Online learning guided tour in substation design using Blackboard

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ABSTRACT
Keywords – STREAM model, SAMR model, online learning, Blackboard.

This poster presents an experience with a learning path design using blackboard as stepwise integrative tools for learning activities which shows effectiveness of the online learning design in "augmentation level" as per revised SAMR model (Mikkel Godsk 2014).The objective of the learning path design was to prepare an instruction and procedure for doing the project of "Substation and Switchgear" course.It is a course for the bachelor students in 6th and 7th semester at department of electrical energy (power) engineering at Aarhus University. It is a 5 ECTS, 7weeks course with 20-25 students. The course is combination of lectures and problem solving exercises in the form of a project including different parts covering the curriculum. The challenge I faced was about the lack of a guideline for managing students to do the project which had been designed to make connection between lecture theory and also out of class activities with within class activities as per STREAM model (Mikkel Godsk 2014).

Blackboard has been used to design learning path comprising activate content/curriculum, having mechanisms for feedback and visible communication. Each learning path covered description of activities relevant to each step of designing the substation. These activities have been supported by relevant materials, sample examples and a few PowerPoint including recorded sound and videos. Blackboard helped to move some basic instructions to the web and leave more time for in depth questions or knowledge in the lectures/ theoretical exercises. It has also given opportunity to have reflection to each group work at each step by having relevant rubrics for each activity evaluation and students benefit from peer review and sharing knowledge which enhanced their learning even they have not been involved in the details of part of the project. It helped students make their own practical experience with project design in an active and social practice. (Grainne Conole, 2008).

Formative assessment has been used to evaluate each group activities and performances based on the usage of the each learning paths, the level of their contributions on each learning path and the quality of the delivered report at each steps which was conditional for participation in the final oral exam. The student's feedback about usefulness of learning path and stepwise procedure for doing a project was also satisfactory; however, in particular cases, it has been requested for better explanation of each activity and adding more videos and Screencast example calculations.

Figure 1: Platform using Blackboard

REFERENCES

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[2]. New Schemas for Mapping Pedagogies and Technologies, Grainne Conole, 2008.