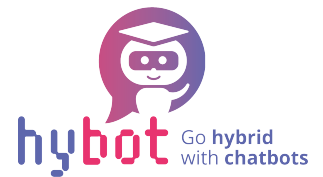




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hybot

Enhancing hybrid teaching in higher education through chatbots

## Hands-on innovative teaching in Educational Technologies at NOVA University



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## INTRODUCTION

NOVA University uses a hybrid approach to teaching in Educational Technologies, immersing students in the same methodologies that they are learning.

## GENERAL CONTEXT OF THE HYBRID TEACHING PRACTICE

- Implementer: School of Science and Technology, NOVA University (Lisbon, Portugal)
- Study program: Master and Doctorate programs on Education
- Modules: Education and Development, Education Seminar, Innovation and Education
- Lifetime: Ongoing since before 2019
- Reference: based on the interview with João Correia de Freitas
- Compiled and structured by Universidade Aberta

## JOÃO CORREIA DE FREITAS



Image shared by João Correia de Freitas.

João Correia de Freitas is a Biologist by training (1981), who began his professional career as a secondary teacher (1979).

In 1985 he joined the first ICT in Education initiative in Portugal (Project MINERVA, 1985–1994) and from then his main area of interest has been teaching and researching Educational Technology. He was also involved in implementing ICT at his university (e-Campus, 1992–1996).

He was lucky enough to be part of two other nation-wide initiatives of educational ICT (Internet at School, Ministry of Science and Technology, 1996–2003 and Computers, Networks and Internet at School, Ministry of Education, 2005–2007). In late 2007 he became head of the e-Learning Laboratory of his college.

He also belongs to EDUCOM (Associação Portuguesa de Telemática Educativa), an NGO that works on Computers in Education (1997 till present; founder and current president of the directive board).

Specialization: science education, education technology, e-Learning, ICT in Education, project management



## PARTICIPANTS AND THEIR PREVIOUS EXPERIENCE

The hybrid teaching case study was implemented with adult students enrolled in Master and Doctorate programs on Education. Mainly, they were teachers from all levels of teaching doing a post-graduation degree courses in Educational Technology and Innovation. Each class had typically 15–20 students.

Students did not have any significant experience with hybrid teaching before the pandemic, but many of them became familiar with the tools. Most of them already knew Moodle and were experienced with videoconferencing tools. Guiding sessions at the beginning of the courses ensured that all students had minimal skills to deal with the technological tools and pedagogical approach.

## INITIAL SITUATION

There was no particular situation for starting hybrid teaching, apart from the specifics of the teaching subject (educational technology) and the need to demonstrate pedagogical approach that promoted student exposition to technological tools that were the subject of their study, in the context of their own learning. Hybrid teaching scenarios were implemented before the pandemic and are currently being continued.

## OBJECTIVES

As explained above, the pedagogical approach for this kind of subject was by exposing students to the same tools and methods they were studying. It also had the goal of promoting participation in class activities, even at a distance. The learning outcomes students should be achieving were:

- To confidently use technological tools in teaching,
- To develop pedagogical models/strategies for using technology in class and online.

## HYBRID TEACHING SCENARIO

Hybrid classes were conducted with some students on the premises and some online. The pedagogical approach was mainly synchronous, however, students were not required to be physically present and could participate online, through Zoom. Online participation was an integral part of the approach, and even students in a class were required to have their Zoom sessions open. Zoom sessions were recorded for the benefit of those who could not attend as well as for student review.

Content and assignments were delivered in Moodle, also enabling asynchronous communication. There were several modes of communication besides classes: asynchronous Moodle forum, WhatsApp instant messaging, and email.



## HARDWARE AND SOFTWARE

Technologies used for the implementation of hybrid settings were Moodle, Zoom, WhatsApp, and Email. No chatbots were tried, as teachers felt that technologies to build them were not accessible enough, both technologically- and financially-wise.

## CONTENT CREATION

Learning content was produced mainly by the teacher, as it was its research area. In addition, the institution provided a service, E-learning Lab, that helped teachers enrich their courses with online and multimedia contents.

## INTERACTION AMONG PARTICIPANTS

The students interacted mostly through class activities and discussions. There were also asynchronous modes of communication, but they were not mandatory, though, students tended to use them when working off-class. However, when in class, all communication must be conducted through Zoom. A guiding session at the beginning of the course clarified the approach, including modes of communication.

## DIVERSITY AND INCLUSION

Even if not explicitly promoted, experience has shown that students with special needs benefitted from the hybrid approach, e.g., a deaf student was able to follow the course through automated transcription mechanisms and written modes of communication.

## STUDENT ASSESSMENT

The assessment was mostly performed in a traditional class-based way. Though, some flexibility was given as courses targeted post-graduate students. Therefore, assignments and contributions to discussions were important assessment elements, both in class and online.

Assignments were submitted in the LMS Moodle, with asynchronous feedback from the teacher. However some of them required students to present it in class and provided further feedback.

## STUDENT EVALUATION

In general, students accepted the hybrid mode of learning for its flexibility, although there was some concern on privacy issues when participating online.



## TEACHER EVALUATION

The interviewed teacher was fully supportive of the hybrid approach but felt that some of its colleagues were not so convinced, not recognizing the richness and diversity that online mechanisms might provide for improving learning.

## TIME COMMITMENT

The development of hybrid teaching settings mainly required initial investment, in training and instructional design. After mechanisms were in place, the time commitment was similar to traditional teaching. Many teachers were not able to commit their time to this initial investment, preferring to return to traditional face-to-face teaching.

## QUALITY ASSURANCE

There were standard quality assurance processes in place, but not addressing specifically hybrid teaching. Some teachers did their own surveys to further gather information on the quality of hybrid and online approaches.

## TRANSFERABILITY AND SUSTAINABILITY

The institution is working on policies and strategies to increasingly integrate online and hybrid approaches in its teaching methodologies. Technological support service is available.

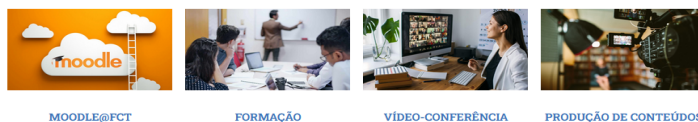
## FURTHER REFERENCES

- E-learning Laboratory: <https://elearning.fct.unl.pt>



### O Laboratório de e.Learning

Disponibilizamos apoio à comunidade da FCT na inovação em educação digital recorrendo a diferentes tecnologias para uso em sistemas local ou a distância. Tendo como objetivo potenciar a utilização de computadores, redes e da Internet na melhoria do ensino e da aprendizagem.



Screenshot shared by  
João Correia de Freitas



- Specialized Seminar in Innovation and Education:  
<https://guia.unl.pt/en/2022/fcsh/program/8438/course/03100397>



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## Specialized Seminar in Innovation in Education

Objectives General characterization **Subject matter** Programs

### Subject matter

Innovation in Education and its variants and scientific applications with emphasis on knowledge subareas presented in three modules:

a) Technological innovation applied to education:

- eLearning: Computer networks and the Internet in Teaching and Learning;
- Teaching and Learning Management Platforms;
- Networks, Multimedia and Virtual Communities;
- Digital Educational Content

or

b) Curricular innovation in sciences teaching (Biology, Geology, Mathematics, Computing)

or

c) Curricular innovation in languages teaching (Portuguese L1, LNM, LE, English, French, German or Spanish)

- Curriculum development, curricular decision levels, curricular reforms;
- Knowledge, science and school knowledge;
- The specialty curriculum and its renewal processes. Questions and problems.

Screenshot shared by João Correia de Freitas