



## VIRTUAL PEDAGOGICAL MODEL DEVELOPMENT SCENARIOS

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Title

VIRTUAL PEDAGOGICAL MODEL | Development Scenarios

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# PREFACE

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The text of Universidade Aberta's (UAb) Virtual Pedagogical Model (VPM), originally published in 2007, highlights the need for periodic updates and adjustments that arise from a permanent monitoring process. A symbolic representation of the UAb's educational context that defines its pedagogical practice, the VPM constitutes a core institutional benchmark.

Ten years after its publication, it was clearly key to the UAb's transition to online distance education and the creation of innovative educational practices that have consolidated the institution's place in distance higher education, at both national and international level. The objective data collected regarding students' studies and their satisfaction regarding the university's work also confirm the model's positive role.

Emerging movements in this area, as well as knowledge stemming from the daily experiences of online teaching, justify the proposals for updating the VPM presented here. These proposals aim to consolidate and revisit the model's theoretical foundations, as well as adapt its use to the UAb's different 1st study cycle provision.

A re-examination of the Universidade Aberta's Virtual Pedagogical Model requires an outline of the last decade's main developments in online distance education. Technological advances are indisputable and have had a major influence on the virtual pedagogical situations that characterise distance education nowadays.

As such, this document begins with a series of reflections on issues that have marked developments in this field. Broadly speaking, these are aspects that should underpin the thought and practices of the Universidade Aberta's online distance education provision. Although this document concentrates on VPM guidelines within the 1st cycle (undergraduate degrees), it is also important to consider the broader context here.

The key areas presented here consolidate essential aspects of the VPM. There is now a need to adapt to the UAb's current operational conditions, as well as those arising from the VPM's effective implementation and the associated innovation and research processes.

It is desirable to consider pedagogical innovation in online distance education in any educational context, but even more so in this one because of the speed with which technological change occurs. However, this document also aims to guide and



contextualise situations that, arising sometimes in isolation, require an analytical examination prior to their dissemination. That said, the sense of flexibility that is intended in the VPM does not legitimise practices that deviate from the principles that sustain it.

This is the first in a series of publications (MPV\_Inovaç@o) that focus on specific aspects of the VPM and other areas related to the UAb's pedagogical activities. Adhering to the principle of ongoing analysis and reflection upon pedagogical practice, these will contribute to ongoing improvements to the pedagogical model and the Universidade Aberta's work as a unique institution in Portuguese higher education.

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**PART I**  
CONCEPTUAL SCENARIOS  
IN ONLINE DISTANCE EDUCATION



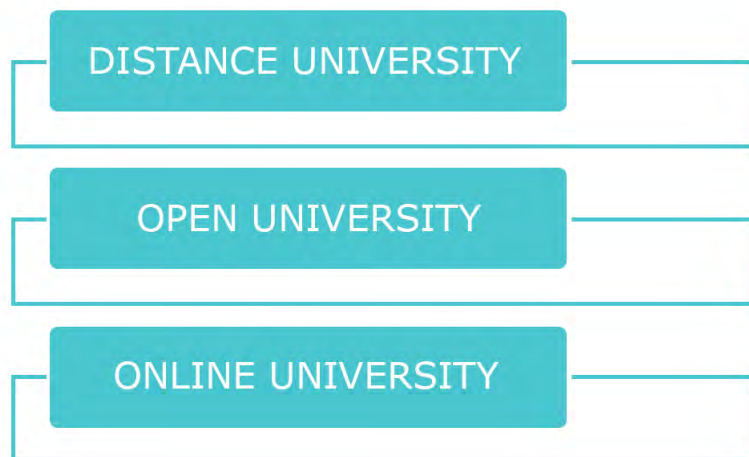
# CONCEPTUAL SCENARIOS IN ONLINE DISTANCE EDUCATION

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Distance education, which is defined in the statutes of the Universidade Aberta's mission and has been one of the cornerstones of its pedagogical practices over the years, is currently divided into three main areas: distance education, open education and online education. These are sometimes one and the same, however, the overlap is not always total and certain aspects of open education do not necessarily relate to distance or online education. Similarly, there may be distance education that is neither open nor online, and online education that is not necessarily distance education but more closely connected to what we usually call e-learning, blended-learning or learning enriched by technologies based on face-to-face contexts.

It is important for us to clarify such issues while reflecting and updating the pedagogical model, as the Universidade Aberta is defined as an open university, a distance education university and an online education institution. Although these aspects should never be considered as disconnected from one another, it should be explicit which ones the UAb intends to consolidate, such as a greater emphasis on openness (for example, focussing on the availability of content and open training courses), or distance (focussing more or less on mixed contexts or on purely virtual e-learning), or online education (reinforcing its technological infrastructure and investing more in emerging technologies).

Figure 01| Universidade Aberta Cornerstones (Portugal)



The following sections outline these three areas within the context of the Universidade Aberta.

## 1 | THE UNIVERSIDADE ABERTA AND DISTANCE EDUCATION

The UAb's distance learning students are drawn from a geographically disperse and diverse population, living all over Portugal and on different continents, particularly in Portuguese-speaking countries. This implies that all logistical and administrative procedures, as well as the UAb's pedagogical practice, must be undertaken via forms of communication mediated by technology, via a virtual campus and virtual learning environments. Access and flexibility, key structural aspects of distance education (DE), acquire new facets in digital society and are associated with new technological mediations, other DE formats, and new collaboration-based course designs (Daniel, 2018; Qayyum & Zawacki-Richter, 2018).

Given this model of geographical dispersion, online communication (i.e. interaction mediated by digital technology) becomes an indispensable and core aspect, which allows educational transaction between all elements: teachers, students, tutors, content, technological devices. Although sometimes not fully understood by observers outside the UAb, it is important to highlight two facts that research and experience acquired over the years confirm.



The first is that online communication is performative, i.e., it is not just saying (which, in itself, would be a type of performativity rarely highlighted), but also doing, or saying/doing. Student activities are not limited to virtual conversations. The dialogue, especially that which is asynchronous and written, may be accompanied by something productive that is varied in nature, be it an essay, a video, a digital artefact, or collecting data in a physical setting (examples: a street survey, collecting a geological sample in the field, etc.), which then become part of the online pedagogical environment.



On the other hand, online communication boasts a series of resources that, from an interpersonal and cognitive perspective, overcomes physical distance by promoting social presence, cognitive presence and teaching presence (Garrison, Anderson & Archer, 2000). As online education theorists have stated (Moore, 1993) for some time now, transactional distance refers to a psychological and pedagogical distance that does not necessarily relate to physical co-presence. It is possible to be physically close to a student and, at the same time, be very distant psychologically and pedagogically. Equally, it is possible to be geographically distant from a student, while being very close psychologically and pedagogically. This leads us to the idea of “mediated proximity” and the need to constantly stimulate social presence, i.e., the way we project our presence via the media, thus encouraging a good social climate on our virtual networks and in our classrooms.

If we consider the various models of online communication, it leads us to the relatively unexplored issue of what “contact hours” in distance education consist of. If we examine the performativity of online communication, we can conclude that saying, saying/doing and doing in online interaction are real moments of contact with students and not just mere verbal and virtual forms lacking content and consequences, lost in cyberspace.

**We can identify effective forms of contact in online discussions, teaching activities, the production of digital artefacts, assessments and feedback given to students, whenever these stem from a dialogical relationship, from an effective conversation between teacher and student.**

It is worth mentioning that, as a networked university, the UAb has developed regional and local student support (the LLC, local learning centres), alongside an important socio-technical network, which allows permanent virtual communication. These structures have a logistical function that facilitates face-to-face assessments, as well as developing a social and cultural mission to create a regional dynamic in relation to the university’s activities. However, these structures have no tutorial support role, as most activities and pedagogical interactions occur in the virtual learning environments supported by the UAb.

That said, the UAb's imminently virtual vocation does not exclude the possibility of face-to-face meetings which, responding flexibly to the specific character of different courses, usually take the shape of intensive residential meetings. This model differs from conventional blended learning, characterised by very frequent face-to-face meetings, alternating between face-to-face teaching and virtual learning environments.

Finally, as previously mentioned, the UAb has established a robust and complex socio-technical network of people, logistics, equipment and technologies over the years that is systematic and ongoing. The UAb's target users soon began to view being actively involved in and committed to an educational process as normal, something long considered peripheral and unconventional.

**The UAb has developed a culture of pedagogy and innovation that has successfully dismantled the strangeness associated with distance education.**



CENTROS LOCAIS DE APRENDIZAGEM

The following table is a systemised representation of the fundamental concepts and principles we have reflected upon, as well as their operational features at the UAb.

Table 1 | UAb and Distance Education

DISTANCE EDUCATION	FEATURES AND PRACTICES AT THE UAB
Geographic dispersion	<p>Systemic implementation of own and specific pedagogical and administrative practices:</p> <ul style="list-style-type: none"> <li>- Virtual campus</li> <li>- E-learning platform</li> </ul>
Physical separation between students and teachers	<p>Online communication via virtual learning environments, highlighting interpersonal and cognitive aspects:</p> <ul style="list-style-type: none"> <li>- Transactional distance</li> <li>- Mediated proximity</li> <li>- Social presence</li> <li>- Cognitive presence</li> <li>- Teaching presence</li> </ul>
Online communication	<p>Forms of communication that maintain space-time flexibility:</p> <ul style="list-style-type: none"> <li>- Asynchronous communication: asynchronous written communication is used to maintain the space-time flexibility required for geographically dispersed and adult users.</li> <li>- Synchronous communication: with small groups or to present and discuss work.</li> </ul>
Learning	<ul style="list-style-type: none"> <li>- Autonomous learning: contexts that promote student independence and responsibility are favoured, with an impact on individual study times or theoretical work, or that applied in virtual or physical contexts.</li> <li>- Collaborative learning: learning contexts focussed on creating common knowledge and know-how embodied in collective production and participation in forums, wikis, articles, reports, artefacts, emphasising the joint construction of learning and their regulation through peer contributions.</li> </ul>
Contact hours	<p>Interaction with students:</p> <ul style="list-style-type: none"> <li>- Discussions</li> <li>- Production of digital artefacts</li> <li>- Assessments</li> <li>- Feedback</li> <li>- Other teaching activities</li> </ul>
Face-to-face	<p>Sporadic residential-type meetings:</p> <ul style="list-style-type: none"> <li>- Summer schools</li> <li>- Residential schools, retreats</li> <li>- Face-to-face workshops</li> <li>- Fieldwork</li> <li>- etc.</li> </ul> <p>Cultural dynamics (at the main centre, branches, LLC):</p> <ul style="list-style-type: none"> <li>- Events</li> <li>- Conferences</li> <li>- etc.</li> </ul>

## 2 | UNIVERSIDADE ABERTA AND OPEN EDUCATION

Online distance education, and open education in particular, aim to extend large-scale learning, helping eliminate barriers to education and maximising the availability of educational materials, technologies and open courses, as part of the movement towards open science advocated at institutional, national and international levels.

The concept of open education is heterogeneous. It is generally associated with new and varied learning opportunities, where open educational resources (OER) and open educational practices (OEP) play a key role. However, open education is also associated with the idea of self-realisation, personal development (Deimann & Farrow, 2013), the basic principle of “lifelong and lifewide learning”. Nowadays, open education is a basic principle of lifelong learning, committed to free and open access to knowledge, interdisciplinary collaboration, new rationales of intellectual property, new pedagogies, free access to education and participation.



As a university that promotes open education, the UAb has been implementing policies and developing practices geared towards promoting greater adult access to higher education and extending its activities to a greater number of citizens, thus offering a range of open and inclusive education.

The table below presents certain indicators that place the UAb within the current context of open education and envisages developments in each of the areas considered.



Table 2 | UAb and Open Education

OPEN EDUCATION	FEATURES AND PRACTICES AT THE UAb
Open educational resources	<p>Properly licensed digital educational materials/content (including Creative Commons licenses), which can be freely used, adapted and reused:</p> <ul style="list-style-type: none"> <li>- OER (in the UAb repository)</li> <li>- Open textbooks</li> <li>- Open class / ReP@ (OER with didactic proposals)</li> </ul>
Open access	<p>Open access scientific content with respective licensing:</p> <ul style="list-style-type: none"> <li>- UAb repository</li> </ul>
Open educational practises	<p>Practices that support the (re)use and production of open educational practises and/or large-scale open courses, promoting innovative pedagogical models within the virtual classroom, where students are also co-producers of content:</p> <ul style="list-style-type: none"> <li>- Open class / Janel@UAb</li> <li>- MOOCs</li> <li>- Virtual classroom</li> </ul>
Accessibility	<p>Adaptation of content and practices to users with special educational needs.</p> <ul style="list-style-type: none"> <li>- Accessibility project</li> <li>- Standardisation of documents</li> <li>- Production of accessible digital content</li> </ul>
Digital inclusion	<p>Digital technology and Internet-related capacities, attitudes and skills with tangible positive results in the everyday life (offline) of different individuals and groups. These skills facilitating inclusion are promoted at the UAb in:</p> <ul style="list-style-type: none"> <li>- Online adaptation modules</li> <li>- E-mentoring</li> <li>- Wide ranging integration in all UAb courses</li> </ul>

### 3 | UNIVERSIDADE ABERTA AND ONLINE EDUCATION

The main characteristics and features of online education are:

- a temporal dimension, involves ubiquitous learning (anytime, anywhere);
- a discursive dimension (representations of multimodal and hypermedia knowledge);
- an epistemic dimension (learner as author and producer of knowledge);
- a social dimension (involves collaborative and collective intelligence and peer learning);
- a material dimension (use of technological tools and production of digital artefacts);
- a cognitive dimension (involves metacognition and critical reflection on a person's own learning processes);
- and an evaluative dimension (includes recursive feedback between teacher and students or between peers, formative assessment and learning analytics).

Since the creation of the VPM, which basically proposed a pedagogical model that revolved around a single platform (LMS - Learning Management System), there have been important developments in so-called emerging technologies and pedagogies. As such, it is crucial to consider a range of pedagogical possibilities that these technologies offer digital and networked learning, which we will briefly explore below.



Platform development has occurred alongside the emergence of Web 2.0 and PLEs (Personal Learning Environments). PLEs can be considered as technology (including applications and services), but also as a set of concepts and principles governing learning in multiple contexts, based on learner control and autonomy and ensuring both individual autonomy and the chance to be part of groups and networks. We can say that, while the LMS operates at more of an institutional level, with greater teacher control and pre-defined content, the PLE operates at a more personal level, allowing a more personalised authorial construction and information and knowledge management that is more directly related to the user/learner. PLEs are also more geared towards sharing resources, collaborative knowledge building in an open way, and less focused on protection and restricted access, with a type of Creative Commons licensing, which facilitates the editing, modification and reuse of content and resources.

Technological environments are constantly creating new learning possibilities. Web 2.0 has facilitated active participation, interaction and collaboration among users which, when applied to a teaching and learning process, helps create environments for research, participation, collaboration and cooperation between all those involved. This creates a very favourable environment for building collective intelligence, transcending the space and time of the individual intelligences it consists of. Social media provide fertile forums for innovative pedagogical and methodological strategies for production, sharing, reuse and remixing of OER, emphasising open collaborative learning.

One of the main focusses of the teaching and learning process is found in the artefacts and representations of knowledge constructed by the learner and how they are constructed. At a time when information is ever-accessible via digital devices, education geared to memorisation loses much of its importance. Memorisation will develop, but it will be a lateral consequence of real involvement in a theme or course unit (CU). Indeed, learning objectives are different at a time when we have these ubiquitous devices as cognitive “prostheses”. The measurable aim of learning has now changed from long-term memory to knowledge processes and their documentation/instantiation appears in the form of epistemic artefacts or representations of knowledge - a report, a honed solution, a recorded activity, a model, a design, a project. This situation involves a move away from an emphasis on cognition to an emphasis on epistemic artefacts, digital artefacts that can be made public and, if necessary, adapted and reused.

Learning management systems (LMS) have undergone remarkable developments, diversifying work possibilities in online distance education. A new characteristic of these systems is undertaking analyses to track student participation, covering not

only traditional assessments, but also analyses based on data mining, including keyboard layouts, histories of participation and editing, and social interaction patterns. In addition to this, new features have enhanced peer interaction, particularly anonymous peer review.

The following table lists a set of features currently offered to a distance learning university that, like UAb, operates within an online and networked context, with many of these possibilities already operational on different courses.

Table 3 | A UAb and Online Education.

ONLINE EDUCATION	FEATURES AND PRACTICES AT THE UAB
Learning Management Systems (LMS)	<p>The LMS Moodle was chosen for the UAb (the work began with the 1.9 version, being upgraded to the 3.3 in 2018), with the advantage of being an open software e-learning platform project, developed and maintained by different authors, coordinated by Moodle HQ, Australia. In the case of the UAb, and as part of VPM implementation, there were specific developments embodied in the design of a course unit model that was pre-configured and contained devices essential to the Curricular Unit's operation according to the VPM for the 1st cycle. This made it possible for teachers to create their CU online forums in an effective and relatively uniform way. Integration with the academic portal (student information system) was also developed at UAb, in accordance with the stipulations of the VPM. The integration involves both student registration and placement in virtual classes, as well as the transfer of classifications from the LMS to the portal.</p>
Mobile Learning	<p>Mobile devices offer access to various resources, multiple applications and collaborative tasks. M-learning is increasingly used to encourage social interaction and to make learning material available. The UAb (as part of the European project MINE - Mobile Learning in Higher Education) identified the fact that students predominantly use laptops and smartphones to access different areas of the virtual campus (e-learning platform, academic portal), as well as other tools necessary in the teaching and learning process. As such, it is important to consider the use of responsive interfaces adaptable to use in different contexts, as well as implementing different forms of student-university contact based on mobile technologies (apps, alerts, notifications).</p>
Social media and networks	<p>Social networks can make learning more engaging, relevant and culturally diverse. The distributional effect of this type of communication is an important feature of contemporary technologies that facilitate real network learning. Options like Facebook, Twitter, Flickr, Instagram, Wikis, WhatsApp, podcasts/videocasts, and YouTube can offer important links to course content and valuable opportunities for more diverse, frequent, and instant connections with other students.</p>



#### Gamification

Using games and gamification techniques to involve and motivate people to achieve their goals is becoming more common and implemented in a wide variety of courses, from the most basic features (e.g., the use of badges) to more complex scenarios and problems. Serious “games” and educational games, as well as virtual worlds developed for educational purposes, demonstrate the potential of these technologies to engage and motivate students beyond leisure activities.

#### Simulations

Simulations involve scenarios in which students interact to apply knowledge and practical skills in the real world. In addition to content involved in learning, students acquire important skills, such as interpersonal communication, teamwork, leadership, decision-making, task management with scenario/simulation-based education. Practical scenarios can be undertaken individually or in teams, involving collaboration and knowledge sharing.

#### Digital narratives

Digital narratives combine narrative with digital content and include any or all of the following things: text, images, sound and/or video, to create a digital artefact, which may possess a strong emotional and personal component. Digital narratives allow students to express themselves with their own voice, encouraging a sense of individuality, authorship and responsibility for what they create. The process allows students to reflect and find strong links with the area studied on a course.

#### Augmented reality

Augmented reality (AR) involves virtual images being integrated into the real world through the use of ICT. Reality is augmented by virtual elements. The development of AR content has been accompanied by the technological development of computers and ICT, which can be considered different scientific areas.

#### Learning analytics

Learning analytics (LA) is increasingly important in the field of education that generates knowledge about educational agents and contexts from large amounts of data (data mining), digital technologies and technology enhanced learning. Learning analytics facilitates the analysis of student learning processes based on student and teacher participation in online contexts (LMS).

The detailed knowledge of students’ individual paths that LA provides can have an impact on various things, such as course design and formal and non-formal learning contexts, the identification of teaching and learning strategies, the quality of educational materials and assessment types and techniques. The influence of LA has been most obvious in the development of student learning, as well as the prevention of dropout and failure.

### Intelligent agents

An intelligent agent is a type of software developed to automate and execute tasks for users, with adaptive behaviours depending on the user and online environment. Chatbots prove useful in e-learning, in terms of facilitating the learning process. An example of this at the UAb is the virtual tutoring project (funded by FCT-MCTES), which aims to create an anthropomorphic avatar that forges an empathetic relationship with the student, reacting intelligently to attendance and success in online activities. Artificial intelligence is also used effectively to prevent plagiarism by using an appropriate tool that is integrated with the LMS.

### E-portfolios

E-portfolios have added features and new possibilities, as they use different digital tools and provide hyperlinks to documents on multiple media. They offer the possibility of a greater dynamic due to their diversity (texts, photos, videos, audios, etc.), the possibility of intra-document navigation via hyperlinks. They are flexible and dynamic because it is easy to change and update content. By bringing together work that the student has collected, selected, organised, reflected upon, demonstrating knowledge and development over time, the e-portfolio demonstrates their learning path.

### Blockchains

Blockchain is a recent technology capable of revolutionising the way transactions are recorded over the Internet. It works in a distributed way, without no intermediary - confidence in the system is obtained via the consensus of all users and guaranteed through cryptographic mechanisms.

The best-known application of this technology is crypto-currency transaction (e.g. bitcoin), but there are many other applications.

Various uses for blockchains have been proposed in the area of education (Ark, 2018; Devine, 2015), and the UAb's virtual pedagogical model offers several opportunities to apply this technology:

- learning contract (LC) - employing the concept of smart contract implemented in blockchain, contracts can be used and verified automatically, without recourse to intermediaries;
- learning licence (LL) - a cumulative record with points registered for undertaking assessment activities. This can be implemented in a blockchain without fear of manipulations or changes;
- credit transfer (European Credit Transfer and Accumulation System - ECTS) - through blockchains, credit obtained and accumulated can be publicly recorded and securely verified by all parties;
- online voting - blockchain technology allows the implementation of secure, transparent, auditable and perfectly anonymous voting systems.



**PART II**  
UNIVERSIDADE ABERTA VPM  
DEVELOPMENT SCENARIOS  
[1ST STUDY CYCLE]





# UNIVERSIDADE ABERTA VPM DEVELOPMENT SCENARIOS (1<sup>ST</sup> STUDY CYCLE)

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The UAb's VPM has underpinned innovative teaching practices that have made a major contribution to establishing open and online education at the UAb and in Portuguese higher education.

**The VPM proposes a set of cornerstones that support and contextualise pedagogical practice at the UAb and acts as a basic reference point, adopting ongoing updates such as those outlined here, for continuous optimisation.**

The experience of how the VPM has been applied, particularly in the 1st study cycle, shows that the model was often interpreted simplistically, thus limiting aspects of flexibility in teaching contexts and specific scientific areas.

Since the Universidade Aberta's pedagogical model was designed, there have also been important changes in students' educational needs, as well as the type of technologies available. **As such, VPM updates consider these changes to improve teaching quality and learning practices.** At the same time, certain pedagogical premises already enshrined in the 2007 document should be given special attention.



The following points cover specific aspects in 1st cycle courses (undergraduate degrees), highlighting structural dimensions of educational practice, clarifying some issues regarding the organisation of teaching work and anticipating pedagogical developments.



## 1 | THE VIRTUAL CAMPUS

The virtual campus was developed following the launch of VPM and consisted of an innovative and structural concept for a global vision of students' relationship with the Universidade Aberta. The virtual campus provides the online environment where all interaction between students and the UAb takes place.



**As part of a comprehensive, multifaceted and multipurpose virtual campus, the student interacts with the UAb in all aspects of their academic path: administrative, pedagogical, social, cultural.**

The core component of this campus is a customised version of the LMS Moodle, which is permanently monitored and updated by a team of teachers and specialised technicians. This is a web system that, in addition to providing activities and content, promotes contact in virtual space between students and teachers. The LMS boasts different tools and features that facilitate various training and assessment activities within a virtual class environment. The Moodle includes the following features:

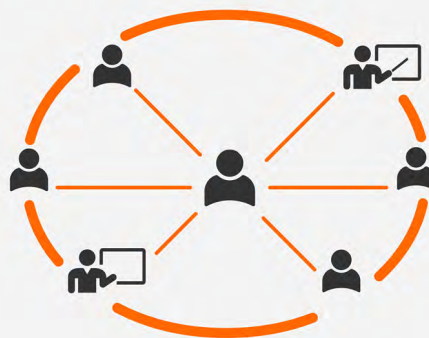
- resources (documents, videos, URLs, pages);
- asynchronous communication forums;
- tests (quizzes), with various types of questions;
- submissão de trabalhos;
- lessons, which provide flexible learning paths;
- surveys, to collect opinions and votes;
- wikis, for collaborative content production.



The virtual learning environment is dynamic, collaborative, communication-friendly and the forum for meaningful learning, respecting the principles of the pedagogical model without limiting a personal approach by teachers. This can also be improved with other interconnected digital contexts to create diversified, motivating and enriched learning paths.

The LMS is part of the rest of the virtual campus, communicating with other systems, such as the academic management system, where it gleans information regarding student enrolment and where it sends final assessment grades.

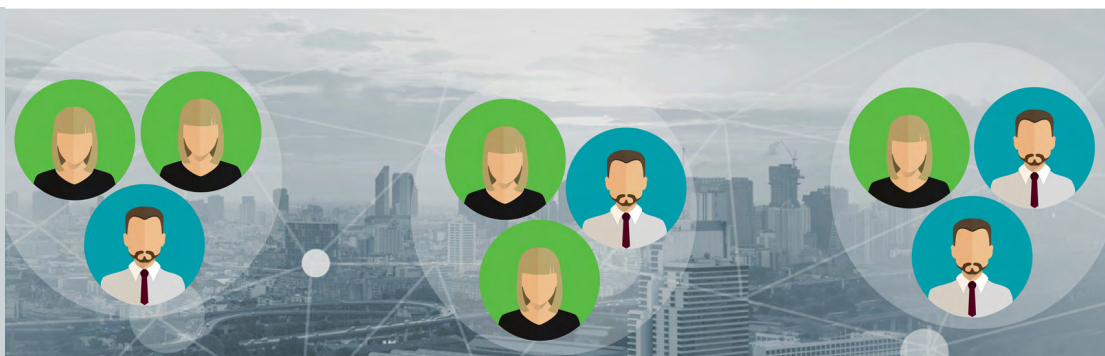
**The virtual campus is key for academic experience, providing a sense of belonging to a community, something that should be emphasised with students** by promoting content and mobile learning technologies, the use of virtual laboratories or other resources and strategies that facilitate both learning and a sense of belonging.



## 2 | COURSE ORGANISATION AND TEACHING WORK

We know teachers' duties traditionally include the design, orientation, promotion and assessment of educational processes. We also know that the extent these duties are undertaken has varied according to dominant educational principles, perspectives and specific characteristics. The blurring of traditional teaching and learning boundaries makes greater demands on teachers' scientific and pedagogical competences. This involves communication and the personalisation of teaching work, has a direct impact on course and course unit design and, consequently, on the proposed content, methods and pedagogical practice.

UAb course organisation boasts important tools and elements, such as the course guide, the course unit plan (CUP), the virtual class, teaching teams and course coordination. This section revisits various tools key to UAb course design and summarises aspects related to teaching profiles.



### Course Guide

The course guide, which is a structural communication and public dissemination document for the course, is part of the strategy that promotes a culture of transparency regarding access to information at the UAb. On one hand, it provides potential stakeholders - students (current and future), professionals, employers, among others - with relevant information about the course and, on the other, should be easy to access and navigate.

In the case of the UAb, and its students in particular, **the course guide has added importance because it supports an informed decision about which training path to choose.**

In addition to other key aspects of each course and their specific features, the course guide should cover the following:

- General information regarding access to UAb (contacts, etc.)
- General course organisation;
- Training profile and job opportunities;
- Diploma and education level attributed, according to the NQF (National Qualifications Framework) and the EQF (European Qualifications Framework);
- Access conditions and prerequisites;
- Applications and tuition fees;
- The course study programmes and respective objectives and skills;
- Learning methodologies;
- Learning organisation;
- Resources;
- Assessment, classification and credits;
- Teaching team;
- Management team;

### **Course unit plan (CUP)**

The CUP is a key structural tool that provides students with guidance on each course unit. As such, teachers should pay special attention to how it is drawn up.





**For students involved in online distance learning, managing their study and learning path is key, which explains the importance of this document for planning their work.**

Returning to the explanation found in the VPM (2007), the CUP is presented as a “guide” that provides essential information about how each Curricular Unit (CU) is organised and developed. It establishes the work students should cover and should include the relevant elements from the VPM (2007, p. 17) in a clear and comprehensive way. As a tool for organising and managing the learning process, it should be made available to the students at the very beginning of the CU. The model currently available facilitates this task.

The CUP also expresses the teacher/teaching team’s commitment to fulfil the plan and provide support for students, with major implications for the teaching process and presence of the teacher/teaching team in the class.

### **Virtual class**

The basic virtual class model in the 1st cycle includes **up to 60 students per class**. In specific CUs, continuous assessment is compulsory (see point 5 on assessment), e.g. languages, or in CUs geared towards developing a certain type of skills, **in which case classes have up to 25 students**. These situations will always be substantiated and analysed with the course coordinators and subject to the approval of the competent departmental bodies.



In terms of organising work, online contact hours match the characteristics of the CU and the type of common activities undertaken in the virtual classroom: with varying degrees of interaction and discussion; with more or less need for individual support. In the case of the UAb, the CUs in the 1st cycle represent 6 ECTS, where one ECTS corresponds to 26 hours of student work (156 hours in total, per CU), and each teacher's contact hours are calculated based on the time spent interacting and monitoring student work throughout the semester. Contact hours may vary in the different CUs, and the interval between 26 and 30 contact hours should be considered for a 1st Cycle CU with 6 ECTS.

## Teaching Teams

At UAb, we can define teachers' main duties as:

- Designing, planning and developing the course unit;
- Creating and developing the course unit model on the virtual campus;
- Assessing learning and defining assessment criteria, creating the respective tools for formative and final assessment;
- Monitoring students' learning process;
- Mediating and regulating interactions between teacher-students and among students;
- Assessing students' learning.

The teacher in charge of the CU is also responsible for supervising and assessing the tutor's work where this exists, i.e., when the CU involves more than one class.

**At the UAb, tutoring is understood to be an activity to support teaching work.** As such, the tutor is not part of the UAb's permanent teaching team, with tutors identified and collaborating in the 1st cycle of the CU in each semester as required, according to the number of students.



The UAb's regulations state that tutors must have scientific, pedagogical, technological and social skills, as well as transversal skills in communication and interaction, teamwork, information and knowledge management. With the guidance of the teacher responsible for the CU, the tutor's key mission is to provide guidance, monitoring and assessment of students' learning process within the class assigned to them, as well as managing the presence and proximity with and among students in the virtual classroom. The tutor works according to a tutoring plan prepared by the teacher responsible for the respective CU (see parameters in VPM, 2007 and the Tutoring Regulation in force, Dispatch no. 70/R/2017).

Their specific duties include the following areas:

- Implementing plans and programmes developed by the teacher responsible for the study programme or course unit;
- Guiding students' learning process, according to the course unit plan and tutoring plan prepared by the teacher responsible for the CU;
- Motivating students to learn, referring to the documents and tools developed by the teacher responsible for the CU;
- Assessing course unit students based on the parameters, criteria and tools developed by the teacher responsible for the course unit;
- Monitoring of the students' evaluation process, providing timely and formative comments on activities undertaken;
- Appropriate use of information available in different technological formats;
- Effective use of digital tools used in the students' learning process;
- Online communication, adapting the style of discourse to students' learning contexts, and social and digital cultures;
- Possibility of participating in research projects in the scientific area or area or sub-area of the study programme or course unit in which they work.

## Course coordination

Course coordination has become a cornerstone of the design, organisation, development, evaluation and accreditation processes of the educational provision at the UAb. It is important to highlight the importance of course coordination, which was already prominent in the VPM published in 2007. It functions at different moments, particularly in course supervision and as a key body that coordinates with and among teachers, monitoring students and **providing an important social presence, according to the principles of proximity, guidance and motivation.**

The UAb course coordinator's regulations assign course supervision and development throughout the school year and its assessment. Specifically, the coordination body is responsible for supervising students' learning processes throughout the course by:

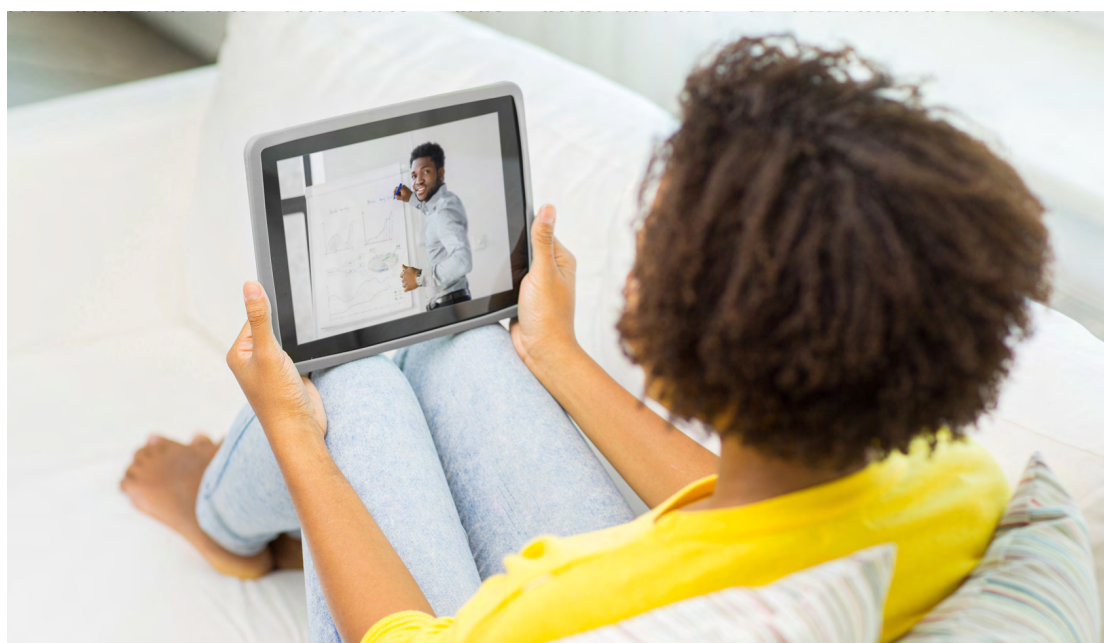
- organising the different course units and general running of the course;
- coordinating the pedagogical performance of the course teaching team;
- creating an online section for the course office, which offers administrative support to students;
- providing a forum for online communication between course coordination and students;
- providing an informal interaction forum that allows students to socialise online;
- monitoring the projects involving course teachers and students;
- participating in the course quality assessment processes.





### 3 | COMMUNICATION, INTERACTION AND PARTICIPATION IN THE 1<sup>ST</sup> CYCLE

Adhering to one of distance education's basic principles, **the UAb's pedagogical model remains essentially asynchronous, maximising the temporal and spatial flexibility that UAb students require.** However, it is worth highlighting that introducing synchronous moments does not distort its nature. As such, in duly considered and substantiated cases, scientific and pedagogical course managers may incorporate synchronous activities in the teaching and learning processes, according to certain educational profiles and where specific competences need to be developed.



We know that mediated proximity can be achieved by employing a wide range of available digital technologies, which does not require the physical presence of the people involved. However, on courses whose model includes training in real practice settings, very differentiated face-to-face activities may be fundamental.

The following are guidelines and recommendations for introducing compulsory synchronous moments in UAb 1st cycle courses:

- The rationale for this option should be presented by teachers to those responsible for the scientific content of the course, in order to analyse all the implications arising from such a choice;
- Synchronous moments, especially ones that are face-to-face, are clearly scheduled and involve intensive work in a short space of time;



- Synchronous moments, as well as the respective requirements for students must be clearly explained in the course guide;
- In the CUP (course unit plan), synchronous activities must fit the learning objectives and be explained in the methodology and work plan, clearly indicating how and when they will be undertaken.

In the 1st cycle, **it is important to create greater student involvement in learning and in the construction of successful pathways. As such, interaction mechanisms need to be consolidated.** It is also the teacher's responsibility to promote interaction between peers, which is increasingly valued in online learning contexts. Individual and collaborative activities (in groups or communities), suitable to the learning objectives, should be considered. These should have an impact that the teacher considers appropriate in the final assessment. The CUP should clearly present the design of these activities, specifying their importance, how they are organised, as well as the criteria and weighting of ongoing assessment.

To sustain interaction, the 2007 VPM outlined two types of forums in the 1st cycle: moderate (in well-defined time periods) and non-moderate. Due to experience (e.g, less intense interaction levels than expected), that distinction is considered less important. Recognising that the teacher's presence is always important for motivation, orientation and regulation of the work environment, this role should be emphasised.

**Only moderated forums have been maintained. These should also operate without a time limit (within each module/subject).**

For the sake of effective teaching and learning processes, response to questions and requests from students should be timely, preferably within two working days.

## E-mentoring

The identification of individual follow-up mechanisms for students, which are especially important at the beginning of their course, can be achieved via the e-mentoring processes. Champions are included in the original pedagogical model, but we now propose the term mentor, which is appropriate for the role played. The role of course coordination is key in this field, who mentors should coordinate with.

The experience already gained, which needs to be consolidated with brief training of student mentors, has demonstrated the importance of processes that boost multiple relationships between students, the academic community and the UAb culture, involving senior students or former students in peer support.

**Mentors encourage close relationships between students, based on the culture of UAb distance learning students, as well as making it easier to overcome any difficulties while integrating into the academic community or during their course of study.**



## 4 | STUDENTS AND LEARNING METHODOLOGIES

In the 2007 VPM, the cornerstones of online pedagogy at the UAb are outlined. The teacher is seen as a mediator of learning and responsible for creating work contexts and activities that develop the competences required of students.

As mentioned in Part I of this document, current contemporary digital environments and tools offer the possibility of renewed teaching and learning processes, particularly for the pedagogical design of 1st cycle courses.

These environments, which promote active learning, arise within the context of new learning ecologies, which involve new roles for students, teachers and mediating tools. For students because, together with the others, they practice autonomous learning; for teachers because they must design new learning scenarios and new pedagogical relationships; and for mediating tools because they are no longer external objects, becoming the students' own creation and their individual and collective knowledge.

Although the aim of this document is not an in-depth analysis of the different aspects of this ecology, it is important to emphasise certain methodologies and strategies that mediate active learning contexts.

### Application of active methodologies

In addition to more traditional scenarios, which naturally still have their place, in this search for more active student learning processes it is important to consider the potential of different approaches to facilitate diversified learning scenarios, particularly regarding student motivation, critical thinking, relational skills and reducing dropout levels.

Bearing in mind the importance of autonomous learning, as stipulated in the 2007 VPM, diversified methodologies are encouraged, **highlighting the value of work processes related to problem-based learning (PBL)**, case-based learning, project-based learning, or others, which, as a prerequisite, are clearly presented in and integrated into the course unit plan, considering:

- Making students aware of the use of these methodologies, with their clear explanation in the CUP;
- Clarifying the role of these methodologies in achieving the objectives and competences defined in the course, course unit and themes explored;

- Clarifying the application of these methodologies in activities and tasks undertaken by the students, in assessment procedures and expected results;
- Scheduling of activities and indication of basic resources.

The characteristics of the three abovementioned methodologies are laid out in the following table.

Table 4 | Active methodologies – short summary.

DESIGNATION	DESCRIPTION
<i>Problem-based learning (PBL)</i>	In a problem-based learning methodology, problems should be carefully chosen, with complexity and difficulty increasing over the course. Problem-based learning is particularly suitable to long-term knowledge and replicable skills, as well as improving learners' attitudes regarding learning. Students generally find this approach challenging.
<i>Case-based learning</i>	With case-based learning students develop their analytical thinking and reflective analysis by reading and discussing complex and real-life scenarios. Like PBL, case-based learning uses a guided research method, but generally requires students to have a degree of prior knowledge that can help them analyse the case.
<i>Project-based learning</i>	Project-based learning gives students greater autonomy/responsibility to choose and organise their work and decide which methods to use to undertake the project. Projects are generally based on real-world problems, which gives students a sense of responsibility and ownership regarding learning activities.

### Applying collaborative methodologies

The use of collaborative methodologies plays a key role in developing critical thinking, the appropriation and application of knowledge, boosting motivation, consolidating skills associated with relationships and cooperation, and reducing drop-out levels. As the variable of the VPM 1st cycle is essentially developed from the principle of autonomous learning, it is important to clarify certain aspects regarding the application of collaborative methodologies in this study cycle.

As previously mentioned, all activities, be they individual or collaborative, in groups or communities, should match the CU objectives and naturally be included in assessment parameters and criteria. As collaborative work is a constant concern for teachers, within the context of applying the VPM, it is important to highlight the following:

- While planning the course unit, and particularly when deciding to introduce collaborative work, the teacher should always consider the students' specific characteristics, the number of students in the class and the regulation and



monitoring of work, among other pedagogical variables.

- If the teacher believes that the basic conditions for collaborative learning contexts are met, students should be made aware of this at the beginning of the course unit, during the course unit plan (CUP) discussion. As in all learning methodologies, student and teacher roles should also be thoroughly explained.
- Using collaborative learning methodologies demands constant planning and monitoring by the teacher.

### **Applying Multimodal Technologies in Learning**

Throughout the decade the VPM has been in force, written language - the dominant form of expression in producing and communicating scientific knowledge – has also been emphasised in the virtual classroom. However, in the last 20 years, a new communicational ecology has emerged. It is associated with new forms of codification, representation and knowledge-building that have clearly triggered new communication dynamics in learning contexts.

It is worth noting that this new multivariate and multimodal communication ecology is accompanied by the domestication (Silverstone, 2006) of the Internet, smartphones, video games, widespread creation processes and expression in video, audio, multimedia, hypermedia, and the integration of these new forms of communication and creation into daily life. As such, these new forms of expression and communication should also mediate 1st cycle students' formal learning experiences. The diversification of educational materials should be considered, as they improve the quality of students' learning pathways.

Despite clear signs of change in recent years, the presence of video, audio, multimedia, hypertext, AI and other languages (see point 3 of Part I) is still timid in some formal learning contexts. As such, as part of the 1st cycle VPM update, there should be more use of these languages and digital tools for:

- The organisation and presentation of course units and their content;
- The organisation and promotion of different learning activities;
- Online assessment.



## 5 | ASSESSING 1<sup>ST</sup>-CYCLE COURSES AT UAB

Assessment is a core process in teaching, as it allows the teacher to verify whether the course produces the intended learning. As such, there should be a constructive alignment between objectives, activities and assessment.

**Assessment is an increasingly important and inseparable factor in the quality of learning processes.**

If traditional assessment practices are questioned in face-to-face teaching, in new learning contexts, namely in e-learning contexts, this is considered even more problematic. As assessment is always related to what is meant by teaching and learning, these new learning contexts and their characteristics have largely determined a rethink of conventional pedagogical models and assessment practices.

The UAB's VPM has always favoured continuous assessment, believing it to produce more active student participation throughout the CU, contributing to greater quality and involvement in learning, as it is formative in nature. However, generally speaking, students can still opt for continuous assessment or final examination.

That said, in certain CUs, there may only be compulsory continuous assessment, and always with a final face-to-face/synchronous moment (p-folio), which may take different forms, including an oral test. This is the case with CUs in languages, CUs that require immersion in professional practices, or CUs that fit certain training profiles. This final exam can take and/or combine different formats: a written test, oral test (particularly for languages), presentation and discussion of work, discussion of a report, and other possibilities. The assessment methods defined by the teacher must be clearly explained in the CUP.



When it comes to continuous assessment, which is based on creating e-folios and a p-folio in the VPM, it should be noted that the uniform designation chosen for these assessment tools does not mean that their form and nature are also uniform (e.g. written question/ answer). Quite the opposite, the **e-folio can be done in different languages and digital media, while the p-folio can also be developed in different ways, depending on specific educational contexts.**

In this context, we should not forget the important role of formative activities (FA) that teachers provide. The essential objective of these is to encourage interaction with content, as well as among students, fostering autonomy and self-regulation of learning. The type of CU, number of students and types of activities proposed also define possible teacher intervention to support the FA. This intervention can range from providing a document with standard answers to more individualised correction of work presented in this context.

Guidance on evaluation and feedback is provided below, which is particularly useful in 1st cycle courses:

- **Continuous assessment should be diversified** in order to match the assessed competences, be meaningful and authentic to students, thus relating to the student situation.
- **Continuous assessment should lead to feedback** that is compulsory, timely and content relevant to support the student's progress. The feedback can be given using various strategies (written, audio, video), with a specific individual component and a general component, geared towards the whole class.
- **Continuous assessment should be transparent**, both in the requests made and the indication of assessment criteria, which the student should know in advance.
- **Continuous assessment must be sustainable**, in the sense that the request should consider the student's readiness, as well as the teacher's ability to complete the assessment (time, resources available, and other operational constraints).
- **Assessment tools may take different formats and typologies**, depending on the type of competencies assessed. An e-folio can be a book report or interpretation of a theorem, a podcast, a short video recording, a conceptual map, participation in a wiki or an e-portfolio of the class, if there is one, or even a discussion in a forum on a certain topic.
- Regardless of individual contributions (work) that lead to an assessed item, **work leading to the creation of e-folios can be done in a group**, when the peer interaction and collaboration adds value to the learning process.

Bearing in mind the geographical dispersion of students, technological advances have facilitated the implementation of increasingly sophisticated recognition systems, so that the use of computer-mediated assessment processes (monitored by automatic means, using AI algorithms) are important developments to be considered in the near future.





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