The VideoM@t project
Engaging students on learning tricky topics in mathematics through creative skills

Sara Cruz, José Alberto Lencastre and Clara Coutinho
CIEd, Institute of Education, University of Minho, Portugal
VideoM@t is a project that focuses on helping students understanding **threshold concepts** in mathematics with the help of technological tools and collaborative high-level reflections.
WHAT IS A THRESHOLD CONCEPT

According to literature a **threshold concept** is a complex concept of high level on which the student has difficulty in understanding and overcoming, sometimes taking refuge in memorisation without understanding (Meyer & Land, 2006).
VideoM@t presents an approach which focuses on helping the teachers identifying **threshold concepts**, and equipping the teachers with a detailed understanding of the causes of the problems so they have the understanding they need to better help their students overcome the problems.

The VideoM@t uses creative video editing by students to get them to a deeper understanding of a threshold concept.
Juxtalearn learning Process

CREATE - LEARN - SHARE

SELECT TOPIC - DESIGN ACTIVITY - PRE KNOWLEDGE TEST - PERFORM VIDEOS

CLIPIT - collaborate

explore

define - POST KNOWLEDGE TEST - progres

evaluate

SHARE WITH EVERYONE - EDIT AND UPLOAD

EVALUATE PEERS - WATCH AND DISCUSS
• The project involved 52 students (9th grade) and 3 math teachers.

• First, teachers identified the threshold concepts that their students have, and put them into the CLIPIT.

• Then, we presented the teachers the 8 steps of the JuxtaLearn process, and we coached them in the implementation of these phases with their students.
Applying a flipped learning approach, the students started exploring the materials shared by teachers about the threshold concept and the corresponding stumbling blocks.

The students were given time to study and to ask questions to the teacher. They then performed a quiz.

Based on this diagnosis, the students, organised in groups, created storyboards and instructional videos on the topics.
Co-developed with teachers, CLIPIT is the Web Space for the JuxtaLearn project

http://clipit.es/uminho/
Students using the CLIPIT
RESULTS (STUDENTS)

Radar chart with initial and final quizzes

- Initial quiz (%) - Final quiz (%)
Propriedades das operações elementares
O par ordenado é solução da equação?
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Sara Cruz
sara.acruz@gmail.com