



bn Tefail بن طغيل

# **NEWSLETTER**

LISBOA

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CONTACT INFORMATION: Dissemination Committee



# e-MathICs NEWSLETTER #3

#### CONTENT:

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#### News from MathICs project

After the 2<sup>nd</sup> newsletter, the 2<sup>nd</sup> and 3<sup>rd</sup> trainings were taught in the scope of the Erasmus+ Project for Capacity Building in Higher Education: "Strengthening of Mathematics Education through the use of ICT in Morocco" took place at IST, Lisbon Campus.



The training was between 21th and 25th March, and our Moroccan professors were trained on both pedagogical approach to the use of ICT in their classes (by professors from Centrale Nantes) and MOOC design (by professors from Instituto Superior Técnico). The programme was as follows :

HOURS (PT)	Monday, 21/03	Tuesday, 22/03	Wednesday, 23/03	<u> Thursday, 24/03</u>	Eriday, 25/03
8:00 - 8:30					
8:30 - 9:00					
9:00 - 9:30	Welcome to IST+ Group Photo @ IST Math Building				
9:30 - 10:00	Training: MOOC design	Campus Tour			Math Department visit
10:00 - 10:30	thinking (IST)			Training:	
10:30 - 11:00		Training: MOOC videos	Training: Assessment and interactive	Instructional	Training: e-Learning
11:00 - 11:30		(IST)	activities (IST)	Design/workshop	Designing (UN)
11:30 - 12:00			activities (151)	(UN)	
12:00 - 12:30	Lunch	Lunch	Lunch	Lunch	Lunch
12:30 - 13:00	606065	640404	600000	600000	
13:00 - 13:30					Group photo @ IST Central Building
13:30 - 14:00			Technica	Testates	
14:00 - 14:30	Training: Learning Theories	Training: Learning	Training: Instructional Design	Training: Structuring the	Training: Beta-testing
14:30 - 15:00	(UN)	Theories/ <u>Workshop(</u> UN)	(UN)	MOOC (IST)	and presenting results
15:00 - 15:30			(511)		(IST)
15:30 - 16:00					
16:00 - 16:30				Baaftap visit	
16:30 - 17:00					
17:00 - 17:30					
17:30 - 18:00					
18:00 - 18:30			Lishen Walking Tour		
18:30 - 19:00			Lisbon Walking Tour (optional)		
19:00 - 19:30					
19:30 - 20:00					
20:00 - 20:30			Diaman @ Carro 1		
20:30 - 21:00			Dinner @ Casa do Alentejo (optional)		
21:00 - 21:30			10000000		







In Técnico Lisboa the first day began with a welcoming session for the participants in the amphitheater of the Department of Mathematics of the IST with the interventions of:



- ✓ Fátima Montemor (Vice President of IST for the International Area)
- ✓ Luis Oyonarte Alcala Project Coordinator (University of Almeria)
- Driss Bennis- Morocco Project Coordinator (Faculty of Sciences; Mohammed V University in Rabat, Morocco)
- José Mourão (Chair of Mathematics Department)
- ✓ Fouad Bennis (Prof. Centrale Nantes)
- ✓ Ana Moura Santos (Prof. Técnico Lisboa)

Técnico International Relations Office Team followed the training week, promoting a tour of IST campus, a walking tour in Lisbon and provided a meeting with other teachers at the IST Mathematics Department, to provide an exchange of good practices.



In parallel the training programme, the week knew other activities and it was an occasion of exchanging information on infrastructures and projects between Moroccan and Portuguese mathematics teachers. It ended with a visit to Lisbon and a dinner in one of the most iconic restaurants in Lisbon, with some touches of Muslim culture inserted in its building.







After the training activities in Lisbon, the MathICs consortium travels to Morocco to participate in the third face-to-face meetings. The activities took place in Béni Méllal between 28 and 30 of March, 2022.











The President of the University Sultan Moulay Slimane, the Dean of the Faculty of Sciences and Technics and Professor Hanaa Hachimi welcomed the MathICs consortium and organized a guided tour of the University campus for this occasion.



During this week in Béni Mellal, we had a fulfill program with Committee meetings, at Sultan Moulay Slimane University:

- Steering Committee
- Quality Committee
- Project Management Board





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#### Follow up: WP3 MathICS Training Training on the creation of moocs, visual content and, in general, e-learning mathematics content (Técnico Lisboa)

Prof.<sup>a</sup> Ana Moura Santos from Técnico Lisboa, with some colleagues from IST Mathematics Department contributed to the project with several training sessions on the production and design of online courses, also known as MOOCs (Massive Open Online Courses).













For the procedure to create a lesson in MOOC platform, the Moroccan teachers had to begin the course design:

• Pre-production: Validate course design. Reception and preparation of scientific content and exercises.

Later websit with Andrews Vie Rabeit

Synaptics

- Production: Preparation, revision and validation of the materials. Recording of the videos in the studio.
- Post-production: Editing and validation of the videos. Production of the materials.
- Platform: Structuring of the course on the platform.
- Quality Control: Launch and monitoring of a test version of the course, with a set of beta-testers. Final corrections and adjustments.



"An essential part of this training will be how to produce video content, making expository parts of mathematics content more appealing and using the video format to give a visual support to more abstract ideas," highlights Professor Ana Moura Santos, lecturer at the Department of Mathematics (DM) and coordinator of the Técnico MOOC platform. "Another part, will be how to structure content that accompanies these videos, resulting in an online course that can be used by mathematics faculty, both internally in Moroccan HEIs, and reaching potential students in more remote parts of Morocco," she adds.





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We assume that collaboration is the basis of a work able to achieve our goal, which is to produce quality online training accessible to all, in the Mathematics areas.

Later websit with Andrews Vie Rabeit

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The lecturer recalls that the "pace was very intense because there was the purpose of everyone getting to go to the studio and have the experience of recording in a studio". "They also had access, and there was one of the sessions on how to use efficiently, the Technical MOOC platform, since it will later be possible to have the content produced as a result", said Prof.<sup>a</sup> Ana Moura Santos.

#### Follow up: WP4 MathICs Training

CENTRALE NANTES

TÉCNICO

# *Training on some pedagogical teaching methods using ICT in the classroom (École Centrale de Nantes)*

Centrale Nantes, under the representation of Prof. Fouad Bennis gave this training course to the Moroccan Teachers. The group learned how to:

- Exam several theoretical perspectives on learning and e-learning
- Provide and select methods to design online Math courses

The concepts, principles and methods to understand and develop learning and e-learning were also approached during this week.



Prof. Frédéric Dorel and Prof. Fouad Bennis from Centrale Nantes shared their view with MathICs trainees, and led several workshops during the training:

- Which goals and objectives?
- Which methods?
- Any difficulties?
- Any success?
- Which results?
- How does learning occur?











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- Which factors influence e-learning?
- How do you know when someone has learned something?
- What is the role of the learner and teacher in this process?
- How can you influence e-learning in others (which strategies can you use)?
- What could be the role of technology to enhance e-learning

A videoconference room was used to make a parallel session with the Centrale Nantes.





At the end of this training, all the Moroccan teachers were be able to:

- Generate and revise personal theories of learning and determine implications
- Become conversant with basic concepts and principles of behaviorism, cognitivism and constructivism
- Determine the implications of the instructional design theories
- Become cognizant of e-learning







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### Current activities and implementation

- Dissemination presentation by UAL in Rabat
- Report of NEO

Several improvements have been made and implemented regarding MathICs dissemination strategy (see our new version of MathICs website).

## Upcoming events and dates

- May 2022, WP5: Application and adaptation of WP2-4 trainings to Mathematics existing lessons
- ♦ June-July 2022, 1<sup>st</sup> part of the Training in Rabat and Kenitra
- September 2022, Marrakech (Morocco): MathICs Dissemination Event
- ♦ October 2022, Rabat and Kenitra (Morocco): 2<sup>nd</sup> part of the MathICs 4<sup>h</sup> Training
- November 2022, Béni Mellal and Marrakech (Morocco): MathICs 4<sup>th</sup> Training



