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Computer Generated and Graded Online Physical Chemistry Exam

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During the COVID-19 pandemic circumstances, not only was the teaching process at universities suddenly converted to online teaching and learning, but examinations also had to be conducted online in most cases, although it was not always possible to ensure strict control.

In order to spare students the supervision of two or more cameras focused on each student, or to expose them to the stress associated with timed remote examinations,[1] and yet ensure satisfactory exam proctoring[2] of written examinations in physical chemistry involving calculations, we prepared examinations in the Moodle environment with automatic grading. The numerical tasks in these exams contained the same text, but students were given randomly selected numbers in these tasks. Based on the given numbers, the correct numerical results were calculated in the Moodle environment and compared with the students' answers, allowing some tolerance for the numerical result.

From the anonymous students' feedback we can conclude that such an exam was conducted quite successfully without strict supervision and there were no critical problems related to the violation of the integrity of the exam. Most of the students' complaints were related to factors beyond the control of the examiners, while there is possible to improve such examinations in the area of controllable parameters.

Keywords: moodle, calculations, random choice

References

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