Course: Foundations of virtual instruction
Assignment 1: Converting face-to-face teaching to virtual teaching
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General information

Lesson title: accelerated, stable and slowed down movements

Subject: Physics

Grade level: 2nd year of Dutch secondary education (12-13 year olds)

Objectives

The lesson has the following objectives:

- The student can draw a x(t) (position as a function of time) graph when given a table with position and time.
- The student can distinguish between x(t) (position as a function of time) graphs of accelerated, stable and slowed down movements.

Overview

Student and teacher actions:

Student actions:

- Watch lectures (online)
- Do practice assignment (offline)
- Discuss practice assignment in live session (online)
- Complete the evaluation activity (online, short quiz)

Teacher actions:

- Make video's
- Select practice exercise
- Facilitates discussions during live session
- Develops evaluation quiz
- Grades quiz

Previous knowledge of the students:

- Knowledge and experience with measuring time and position.
- Knowledge and experience with converting measurement data into tables.
- Knowledge and experience with converting data from tables into graphs.

Type of lesson: blended

The choice for a blended lesson was made as this allows student to conduct experiments in a real-life setting outside of the lesson activity. As this topic is suited for practicing with measurement tools a blended approach is preferred over a complete virtual lesson.

Resources/materials needed:

- Video chat (eg Google hangout): students discuss the different lectures
- Asynchronous sessions (video player): students can watch the lectures.
- E-mail: students can submit the assignments (can also be done with a submission page similar to the Coursera platform).

Virtual components and lesson activities

	Activity	Method of delivery
1	Introduction of new concepts	Video lectures
2	Make assignments	Offline practice exercises (uses a textbook)
3	Discuss assignments	Synchronous live session
4	De evaluation activity	Online quiz

Method of evaluation

Evaluation will take place through a short (3 question) quiz. The first question will ask students to draw a x(t) graph based on a table with time and position. The second and third question will ask students to identify the type of movement (accelerating, stable or slowing down) they see in the x(t) graph. These question will be multiple choice (with an answer option for each of the three types of movement).