Creating Questions in myDALITE

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For more information, go to YouTube and search ‘myDALITE tutorial’
myDALITE can incorporate two types of questions:

1. **Comprehensive question** – assesses how well a student **understands** the contents of a text. There is a right or wrong answer for this kind of question.

2. **Interpretive question** – assesses how well a student **analyses** the contents of a text. There is no right or wrong answer for this kind of question. Instead, it depends on how convincingly the student presents the interpretation.

See examples in the following slides.
Examples of Comprehensive Questions

Conceptual type questions

**Question**
**ChemORGCAA - Q3**

Which of the following compounds would not be a product from the reaction of 1,3-butadiene with HCl?

- A. (S)-3-chloro-1-butene
- B. (R)-3-chloro-1-butene
- C. (E)-1-chloro-2-butene
- D. (Z)-1-chloro-2-butene
- E. (Z)-2-chloro-2-butene

**Question**
**ChemGENAMI - Q4**

Assume a beaker of pure water has been boiling for 30 minutes. What is in the bubbles in the boiling water?

- A. Air
- B. Oxygen gas and hydrogen gas
- C. Oxygen
- D. Water vapor
- E. Heat
Examples of Comprehensive Questions

Chem ED Stoichiometry Q01

Your best friend Sam has completed a chemistry quiz and has a copy for you to review. The solution may have an error(s) in it. If there is an error, help Sam by:

(i) Identifying where the error is found (parts A, B, C or D). If there are many errors, then state which is the most important error and explain why.

(ii) Stating what is wrong with the solution Sam proposed.

(iii) Explaining how the solution can be improved, or the error resolved. Provide your response as if you are writing to Sam.

If there are no errors, then choose E. Remember that you want to be a good peer so provide constructive feedback.

Question: What is the percent yield if 205 g of aluminum sulfide reacted with 131 g of water to produce 85.0 g of hydrosulfuric acid? The reaction proceeds according to the following unbalanced equation:

\[ \text{Al}_2\text{S}_3(s) + \text{H}_2\text{O}(l) \rightarrow \alpha\text{Al(OH)}_3(s) + \beta\text{H}_2\text{S}(g) \]

For larger image, click here.
Examples of Comprehensive Questions

Using an embedded online interactive PhET Simulation

ChemGENconcentration01

If you make a saturated drink mix solution, and then evaporate a quarter of the water, what will happen with the concentration of your drink mix solution? Why?

You may use the following simulation to help you predict the outcome.

Before answering the question, students can “play” with the parameters in the simulation to visualize the different outcomes.
Examples of Interpretive Questions

**Reflective Writing type questions** – In this example, students are asked to read an article and indicate whether they understood the content or not, then explain themselves.

**Captain America Reading 01**

*Read* the online article about *The Molecular Marvels of Captain America.*

https://www.chemistryviews.org/details/ezine/114434/The_Molecular_Marvels_of_Captain_America.html

Which of the following best describes your understanding of what you read?

Use the text box to explain what you found confusing. If everything was perfectly clear, use the text box to demonstrate your understanding by giving an interesting example of how one of the concepts you read applies to another fictional character (from comic books, TV series or movies).

- A. Completely confusing
- B. Somewhat confusing
- C. Perfectly clear

Rationale*
Examples of Interpretive Questions

Planned Economy v. Free Trade

In the 20th Century, two (or, one could argue, three) types of economies prevailed. They were the planned economies (a communist model), the free market economies (a capitalist model) or a mix of the two, the mixed market economies (this could be considered a socialist model). Compelling arguments exist to justify all three models. With the readings in mind, choose one and justify why it is best.

Terms you might use to distinguish the models from each other include the following:
- means of production
- globalization
- inequality
- freedom
- planning
- profit
- wage labour
- Friedrich Hayek
- John Maynard Keynes
- workers
- markets
- Marx
- the state

Make concrete reference to the texts and use some of the terms above to justify your position.

☐ A. A planned economy is best.
☐ B. A free market economy is best.
☐ C. A mixed economy is best.

Reflective Writing type questions – In this example, students are asked to read some texts, choose one of the options and justify their choice.
Examples of Interpretive Questions

Photo genre 01

Photojournalism is a genre of photography that captures news events such as disasters. The photo on the left shows a burning building, while the photo on the right shows a house destroyed. Why are these two photos not examples of Photojournalism? Explain and state what genre of photography they belong to.

‘Rationale Only’ type questions – Students are asked to provide a rationale to an open ended question. This is not a two-stage question where students will be able to see their peers’ rationales. MyDALITE lets teachers conveniently gather student answers in one platform. As long as students provide a rationale, they are given full marks. Otherwise, they are given a grade of zero.
Creating a New Question

Create a new question either by clicking on ‘Create Question’ in the top left menu, or clicking on ‘Create new’ under ‘Questions’ in ‘My Account’.

There are 3 pages/steps to complete in the process.
Step 1: Question parameters

1. Provide a title for the question; try to include the discipline and topic in the name, but not too descriptive as students will be able to see the title.

2. Type in the text for the question. Links and special characters can be used.
Step 1: Question parameters

3. Choose the type of question. There are two types:

i. **Peer instruction** – the two-step multiple choice question. Students choose an answer, provide a rationale. They are then presented with alternative rationales from peers, some support their answer or contradict. Students must then answer the question again. They can keep the original answer, or reorient to a different answer.

ii. **Rationale only** – only a simple text response to the question is needed from the students; it is not two stages so students will not see their peers’ rationales. The question does not need to be a multiple choice type.

4. An image can be included into the question. Upload the file here, accepted formats are .jpg, .jpeg, .png, .gif.

A description of the image for accessibility is required before moving onto the next page (Step 2: Answer Choices).
Step 1: Question parameters

5. A video can be included after the text of the question. Enter a video URL here. Videos must have a URL that is "https" and not just "http". MyDALITE aims to be a secure site from end to end, it only serves content which comes from sites that use SSL (Secure Sockets Layer) standard security technology.

To include a PhET Simulation in your question, more info is provided on the next page.

6. Choose whether the multiple choice answers are in an alphabetical format (a, b, c…), or numeric format (1, 2, 3…).
Step 1: Question parameters

How to include a *PhET Simulation* in your question

a) Find a *PhET* that interests you. It must have an HTML5 emblem on it. The entire list, not sorted by discipline, can be found here: https://phet.colorado.edu/en/simulations/category/html

b) On the description/preview page of the desired simulation click on the "Embed" button.

c) Copy the url in quotes after the `src` tag. For example, if you see this:

```html
<iframe src="https://phet.colorado.edu/sims/html/concentration/latest/concentration_en.html" width="800" height="600" scrolling="no" allowfullscreen"></iframe>
```

copy only this part:

https://phet.colorado.edu/sims/html/concentration/latest/concentration_en.html

d) Paste it into the "Video URL" box.
Step 1: Question parameters

7. Choose which discipline the question belongs to. If the discipline is not in the database, then you may add it.
   - Click on the pencil icon
   - Type in the discipline
   - Click on the ‘+’ icon
   - Go back to the drop down menu and select the newly added discipline

8. Select all categories (keywords, tags) that are associated to the question. The more categories entered, the easier it will be for the question to come up in the searches. As you type in a category:
   
   i. You may see a matching and/or similar categories already available in the database. Select the appropriate categories.
   ii. You may not see a matching category. In this situation, you can add the category (follow steps described above in #7). The singular form should always be used, e.g. “Radical” is preferred over “Radicals”.
Step 1: Question parameters

9. Fake attributions - Each rationale will have a randomly assigned fake name, and country attached to it when displayed to the students. It is meant for research purposes to see if, for example, a rationale that comes from a different sounding name, is less voted for than if it had been attributed to a familiar sounding name. No need to check that box.

10. We recommend that you ignore this feature for now.

11. You can choose to have the system show the expert and highly voted rationales to the students in the peer instruction questions (recommended), or show rationales that are randomly chosen by the system.
Step 1: Question parameters

12. There are two grading schemes:

i. **Standard** – Students score either 0 for an incorrect final answer, or 1 for the correct final answer.

ii. **Advanced** – Students score 0 if they get the wrong answer both times (WW), 0.5 if they get the first answer correct, but then the second answer wrong, or vice versa, (WR or RW), and 1.0 if they get the correct answer (RR). (Recommended)

13. You can also make other myDALITE users a collaborator for the same question so that he/she may edit the question. Type in the collaborator’s exact username, it will appear in the drop down menu, select the name.

Move onto Step 2: Answer choices
Step 2: Answer choices

Enter the text for each multiple choice option. You can have up to 5 answer choices.

Indicate the correct answer(s), if applicable. If there is more than one correct answer, students will be scored as per usual no matter which correct answer is chosen.
Step 3: Example answers

Chem ED Acids and Bases Q06

Your best friend Sam has completed a chemistry quiz and has a copy for you to review. The solution may have an error(s) in it. If there is an error, help Sam by:
(i) Identifying where the error is found (parts A, B, C or D). If there are many errors, then state which is the most important error and explain why.
(ii) Stating what is wrong with the solution Sam proposed.
(iii) Explaining how the solution can be improved, or the error resolved. Provide your response as if you are writing to Sam.
If there are no errors, then choose E. Remember that you want to be a good peer so provide constructive feedback.

Question: A solution of 0.100 M HC$_2$H$_3$O$_2$ ($K_a = 1.80 \times 10^{-5}$) was mixed with a solution of 0.200 M HC$_7$H$_5$O$_2$ ($K_a = 2.80 \times 10^{-8}$) at 25 ºC. What is the pH and the concentration of the following species at equilibrium:
HC$_2$H$_3$O$_2$, C$_2$H$_3$O$_2^-$, HC$_7$H$_5$O$_2$ and C$_7$H$_5$O$_2^-$

For larger image, click here.
Step 3: Example answers

To ‘seed’ the question, you must provide at least one rationale for the correct answer, and a **convincing** rationale for at least one of the incorrect answers. It is recommended that you provide one rationale for each answer choice.

To enter a rationale, click on the multiple choice answer, type in the rationale in the text box, then click on ‘Submit Example Answer’.

You **cannot edit or delete** a rationale once it has been submitted so review your rationale carefully.

Repeat this process for each multiple choice option.
Step 3: Example answers

To add the new question to an assignment, select the assignment from the list, then click on the + icon. The question can be added to more than one assignment.

Click ‘Done’ to complete the process!

A question can be edited at any point, unless a student has submitted an answer. When a question cannot be edited anymore, then you will have the option to ‘clone’ it and make any changes you wish, but a new title for the question should be used.