The 4S Approach to Task Design

(From Larry Michaelsen et. al., *Team-Based Learning)*

1. **Significant Problem**
2. **Same Problem**
3. **Specific Choice**
4. **Simultaneous Report**

1. **Significant Problem**: What are the kinds of decisions that experts typically have to make in your discipline? (Make an analysis? Render a judgment? Determine the consequence of new phenomena or data?) Your answer to this question will be a good guide for identifying "significant" problems. Most often the decision takes the form of "Given X information, what should I do in this new situation?" Framing your content as "actionable information" will help students see the relevance of what they are asked to read, because they will experience immediately its benefits in decision-making. Design tasks around specific, important actions that students need to be able to perform when they leave your course—your tasks are giving them practice en route to becoming experts.

2. **Same Problem**: Group assignments are truly effective only if they inspire discussion between as well as within groups, and this will only happen if they have a common frame of reference. When students hear that other groups decided differently, given the same question and having access to the same information, they will be interested in hearing what those groups have to say about their decision.

3. **Specific Choice**: Framing the problem/decision as a choice among limited options will raise the stakes and improve the focus of students. A specific choice requires comparative analysis, unlike an open-ended, constructed response which opens the door to lazy thinking with no consequence. The choice format ensures that students will get immediate, focused feedback, which is an important motivating force.

4. **Simultaneous Report**: One way to avoid the deadly sequential report (where many teams will be tempted just to say "I agree" is to create a mechanism by which groups report their answers simultaneously and visibly. Now you and the students get all the data at once and can begin processing it as a whole class—rather than just a series of conversations between the instructor and individual groups. A side benefit is that when students can immediately say whose answers differed from their own, they will be ready to engage in cross-group discussions.

Task formats for 4 S Decisions

Select from limited options (e.g. multiple choice)

Ranking

Best Answer

T/F

A single value (numerical estimate or other scoring)

Sequencing/organizing stuff (chronological; procedural; logical; narrative)

What does not belong?

Single sentence (summary; definition; claim; etc.)

Limited word task (analysis reported in 1-5 words)

Task Design Process Examples of specific choice questions

Select from limited options (e.g. multiple choice)

"Which of the following is the best example of Y?" "Given what you read, which of the following would best fit X theory?"

Goal: You want students to think through all of the options.
You need them to be able to apply an idea/theory/skill to a particular issue.

This is probably the most used format because it's the most versatile.

Report: cards, write answer on board with brief explanation

Ranking

"Put this list in order from most… to least…;" "Rank the following from most likely to……to least likely to…;" "From the following list, which THREE items are most likely to…."

Goal: Students have to decide what information is available, or needed, to evaluate a number of options within a given context.

- Requires students to evaluate the options in relation to each other, forces them to think why one way might be better than another
- In quantitatively oriented fields (math, programming), students expect all judgements to be deductive. The real world doesn't always allow for that. Ranking lets them practice making "judgment calls."
- E.g., certain programming elements might not be better than another objectively, but in a particular context, A and B are both relatively equivalent, but students should be able to see that either will always outperform D or E in this context. C, on the other hand, might vary according to factors we don't know about here.

Report: If a short list, can write on board. Or, you can use numbers or letters to indicate options. If long list, select from the top or bottom of the list (top & bottom 2; top 3 & bottom 1)

Best Answer

"Which of the following is the best description of?"; "Which of these is most likely to fail, given what you read?"

Goal: Like ranking, requires students to evaluate the options in relation to one another, as well as evaluate them as an answer to the prompt.

- In fields where there might not be "a right answer," can still push students to think about what criteria are used/needed to make judgements in this context.
- Can remove "the right answer" to encourage students to focus on the reasoning process (forces them to think about what evidence they can use to choose between remaining options).

Report: cards, write answer on board with brief explanation

Sorting

"Take this list and sort the items according to however you think makes sense." "Sort these items into categories based on the reading (theory)."

Goal: as naïve task, the goal is to out student opinions or intuitions. As application, to see how well they understand the categories or theory being examined.

Report: on board, if large list can have them report the items they are most confident about.

Chart identification

Give students an unlabeled chart, ask them to identify the parts of the chart.
Goal: best for naïve task, but can be used on an unfamiliar chart related to course content you've already discussed.

Report: Number the parts of the chart and have students write corresponding answers on board. Print copies of the chart that they put on board. Have them draw chart on board.

True/False (yes/no)
Based on the theory you read (approach you've been practicing…), is the following statement true or false? Given these parameters, would you agree with the following…..
Goal: Focus students on staking a claim and defending a clear position. Good for prediction/inference/application. Don't make this straight recall!

Report: cards, write answer on board with brief explanation.

A single value (numerical estimate or other scoring)
"On a scale from 1-10, where 10 is…identify the following….;"
Goal: Focus students on comparing items along a scale—a little more detailed than straight ranking. Get students to see how representative a statement or piece is of a theory they've been examining.

Report: write on board, sheet of paper to hold up so other teams can see, team whiteboard.

Sequencing/organizing stuff (chronological; procedural; logical; narrative)
Goal: assess students' understanding of relationships between the stuff.

Report: write on board, to save time, can have them report just first and last.

What does not belong?
Goal: Pushing a little deeper into comprehension, surfacing misunderstanding of a category or theory.

Report: write on board, sheet of paper to hold up so other teams can see, team whiteboard.

THE FOLLOWING ARE NOT STRICTLY SPECIFIC CHOICE
But they can work well in teams that have been working together.

They're more like a 4S activity if you first have individuals write their sentence or words first, then teams compare and choose or unite ideas into a team answer.

Single sentence (summary; definition; claim; etc.)
Goal: Assess the team's understanding the piece being summarized.

Report: write on board.

Limited word task (analysis reported in 1-5 words)
Goal: Assess students' understanding of what is being reported on. As a naïve task, it can bring out student biases or intuitions.

Report: write on board.