Abstract

Implementation of lecture-accompanying question for "Bioprocess Engineering – Advanced"

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The module Bioprocess Engineering – Advanced is an essential course needed for all engineers studying within the field of biotechnology. This coursework deepens the student´s knowledge from basic Bioprocess Engineering principles. Through the complexity of the topics a continuous, self-initiated learning progress is needed to obtain a sustainable knowledge which can be applied to following coursework focusing on bioprocess technologies. In the first part, Bioprocess Engineering – Fundamentals, this continuous, self-guided learning process already could be initiated by online questions to be answered during the week after each lecture. This question and task shall cause interest on specific topics and will therefore lead to a sustainable learning outcome. Since the system is working well in the fundamental part of the lecture, it will be applied to the advanced part. Additionally, the program is extended by tasks dealing with recent research of the respective institutes.

Three questions are asked via StudIP after each lecture. The question cover different areas of complexity: repetition of knowledge, using the knowledge to solve a similar problem as well gather and transfer knowledge from recent scientific publications. Additional points for the written exam will be granted, when a minimum of 50 % of all questions are answered correctly over the course of the semester.

Feedback from students and the number of participants show that the principal of regular online questions is well accepted. Especially the connection between lecture and latest research was well perceived by the students. However, a positive impact on the exam result could not be observed this semester. Evaluation over a longer period of time is recommended. A classification of the respective questions was done, which is used to structure the timeline of this additional learning offer during the semester.