

Curriculum Design Pattern

Global Learning by Design

Name of pattern

Real Time Demonstration

Quick look

The Real Time Demonstration activity intends to develop student problem solving skills. The process involves using the Document Camera in the lecture room to capture real time examples of how equation based problems can be solved. Lectopia is also used to record the screen and capture the problem solving process for uploading to Blackboard for revision of the material by students.

Rationale

This learning activity allows for complex questions / equation based problems to be chunked and sequenced to simplify the problem solving process for students. It also enables capture of the equation and solution for revision by students at a later date.

Learners/Context

This learning activity allows for complex questions / equation based problems to be chunked and sequenced to simplify the problem solving process for students. It also enables capture of the equation and solution for revision by students at a later date.

Related patterns

None.

Related category

Active learning, analysis, visual interface, problem solving.

Alignment

The Real Time Demonstration activity facilitates improved student understanding of equation based problem solving processes.

Instructions/Process

At least one week prior to class:

1. Identify the equation based problem to be solved. Ideally these are drawn from subject matter theory or from past examinations if examination practice is the primary goal.
2. Ensure that there is access to a Document Camera available in the lecture theatre you will be using and that it is a lecture capture enabled venue. Refer to Lectopia enabled classroom list: (<http://www1.rmit.edu.au/browse;ID=did7ykcq138e>)
3. Book the lecture capture - to record your lecture you must book a session and then make it available to your students. One-off recordings need to be booked at least one week prior to the recording date or contact RMIT IT Service Desk for support: (http://www1.rmit.edu.au/browse;ID=31l9kbvsqsed1;STATUS=A;SECTION=2;PAGE_AUTHOR=Kate%20Ebbott)
4. Familiarise yourself with the Document Camera (refer to Resources/Technology).

In class:

5. Set up the Document Camera to project your writing while solving the equation - refer to Resources/Technology.
6. Explain to students that the Real Time Demonstration is intended to develop their problem solving skills and introduce them to the equation that you will be solving. Also advise that the demonstration will be available on Blackboard following the lecture for revision purposes.
7. Use a real time problem solving strategy that students can use to find the solution to the equation based problem:
 - a. Understand the problem – demonstrate that the first step to solving the problem is understanding it. Identify the key pieces of information needed to find the answer. This may require students to read the problem several times or put the problem into their own words.
 - b. Choose a strategy / formula to find the solution.
 - c. Solve the problem – look at the possible answers that would fit the formula. Allow students to ask questions at certain points in the problem solving process to chunk / sequence complex information and to help simplify the problem solving process.

- d. Check the solution – make sure the solution is correct. Determine if the best strategy was chosen for this problem, or if there was another way to solve the problem.
- e. Explain how you found the answer. Describe the steps taken and how decisions were made throughout the process.
- f. Guided practice – have students try to solve a similar problem using the same strategy. For example, have students work in pairs, in groups, or individually to solve the problem. They should be able to tell or write about how they found the answer and justify their reasoning.

After lecture:

- 8. Access your Lectopia recording from the Lectopia Staff Tool (refer to Resources/Technology).
- 9. Link your Lectopia recording to your Blackboard course shell (refer to Resources/Technology).

Conditions

Access to and knowledge of Document Cameras.

Access to and knowledge of Lectopia.

Access to a lecture capture enabled venue.

Resources/Technology

Instructions on using a document camera:

- (<http://mams.rmit.edu.au/eplchyz4my5t1.mov>)
- Quick reference guide (<https://drive.google.com/a/rmit.edu.au/file/d/0Bys4HizxMyOYVFZ0VIFWbzVWd0E/view?usp=sharing>)

Booking a lecture capture:

(http://www1.rmit.edu.au/browse;ID=31l9kbvsqsed1;STATUS=A;SECTION=2;PAGE_AUTHOR=Kate%20Ebbott)

Instructions on lecture capture (Lectopia and Echo):

- Recording a session in a lecture theatre
- Accessing and managing your recordings.