

Peer-assessment as a form of formative assessment in chemistry classroom

Vršnjačko vrednovanje kao oblik razvojnog vrednovanja u kemijskoj učionici

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Teachers need to engage students in challenging teaching situations, activities and tasks that provide opportunities for development of questioning/investigating skills, conceptual understanding and thinking skills through reflection on the process¹. Formative assessment (assessment *for* learning) is used throughout the learning process in order to advance the learning and provide students with feedback that should direct and encourage further learning.

Peer-assessment is one form of formative assessment which can be described generally as a process whereby students evaluate, or are evaluated by, their peers. Peer-assessment has a potential to support the development of students' skills to form judgements based on understanding of the intended learning outcomes and the criteria according to which their achievements could be estimated. According to the outcomes and criteria students can give feedback to one another and consider where they need to go and what is the best way to get there. On the other side, this kind of assessment can provide teachers with additional information on individual performance in group work². The conditions under which peer-assessment occurs differ, a diversity of methods can be applied, and many different outcomes can enrich³. Peer-assessment are associated with the key competences that students should develop during the educational process and incorporates critical thinking, creativity, initiative, problem-solving, risk assessment and decision-making.

Instead of marks, formative peer-assessment often includes qualitative comments as "peer feedback"⁴. Peer feedback offer support for the learning process by providing intermediate views of the performance against the criteria and standards, accompanied by feedback on strengths, weaknesses and/or tips for improvement^{5,6,7}.

Pre-service and in-service teachers training should include their preparation for the planning peer-assessment in order to enable learners through that practice to become more effective and independent in learning process.

Description of the workshop

The aim of the workshop is to improve chemistry teachers' competence to plan the teaching situations and activities which encourage and support peer-assessment of learners. The plan of the main activities during the workshop is presented in Table 1.

Table 1 The workshop activities

No.	Description of activities	Duration (minutes)
1	Introduction to the workshop: Peer-assessment as a support for chemistry learning – the main features	10
2	Formation of groups of participants	5
3	Group preparation of teaching situations and activities which encourage and support peer-assessment of students according to the chemistry curriculum outcomes	20
4	Exchange of the teaching situations plans among groups for the quality control through the process of peer-assessment	15
5	Each group receives peer feedback from other groups	15
6	Discussion on the development of teaching situations and activities which encourage and support peer-assessment of students	15
7	Drawing conclusions and main implications for further work	10

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