A COVID-19 Teaching Experiment: Combining Competency-Based Assessment and Micro-Courses to Teach Technical and Non-Technical Skills

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Context and Motivations

- Propose a pedagogical device for 100% remote teaching
    - Efficiently teach technical skills remotely
    - Practice and improve non-technical skills
    - Foster social ties with students

- Propose a better support for students
    - Keep students motivated and help them not to drop out
    - Possibly individualise/personalise their learning experience

Micro-Courses

- Structure of the whole course organised with micro-courses
    - Any pedagogy encouraging learning in small units
    - Paired with learning objectives as a step towards a broader goal

- Structure to encourage and motivate students
    - Making progress step by step, one micro-course at a time
    - Approach the course more confidently, not as a big block
    - Balance between lectures and personal work

Competency Based Assessment

- Evaluation following a competency based assessment approach

  Mastering competencies instead of obtained a grade

- Continuous evaluation with a fully transparent process

  - Students chose the assessments to work on
  - Regular and immediate feedback all over the year
  - Better control for students over their own learning

Experiment

- Pedagogical device tested on a digital transmission course
    - Course split into five micro-courses, each running on 2–3 weeks
    - Taught to 28 third year bachelor students (electronics/telecom)

- Students globally appreciated the proposed approach
    - Short sessions and possibility to easily hang up if delays
    - Workload better spread all over the semester, less stress
    - Better autonomy and self-paced work, but not easy to manage

Conclusion and Future Work

- Combining **micro-course and CBA** worked

    The proposed approach was suitable in a 100% *remote setting*

- Several improvements to the pedagogical device as **future work**
    - Provide explicit tools to help students manage their learning
    - Find a way to present the holistic view of the whole course
    - Ease the logistical aspects of making appointments
    - Improve motivation with gamification