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Posted by Anonymous on Mon, 2016-03-07 13:16

Hi, I would like some explanation and advice about the application/use of the WS8 skills in both stage 4 & 5 of the NSW syllabus.

Voting:



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Year Level:

- 7
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Laboratory Technicians:

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Answer by diana.entwistle on question Working Scientifically skills NSW syllabus

Submitted by diana.entwistle on 10 March 2016

The NSW Stage 4 and 5 syllabus requires students to conduct a student research project, which encompasses the WS8 outcome. In stage 4, this is a group task in which the teacher provides support for the completion of the task. The Stage 5 SRP requires students to conduct their own investigation independently. In order for students to reach a position to

perform these tasks, they need to be trained in the skills associated with problem-solving.

While the WS8 outcome may be addressed collectively in a holistic approach to a problem-solving activity, it is expected that teachers explicitly teach the individual content components of the outcome. This does not necessarily need to be done in a problem-solving context.

For example, the skills required to perform WS8 (a) and (b) are developed through activities, such as brainstorming and think, pair, share activities. WS8 (c) could be covered in an activity where students are asked to evaluate a statement made by a politician, scientist or a newspaper article following classwork which develops an understanding of a concept. WS8 (e) could be taught in the context of a class debate around some issue such as stem cell research. Of course we use WS8 (d) whenever we ask students to explain an idea.

Implicit in the teaching of this outcome, is the development of critical and creative thinking skills. So, whenever we provide students with an opportunity to think critically, or come up with creative ideas, we are nurturing their ability to engage successfully in problem-solving activities.

It is important to remember that when presenting students with a problem-solving activity, it is essential for them to have sufficient knowledge of concepts and procedures in order to recall relevant information quickly and to apply it to the new situation presented.

In the Stage 5 syllabus, this outcome is explored in greater depth, with more emphasis on the steps involved in the problem-solving process. Significant differences include, the important first step in problem-solving or actually identifying the problem before suggesting possible solutions, and the implementation of the scientific method in the process of conducting the investigation, once a strategy has been decided upon. Greater use of critical thinking is involved in all stages of the process and explanations are enhanced through the use of models to support explanations.

As with Stage 4, each individual content statement should be taught explicitly outside the context of a problem-solving activity in order to strengthen student's ability to apply the different problem-solving processes.

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