have made a difference. This usually causes an immediate reaction of agreement that it makes it much easier. Prompt them for reasons why it makes it easier and again write the answers where all students can see them. Guide the students in creating themes out of the reasons. Themes that students often report are: knowing the title makes everything in the procedure make more sense, the title makes the information more relatable, and the title links the information together. Instructors should end the discussion with explaining that there is a course design reason for completing reading assignments before class, namely that it improves student learning. Clearly establish the link between Exercise 1 and the students’ reading preparation for class during this discussion. This discussion also provides an opportunity for the instructor to introduce other ways in which course design positively affects student learning (e.g., teaching philosophy, class activities, seminar style, flipped classroom).

*Exercise 2*

Steps 1 and 2 are the same as in Exercise 1 and total 8 minutes.

Step 3 - limit to 3 minutes

Similar to Exercise 1, pass out another piece of paper. This time, students should write as many adjectives as they can recall from Step 1.

Step 4 - 18-20 minutes

Ask students if there is a pattern to the adjectives they remembered, and write student responses where all can see them. If you have additional time, you may want to have them discuss this in small groups first, but this is not necessary. Students who have completed Exercise 1 first seem to be quicker at being able to do this analytical skill. The resulting answers can be a bit random but will usually include the following points.

1. Students who have not completed Exercise 1 will sometimes focus on the distractor task as the reason for their inability to recall the adjectives. Restating the question to look for a pattern in the adjectives they did remember helps here.
2. Students sometimes say they remembered the positive or negative words more. Theoretically, this result happens for a subset of students who have not experienced a strong enough encoding difference between looking at letters in the words and the increased cognition of applying the adjectives to people. Craik and Tulving’s (1975) research found that when thinking is deep enough, any effect on recall from the emotion of the words themselves is eliminated. If students try to stop here, prompt them to see if anyone sees another pattern.
3. Students notice that they remembered more of the adjectives that required them to apply them to people than if they just counted letters in the words. This is the major finding of Craik and Tulving (1975). Recall is enhanced when a more elaborate thought process is done in initial encoding of information. The more elaborate thought process increases the availability of the information later on. This means doing homework or similar types of activities before class increases the likelihood of being able to recall terms and concepts later on in class, on assignments, or in exams.

Similar to the summary for Exercise 1, clearly linking the student personal experience to the general research findings solidifies the value of the experience in the students’ minds and provides additional incentive for the value of completing the assigned tasks before coming to class.

**Session Description**

A brief introduction will start the session. Session participants will act as students in the class and directly experience the two exercises described above. Each exercise will require 30-45 minutes to complete depending on the length of the debriefing and the number of questions asked. The session would benefit from 90 minutes, though it could be completed in 60 minutes.

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Appendix A

Exercise 1 Instructions - Motivating Class Preparation Reading

(Running the Exercise: approximately 10 minutes)

Step 1:

Tell students they are going to complete an in-class exercise. This helps to mitigate any anxiety they might experience about the exercise. Pass out a piece of paper with the following instructions and tell students to follow the instructions on the page.

**Do not put your name on this page.**

**Read the following paragraph.**

The procedure is actually quite simple. First you arrange things into different groups. Of course, one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities that is the next step, otherwise you are pretty well set. It is important not to overdo things. In the short run this may not seem important but complications can easily arise. A mistake can be expensive as well. At first, the whole procedure will seem complicated. Soon, however, it will become just another facet of life. It is difficult to foresee any end to the necessity for this task in the immediate future, but then one never can tell. After the procedure is completed, one arranges the materials into different groups again. Then they can be put into their appropriate places. Eventually they will be used once more and the whole cycle will then have to be repeated.

**When you are done reading the paragraph, flip this paper over.**

In larger classes (> 45 students), you may want to collect the papers from students after everyone has flipped over the paper to prevent them from looking back at this page in later steps. In small classes, this step is usually unnecessary if you watch students while they are completing the exercises. This step takes approximately 5 minutes.

Step 2:

Administer a distractor task that uses some cognitive energy. We use a simple addition task as shown below. Once again, pass out a separate sheet of paper with the following instructions and tell students to follow the instructions on the paper. We suggest increasing the font size to 72-point font for the calculation to make it easy for students to complete on the page.

**Do this math problem.**

 **675508**

**+ 244969**

**When you are done with the math problem, flip this paper over.**

Students may ask if they can use their calculators. Tell them they can use a calculator if they want. This section of the exercise takes approximately 2-3 minutes. If you would like to save the use of paper and you have the time, you may have students copy this simple math exercise on to the paper used in step one and then complete it.

Step 3:

Pass out a new sheet of paper with the recall instructions below and tell them to follow the instructions.

**Write down, with as much detail as you can remember, the procedure from the paragraph you read before you did the math problem. Do not look back at the initial paragraph to refresh your memory.**

**When you are done with this activity, flip this paper over.**

Once again, if you want to save paper, you could give this prompt verbally or through technology and have students write on the back of the original paragraph. If you choose this method, we suggest removing the instruction to flip the paper over as this will expose the original paragraph. While this method saves paper, the downside of doing this is it is tempting for students to flip over the paper to peek at the original paragraph while doing the recall. Having students do this on a separate sheet of paper reduces this urge, especially in large classes where students feel relatively anonymous, and thus makes the exercise more effective. Students will often groan when they see the recall prompt. Most students make some attempt (1 minute) and then give up. Some students will want to spend considerable time (more than a few minutes) doing this. You may have to ask these students to stop in order to keep class interest moving forward. We recommend limiting this part of the exercise to 3 minutes.

Tell students to hold on to the current paper with their recall attempt. If you have collected the paragraph used in step 1, hand back those back to students. If you have not collected the paragraph used in step 1, now tell students to compare their answer with the original paragraph. Follow this with the debriefing for Exercise 1.

Appendix B

Exercise 1 Debriefing - Motivating Class Preparation Reading

(Running the Debriefing: approximately 10 minutes)

Ask students compare their recall of the information to the original paragraph. Then ask them to grade themselves using letter grades (e.g., A, B, C, D or F) on how well they were able to recall the procedure from the paragraph. Then ask for a show of hands for each grade. This can be intimidating for some students, so take a little bit of time to look around the room to allow students to see if they want to volunteer their grade. A few students may give themselves an “A” or “B”, but the majority will give themselves a “C” or lower. Ask students why they thought students as a whole did so poorly on the recall. You can do this with the class as a whole or separate students into groups depending on class size, time, or the style of class taught. If you are planning to use student groups frequently in the rest of the course, it can be beneficial to introduce students to that structure here. Student responses to this prompt usually take two tracks and should be written for all students to see.

1. Students will note the distractor task. When students bring this up, ask them why this task was there. At least one student will see that the point of the task was to get them to focus on something else before doing a recall. Explaining that this makes the Exercise 1 little harder than just a short-term memory test and that it more closely resembles real-world learning can be quickly completed. If research methodology is a significant part of the course, this area can be explored more deeply as it relates to the content of your course.
2. Students often report that the procedure in the paragraph is confusing. They frequently mention the multiple groups and how the activity seems to cycle around. Students generally find it hard to figure out the point of the paragraph. Once the class has seemed to exhaust the list of difficulties, ask the students how much easier it would have been to do this exercise if the title “Laundry” had been written at the top. This usually causes an immediate reaction of agreement that it makes it much easier. Again, prompt them for reasons why it makes it easier. This question can be done with the entire class or in student groups. Write student answers where everyone can see them. Ask for students to make themes of the various answers. General themes that students often report are that knowing the title makes everything in the procedure less confusing, more relatable, and links the information together.

The increased comprehension and memory that comes from understanding the topic before acquiring new information in this exercise is analogous to why instructors want students to do class preparation reading before they come to class. Once students have identified this for themselves, it is easier to make the point of how class preparation reading will benefit them. Clearly establishing the link between Exercise 1 and their preparation for class during this discussion helps drive home this point. It also models the Kolb (1984) experiential learning process of drawing conclusions from the active learning experience. Instructors should end the discussion with explaining that there is a reason for the design of the course they are taking. This provides an opportunity for the instructor to introduce other ways in which the course design positively affects student learning (e.g., teaching philosophy, class activities, seminar style, flipped classroom). This is particularly apropos for the first day of class but will add to the length of time to complete the debriefing.

Appendix C

Exercise 2 Instructions **–** Motivating Class Preparation Activities

(Running the Exercise: approximately 10 minutes)

This exercise follows the same format as the previous exercise in Appendix A but is a little more nuanced which is why we suggest that if you are going to use both exercises, you use Exercise 1 in Appendix A first. The same suggestions about saving paper in Appendix A apply here as well.

Step 1:

Using the class management guidelines in Appendix A Step 1 above, pass out a piece of paper with the following instructions and tell students to follow the instructions on the page.

**Answer the following questions about the adjective to the left of the question.**

impressive How many “e”s are in this word? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

orderly Would this word describe one of your parents? \_\_\_\_\_\_\_\_\_\_\_\_

beautiful Does this word contain the letter t? \_\_\_\_\_\_\_\_\_\_\_\_

uncooperative Does this word describe you? \_\_\_\_\_\_\_\_\_\_\_\_

popular Can you spell this word without using an “e”? \_\_\_\_\_\_\_\_\_\_\_\_

miserable Does this word apply to the person sitting closest to you? \_\_\_\_\_\_\_

lethargic How many vowels are in this word? \_\_\_\_\_\_\_\_\_\_\_\_

evasive How many consonants are in this word? \_\_\_\_\_\_\_\_\_\_\_\_

generous Is this a word that you often use to describe yourself? \_\_\_\_\_\_\_\_\_\_

conceited Would you use this word in reference to your best friend? \_\_\_\_\_\_\_

**When you are done with answering the questions, flip this paper over.**

Step 2:

Again, using the class management guidelines in Exercise 1 step 2, pass out the following distractor task on a separate sheet of paper and tell students to follow the instructions on the page. We suggest increasing the font size to 72-point font for the calculation to make it easy for students to complete on the page.

**Do this math problem.**

 **983656**

**+ 244969**

**When you are done with the math problem, flip this paper over.**

Step 3:

Finally, using the class management guidelines in Exercise 1 step 3, pass out a new sheet of paper with the recall instructions below and tell them to follow the instructions.

**Recall as many of the ten adjectives from the first page as you can. Do not look back at the initial questions to refresh your memory.**

**When you are done with this activity, flip this paper over.**

If you have a large class and have collected the papers from Exercise 2 step 1, show the questions on a screen to the whole class to avoid having to match individual responses on papers back to students. Follow this with the debriefing for Exercise 2.

Appendix D

Exercise 2 Debriefing **–** Motivating Class Preparation Activities

(Running the Debriefing: approximately 10 minutes)

Ask students if there is a pattern to the adjectives they remembered, give them a couple minutes to think about this, and write student responses where all can see them. If you have additional time, you may want to have them discuss this in small groups first but this is not necessary. Students who have completed Exercise 1 first seem to be quicker at being able to do this analytical skill. The resulting answers can be a bit random but will usually include the following points.

1. Students who have not completed Exercise 1 will sometimes focus on the distractor task as the reason for their inability to recall the adjectives. Restating the question to look for a pattern in the adjectives they did remember helps here.
2. Students sometimes say they remembered the positive or negative words more. Theoretically, this result happens for a subset of students who have not experienced a strong enough encoding difference between looking at letters in the words and the increased cognition of applying the adjectives to people. Craik and Tulving’s (1975) research found that when thinking is deep enough, any effect on recall from the emotion of the words themselves is eliminated. If students try to stop here, prompt them to see if anyone sees another pattern.
3. Students notice that they remembered more of the adjectives that required them to apply them to people than if they just counted letters in the words. This is the major finding of Craik and Tulving (1975). Recall is enhanced when a more elaborate thought process is done in initial encoding of information. The more elaborate thought process increases the availability of the information later. This means doing homework or similar types of activities before class increases the likelihood of being able to recall terms and concepts later in class, on assignments, or in exams.

Similarly to the summary for Exercise 1, clearly linking the student personal experience to the general research findings solidifies the value of the experience in the students’ minds and provides additional incentive for the value of completing the assigned tasks before coming to class.