Activity: How to Plan a Worksheet

Activity Type: Group problem-solving plus mini-lectures

Goals: To give discussion leaders tools to make an excellent default activity

Abstract:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Pass out worksheets, get people in groups,</td>
<td>10 min</td>
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<tr>
<td>work on question 1</td>
<td></td>
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<tr>
<td>List answers on board (or have assistant do</td>
<td>5 min</td>
</tr>
<tr>
<td>listing)</td>
<td></td>
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<tr>
<td>Lecture on simplified Bloom’s Taxonomy,</td>
<td>20 min</td>
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<tr>
<td>code list above</td>
<td></td>
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<tr>
<td>Have class complete worksheet</td>
<td>15 min</td>
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<tr>
<td>Discuss techniques for running a worksheet</td>
<td>5 min</td>
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Time needed: 60 minutes

Materials needed:
- Worksheet on how to make a worksheet
- Whiteboard markers

Before meeting:
1. Re-learn Bloom’s Taxonomy:
   a. The taxonomy was proposed in 1956 by Benjamin Bloom, an educational psychologist at the University of Chicago.
   b. Learning at the higher levels is dependent on having attained prerequisite knowledge and skills at lower levels (Orlich, et al. 2004).

During meeting:
(12 min) Let’s talk now about an activity that you are likely to use a lot during discussions. I call it a worksheet. Some of the benefits of a worksheet are:
1. They don’t require special supplies
2. Students can print their own from your web page
3. Students feel like they are working on lecture material (even if you have higher motives)
4. You can use questions to teach study strategies

So now that I said all that, how about we work on a worksheet on how to make worksheets! (Pass out worksheet). Start on the first question, and stop where it says “wait here.” (Walk around groups, encourage)

(10 min) Everyone done? Okay, let’s put up a list of the ideas you’ve had. Nandita, do you have good handwriting? Would you be willing to put up some items? Thanks! Okay, give me two good items on your list. (walk around the room, give candy for good answers). How about this group? And this? Any additional ideas to share?

(10 min) Now I’m going to torment you all with a quick lecture. The triangle I’ve given you here is an oversimplification of one outlined by Benjamin Bloom in 1956, called Bloom’s
Hierarchy. The idea is that there are different levels of student understanding. The most basic level is called “memorization,” indicating students can remember and restate lecture material. The next level is “integration,” which we consider understanding well enough to combine information from different lectures or topics appropriately. The highest level is “novel,” where when the student is presented with a new situation, they can apply the concepts from lecture appropriately.

Do you have any questions about these ideas?
(15 min) Okay, let’s take this list we’ve made in question 1 and score each one. What level are these activities usually at? Remember, something can be memorization, but be hard or easy.

(15 min). Time for another little lecture. I call this one the “20 minute rule.” The idea is that people cannot focus with intensity for longer than 20 minutes. Therefore, you should never ask students to do one activity for more than 20 minutes. You can use just a worksheet in a discussion, but it is important to change gears every 20 minutes. A classic tool I use is to balance small group work with short explanations and board writing. I have students work for 15 minutes on the first worksheet question. I walk around the room and say encouraging things, but try not to provide any answers. Once I see students are done working, I ask for groups to volunteer their answers. If all the groups seem to have handled the question well, I can either have them start the next question, or ask them a twist on the current question. I can also make sure they have their lecture notes out and are annotating their notes with any useful information. If they are clearly stuck, it’s time for a little lecture – always with some sort of demo or drawing on the board to help them visualize.

So, besides the group work / listen / group work technique I often use, what are some other ways to keep the 20 minute rule while using a worksheet? What are some things to avoid?
Things to avoid:

- Worksheets too long to finish (I usually have about one question for each of last three lectures)
- Creating one group per question, which leads to giant groups. Assign one question to multiple groups, and they can compare answers.
- Worksheets with memorization-level work. Discussion is time to make connections and encourage student interaction. Don’t make it a look-it-up-in-your-notes time.

For the final question, work together to list resources. I’ve listed the one I use the most – web pages from past years. But see what else you can come up with, and I’ll insert help where I can.

As a final comment – What did you notice about how I ran this activity involving a worksheet? What about my behavior during the group work? What about the length of the worksheet?

1. Split up lecture and group work
2. I kept moving among groups, encouraging without providing answers
3. I kept the worksheet short. 3 hard questions is the most you can do in an hour.
A Worksheet on How to Build a Good Worksheet

1. List some possible sorts of things you can have on a worksheet. I’ve given you one example to start you off:
   
   a. Old exam questions
   b. 
   c. 
   d. 

(Wait here until your instructor directs you to continue)

The 20 minute rule:

2. Resources for good worksheet questions:
   - Discussion leader web pages from past terms
   
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