

Designing Task for CAS Classrooms

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Lecture Proposal for the ACDCA strand

ABSTRACT

When designing CAS tasks we should not look on a CAS as an isolated tool but also in connection with other tools. This paper examines how with an appropriate selection of tools several shortcomings of CAS tasks can be avoided. It requires tasks to be adaptable to the needs of their users with respect to procedural and conceptual issues. Finally, it underlines that designing and evaluating CAS tasks should take care of the whole process of their design, usage and modification.

When a certain task is evaluated, it is too often observed within a closed environment, from the perspective of a specific CAS used. Task designers too often wish to stick with the same tool at any cost. Several problems could be seen in a different light if another tool was to be used. Task design should exhibit also the appropriate use of tools.

So instead of arguing about the best way to cope with problems a specific tool introduces into a certain task, the task itself should be designed in such a way that students are actively encouraged to choose the most suitable tools.

Tasks should be prepared so that they can be adapted according to a particular didactical situation. If a task designer overcomes his desire "to stay within the same environment", it is possible to design the task in a more flexible way. In this way the epistemic value of the task would be improved. Namely, instead of speculating the precise ratio of both the procedural and the conceptual approach that would make the task suitable for all students, the fact that this ratio is different for each student and each particular set of circumstances, should be considered. Therefore, the tasks should be designed in such a way that this ratio can easily be adapted to the needs of the user.

In the talk I will try to show how specific examples of tasks can be seen quite differently if different tools and different approaches are combined and used instead of sticking with only one tool.

Keywords

CAS, task design, procedural/conceptual approach, tools