Explaining and modeling content

What is the pedagogical practice of explaining and modeling contents, practices and strategies?

Explaining and modeling are practices to make the content explicit for students, academic practices and subjects (languages, math, history, etc…). According to the learning subject and objective, teachers elaborate precise and clear verbal explanations, along with examples or representations. Examples are selected carefully to be useful in the construction of comprehensive definitions, bringing down wrong common conceptions, to broaden the scope for content application. When more complex academic practices and strategies are taught, to solve mathematical problems or through metacognition to improve reading comprehension, teachers call upon more elaborated explanations modeled for their students. To model implies offering a verbal explanation, but also to think out loud and testing discipline-specific procedures.

Students can also model and think out loud for their partners. This practice is especially useful in learning procedures or when reading new information. When teachers are modeling, they should describe out loud the steps that he or she is following and the ideas that come up, while elaborating an explanation to back up these steps. In case of reading, the person modelling should read out loud stopping the reading to name the ideas taken from the text, and how these ideas are related to each other and to other ideas.

When the one who models is the teacher or an advanced student, this method allows students to go into the expert's mind in order to know which strategies he or she uses to solve the problems in an efficient way. For this method to work efficiently, the teacher must be able to describe thoroughly how to connect the ideas that he or she thinks or the steps that she or he follows. This implies for teachers to have high metacognition levels. Eventually, also students will learn how to think out loud to verify their own understanding.

Lastly, the purpose of modeling is that teachers gradually take a second place for the students to be protagonists. Usually, teachers begin modeling the strategy, and afterwards, they ask for the students to implement the strategy all together. Finally, students use the strategy on their own.

What is not Explaining and Modeling contents, practices and strategies.

- Reading an explanation and an example, expecting that to be enough for every student. To achieve deep learning, the same content should be covered from different explanations and examples.
- Repeating the same explanation or explaining one another If students are still confused, the same explanation will never resolve their doubts. It is necessary to take a different path to reach the same goal.
- Teachers model every class while students observe. On the contrary, to the intention of modeling for students is for them to reach autonomy. Modeling makes sense only when teaching to do the same independently.
- To think out loud could not be improvised. For this strategy to work effectively, teachers must have consciously thought the steps needed to reach the expected result. If out loud thinking is confusing and messy, it will not help the students.
- To copy definitions in a notebook. To define concepts is not the same as to explain them. Learning will be effective if students are capable to offer their own examples.
- To describe examples and contents in an isolated way and exclusively in a school context. On the opposite, the content will acquire relevance and pertinence when examples and explanations connect with real life and contents previously learned.

Strategies

- Narrative: Teachers narrate the steps of a procedure (e.g. the resolution of a mathematical problem). The task could be easier if it is recorded (like a YouTube´s tutorial). Using phrases such as "When I do this, I am thinking about…", "I did this because…" or "This step reminds me…"
- Instructions: Teachers create instructions with steps to follow to do the procedure or asking students to elaborate instructions after the teacher has shown the procedure once.
- 3 examples: When teachers explain new content, she or he offers 3 examples. The first one is a simple one that shows the concept in an evident way, the second one proves wrong a common belief, and the third one is an unexpected example that expands the concept beyond its usual framework.
- A picture is worth a thousand words: Teachers rely on graphic representations to explain concepts. For examples: diagrams, conceptual maps, schemes, mental maps, photographs, maps, scale models, etc.
- Empty prototype: along with work instructions, teachers create a prototype without content, but showing clearly every part of the work (like a template)

- Contextual vocabulary: During the reading of a text, if teachers find a word that students may not know, she or he explains which clues the text has to suggest its meaning, using phrases such as "This word recalls this other one and because of that I think that…" or "Close to this word is this one, so I think that…"
- Multiple intelligences: To explain any concept, teachers rely on movement, images, sounds that stimulate different kinds of intelligences.
- Decomposition: Before teaching a complex skill, teachers break down that skill into a series of more simple skills modeled successively.
- Ordinary or familiar example: When teachers give an example of a concept, she or he should prefer those connected to the daily life of students.

This document has been elaborated by Josefina Santa Cruz and framed in the project "Observatorio de Prácticas Pedagógicas", based on the next references:

http://www.soe.umich.edu/academics/bachelors_degree_programs/uete/uete_hlp/
Visited on August 3rd.

http://www.learnnc.org/lp/pages/4697
Visited on August 3rd.

http://www.edutopia.org/blog/modeling-essential-for-learning-karen-lea
Visited on August 3rd.

http://fcit.usf.edu/mathvids/strategies/em.html
Visited on August 3rd

http://www.readingrockets.org/article/using-think-alouds-improve-reading-comprehension
Visited on August 3rd

http://www.edutopia.org/blog/think-aloud-strategy-oldie-but-goodie-elena-aguilar
Visited on August 3rd

http://www.teachhub.com/teaching-strategies-think-alouds

Visited on August 3rd

Teaching Works. University of Michigan. (2016). High-Leverage Practices. 13 de julio de 2016, de Teaching Works. University of Michigan. Sitio web: http://www.teachingworks.org/

To quote this document :

Facultad de Educación Universidad del Desarrollo, Observatorio de Buenas Prácticas Pedagógicas (2016) "Explicar y modelar los contenidos, prácticas y estrategias "

Last update: December 2016.