

Creating more items more quickly in Canvas

Part I of this tutorial gives some tips on writing more questions more quickly. Part II outlines how to do it in Canvas to create larger groups of questions more quickly. This tutorial was jointly created with Cal Garbin, John Weaver Professor of Psychology, supplying the item development techniques, and Sydney Brown, assistant director, Center for Transformative Teaching, integrating the techniques for use with Canvas. Questions about developing test items should be directed to cgarbin1@unl.edu. Questions about using these approaches in Canvas may sent to sbrown3@unl.edu.

Part I Multiplying Items

No matter where you get your multiple choice items (write them yourself, use the item bank from your current text, get item banks from other texts, gifts from friends, etc), sometimes it is useful to have more items!

It is useful to remember that item banks are written to cover the material in an efficient number of items. Often, when you want more items, you are not looking for *efficient coverage*. What you're probably looking for is **redundant coverage**. And that is our clue for how to multiply multiple choice items!

Below are some examples of how to start with an item and turn it into multiple items that cover the same content domain. For a specific test we are likely to only want to include one or a few of that set of items, but for building a set of alternate tests, or for providing practice with the content domain, **more is better!**

If you have "enough items" you can sample from the same (large) item pool for both practice and assessments. Or, you can have them do enough "reps" that they are likely to have learned the material (say, if proctored testing is not available, just to pick an example...). One nice feature of using the same item bank to practice and test or to practice extensively, is that you can tell students, "the more you practice, the more likely you will see familiar items again". Also, the structure of similarities and differences among items constructed this way promotes "reading every word, every time".

EG#1 Write sets of questions with the same array of responses

Canvas question type: Multiple-Choice

One strategy is to write a set of questions so that each response is correct for one of them.

This example is taken from a chapter on perception.

The original question and choices was:

_____, or expectations, can allow us to recognize objects faster.

- a. Schema
- b. Looming
- c. Proximity
- d. Size constancy

I looked through other nearby questions and thought about the question and added a few possible answers to the list.

- e. Motion parallax
- f. Retinal disparity
- g. Expectancy

Now I have 7 response options for the question. I like to have longer lists of response options. Because, the idea is to get as much **redundant domain coverage** as possible and to **engage the student in learning for longer**, having to take longer to answer each question isn't a problem!

Last step – write the items for which the other six response options are the correct answers. Now you have seven questions! **Each of the 7 resulting questions** uses one of the stems below and all seven of the response options above.

Question 1 1 pts

_____, or expectations, can allow us to recognize objects faster.

- Schema
- Retinal disparity
- Motion parallax
- Size constancy
- Proximity
- Looming
- Expectancy

- _____ a position or motion cue that tells us something is approaching.
- _____ items that are closer together are more likely to part of the same group
- _____ allows us to perceive an object as being the same size despite a change in the size of the retinal image.
- _____ a position or motion cue that uses speed to identify position
- _____ uses differences between retinal images to identify position
- _____ things that are more common can be recognized more easily

EG#2 Combine for “compare and contrast”

Another way to add items and also make items more difficult and a bit more conceptual is take two items and write them together into a third question, a sort of “compare and contrast” item.

Start with these two questions...

_____, or expectations, can allow us to recognize objects faster

_____ things that are more common can be recognized more easily

Question 7 1 pts

[Select] _____, or expectations, can allow us to recognize objects faster, while

[Select] _____ means that things are more common can be recognized more easily.

Where both have the following seven possible responses:

- a. Schema
- b. Looming
- c. Proximity
- d. Size constancy
- e. Motion parallax
- f. Retinal disparity
- g. Familiarity

And write them into a single item...

_____, or expectations, can allow us to recognize objects faster, while _____ means that things that are more common can be recognized more easily.

Question 2 1 pts

Fill in the blanks below with the correct terms from the following group of terms:

Schema	Motion parallax
Looming	Retinal disparity
Proximity	Expectancy
Size constancy	

[] _____, or expectations, can allow us to recognize objects faster, while

[] _____ things that are more common can be recognized more easily.

And use the same seven response options as above, but now ask them to pick the two answers that would fit in the blanks. This approach puts students in the position of identifying and separating similar concepts like these – which is a little more difficult than a single-response style question.

Canvas question types: Multiple-choice, Multiple Drop-downs, Multiple fill-in-the-blank, and Matching may be used for this effect. If using multiple-choice, list the responses like this:

- a. schema, familiarity
- b. proximity, looming
- c. familiarity, schema

Question 3	1 pts
_____, or expectations, can allow us to recognize objects faster, while ____ means that things that are more common can be recognized more easily.	
<input type="radio"/> schema, familiarity <input type="radio"/> size constancy, looming <input type="radio"/> familiarity, schema <input type="radio"/> looming, schema <input type="radio"/> motion parallax, schema	

Using this approach forces students to pick the correct answer for each part of the question. Students are often better at the “contrast” part than the “compare” part of compare and contrast performance. If you use both this kind of item and the single-response type shown above, they are practicing both “compare” and “contrast” across items!! If your testing system has "matching" type items, you can also use it to practice identifying and separating similar concepts like these!

EG#3 “Not a...” for more compare and contrast practice

I like “not a...” questions... they are a another kind of practice with “compare & contrast” types of thinking!

For this example we need only one question to build 5 items...

Which of the following is not a sense?

We are going to build 5 items out of this one stem. Here’s how...

Every one of the 5 items will include **all of these**

- Hearing
- Vision
- Olfaction
- Touch
- Taste

So, the first item would look like ... (“conduction” is the right answer)

Which of the following is not a sense?

- Hearing

Question 4	1 pts
Which of these is not a sense?	
<input type="radio"/> Conduction <input type="radio"/> Hearing <input type="radio"/> Vision <input type="radio"/> Olfaction <input type="radio"/> Touch <input type="radio"/> Taste	

Each item will include **one** of these (the right answer)

- Analgesia
- Kinesthesia
- Synesthesia
- Induction
- Conduction

A second item would look like ... (“analgesia” is the right answer)

Which of the following is not a sense?

- Hearing

- Vision
- Olfaction
- Conduction
- Touch
- Taste

- Vision
- Analgesia
- Olfaction
- Touch
- Taste

Again, you could add items by using a “pick all the correct answers” version, maybe with the question...

Pick each of the following that is not a sense?

EG#4 By writing more involved stories, you can use each story you write for several items....

The point of the item set is to practice identifying 4 kinds of variables – causal variables, effect variables, subject variable confounds, procedural variable confounds. Here’s a story written around 6 variables (see below).

Mary has designed a study to look at the causal relationship between immediate environment and feelings of positivity. All participants were run on the same day, between 11:00 am and 1:00 pm. Mary allows participants to decide whether they will complete the packet while sitting at one of several picnic benches outdoors in the library patio or indoors at one of the individual carrels in the main study room or the library. Mary is working with two other researchers, and the bulk of the packet is collecting data for them. The packet being completed by those outside is about attitudes towards sunbeams and unicorns, and has the 10 positivity questions for Mary’s study at the end. The packet being completed by those inside is about attitudes towards rain clouds and flesh-eating viruses, and has Mary’s 10 positivity questions at the end. Mary noticed that nearly all the females chose to complete the questionnaire inside and the males were about evenly split between indoors and outdoors. She also noticed that people sitting inside tended to be coming from the cafeteria and those sitting outside tended to go to the cafeteria after they were done.

First set of 4 items from this story – telling what kind of variable is each of the six variables in the story...

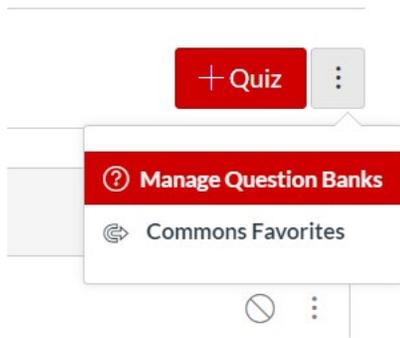
For the first set of 4 items, we would use the following 4 stems...

1. Pick the intended causal variable
2. Pick the intended effect variable
3. Pick all the subject variable confounds
4. Pick all the procedural variable confounds

For each item, these would be the six response options...

- a. Before vs after eating lunch
- b. Immediate environment
- c. Sex of the participant
- d. Feelings of positivity
- e. Answering positive questions (sunbeams & unicorns) vs negative questions (rain clouds and flesh-eating viruses)
- f. Sitting alone (carrel) or with a group (picnic table)

Question 5	1 pts
<p>Mary has designed a study to look at the causal relationship between immediate environment and feelings of positivity. All participants were run on the same day, between 11:00 am and 1:00 pm. Mary allows participants to decide whether they will complete the packet while sitting at one of several picnic benches outdoors in the library patio or indoors at one of the individual carrels in the main study room or the library. Mary is working with two other researchers, and the bulk of the packet is collecting data for them. The packet being completed by those outside is about attitudes towards sunbeams and unicorns, and has the 10 positivity questions for Mary’s study at the end. The packet being completed by those inside is about attitudes towards rain clouds and flesh-eating viruses, and has Mary’s 10 positivity questions at the end. Mary noticed that nearly all the females chose to complete the questionnaire inside and the males were about evenly split between indoors and outdoors. She also noticed that people sitting inside tended to be coming from the cafeteria and those sitting outside tended to go to the cafeteria after they were done.</p>	
<p>What is the intended causal variable?</p>	
<p><input type="radio"/> Before vs after eating lunch</p>	
<p><input type="radio"/> Immediate environment</p>	
<p><input type="radio"/> Sex of the participant</p>	
<p><input type="radio"/> Feelings of positivity</p>	
<p><input type="radio"/> Answering positive questions (sunbeams & unicorns) vs negative questions (rain clouds and flesh-eating viruses)</p>	
<p><input type="radio"/> Sitting alone (carrel) or with a group (picnic table)</p>	



Course Question Banks

EG#4

No Questions
Last Updated: Mar 23 at 2:51pm

EG#3

No Questions
Last Updated: Mar 23 at 2:50pm

EG#2

No Questions
Last Updated: Mar 23 at 2:50pm

EG#1

No Questions
Last Updated: Mar 23 at 2:50pm

- (3) Go to the “Unfiled Questions” question bank to copy the template items into the question banks. *Note: When you go to copy the same template item a second time into the same new question bank, it will appear as “grayed out,” but don’t worry, you can still make the copy.*

Last Updated: Feb 2, 2018 at 10:37am

Unfiled Questions

10 Questions
Last Updated: Mar 23 at 2:32pm



EG#1	1 pts
<p>_____, or expectations, can allow us to recognize objects faster.</p>	
<p>move/copy question to another bank</p>	

- (4) Go into the question bank and edit the items
- (5) Create a quiz/exam for students by pulling from the question bank at random, manually selecting particular items, or selecting all the items.