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E-learning international courses within Forest Sciences program at UNIPD: potential and challenges for quality assurance

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 valuing nature

Outline

1. Introduction
2. The experience of e-learning courses within the Forest Sciences programmes at the University of Padova
3. The special case of ECOSTAR e-learning course
4. Implications for quality assurance
5. Final remarks

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1. Introduction

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While in the past e-learning activities have been often delivered as a complement to the traditional frontal lessons, in the last decade, the **role of e-learning courses in structuring the study curricula has been growing rapidly.**

Main drivers:

- Increasing **demand for higher education** qualification
- Innovation in and increasing use of **digital technologies**
- Increasing demand of **innovative and participatory-oriented teaching techniques** based on involvement of students
- **Increasing competition among Universities** in attracting international students and getting higher international visibility (e.g., getting motivated students, more resources, reputation)

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Introduction

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Two main types of e-learning courses:

1) Interactive e-learning courses

- ✓ e-modules delivered in pre-defined weeks/periods
- ✓ students' engagement
- ✓ teacher-student relationship
- ✓ collaborative learning
- ✓ final evaluation of students' performance by the teacher
- ✓ more dynamic

2) MOOC

- ✓ e-modules always accessible/available (asynchronous or *in continuum*)
- ✓ (in general) no direct interactions between students-teachers
- ✓ (in general) final self-evaluation
- ✓ more static

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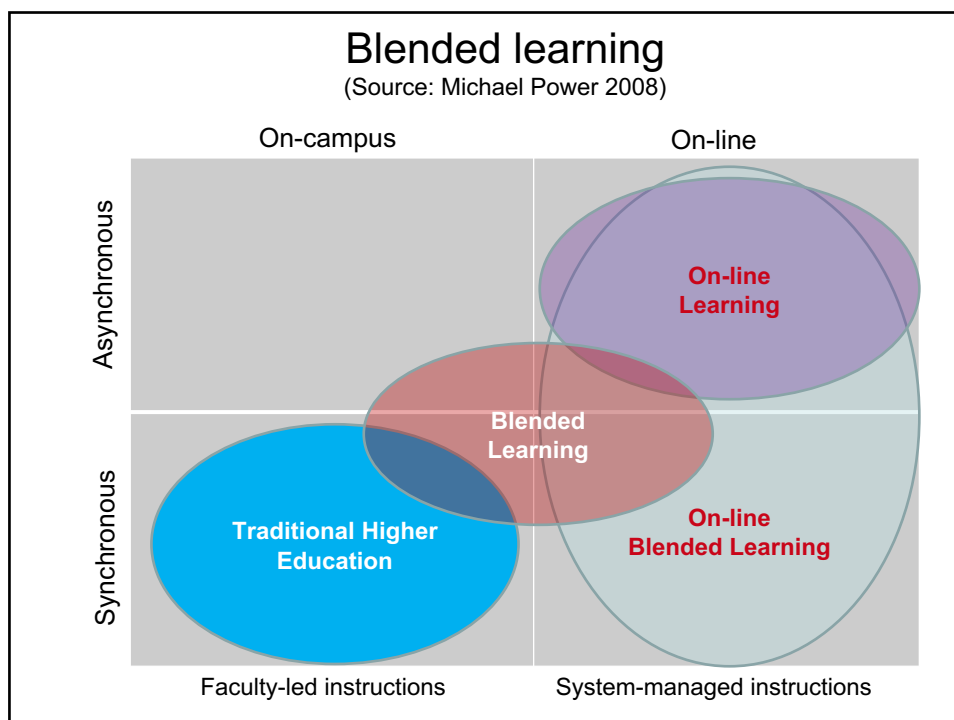
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2. E-learning courses in Forest Sciences programs at UNIPD

General characteristics:

- **Interactive e-learning activities** (assigned tasks + individual/group work of the students + forums/online discussions (moderated-stimulated by the e-teacher)
- **Moodle platform** (open access)

The screenshot displays the Moodle LMS interface for the University of Padova. The top navigation bar includes links for HOME, UNIPD, STRUCTURES, Educational offer, TUTORIALS FOR TEACHERS, and CONTACTS. The main content area shows a search bar and a list of courses under the category 'A.A. 2017 - 2018 / Corsi di laurea magistrale / AG091 - FOREST SCIENCE - SCIENZE FORESTALI (D4) ...'. The list includes various courses such as 'MATERIA 2000 MANAGEMENT 2017-2018', 'GEOLOGY OF MOUNTAIN AREAS 2017-2018', 'WILDLIFE CONSERVATION AND MANAGEMENT 2017-2018', 'RESEARCH AND PROJECT DEVELOPMENT METHODOLOGY: APPLICATIONS / METODOLOGIA DI RICERCA E D.', 'INSECT ECOLOGY AND MANAGEMENT 2017-2018', 'INTEGRATED WATERSHED MANAGEMENT 2017-2018', 'BIODIVERSITY AND ECOSYSTEM SERVICES IN FOREST 2017-2018', 'INTRODUCTION TO GIS 2017-2018', 'COMMUNICATION SKILLS 2017-2018', 'CLIMATE CHANGE AND TROPICAL FORESTRY: MONITORING AND POLICES 2017-2018', 'NATURAL DISTURBANCES ECOLOGY AND MANAGEMENT 2017-2018', 'SPECIAL TOPICS IN FORESTRY 2017-2018', 'STAND HISTORY AND DYNAMICS 2017-2018', 'DECREASING IMPACT TIMBER HARVESTING 2017-2018', 'APPLIED SILVICULTURE AND FOREST MANAGEMENT 2017-2018', 'FOREST POLICY FOR A BIO-ECONOMY STRATEGY 2017-2018', and 'ECOSYSTEM SERVICES ENTREPRENEURSHIP: FROM IDEAS TO BUSINESS 2017-2018'. Each course entry has a small icon to its right.

2. E-learning courses in Forest Sciences programs at UNIPD

Our running courses:

- Since 2006: “*Climate Change and Tropical Forestry: Monitoring and Policies*” (6 ECTS) - EM MSc programs **SUTROFOR** & **SUFONAMA**
 - ✓ **ca. 20-25 students/year**
 - ✓ **2 e-moderators (1 teacher, 1 assistant)**
- Since 2013: “*Research Project Development and Methodology – Applications*” (4 ECTS) - EM MSc program **MEDFOR**
 - ✓ **ca. 10-23 students/year**
 - ✓ **1 e-moderator (teacher)**

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3. The special case of ECOSTAR e-learning course (Erasmus+ Knowledge Alliance program) (www.ecostarhub.com)

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Started in 2017, the e-course aims at guiding students and professionals to acquire high level entrepreneurial skills by working with private sector, to convert innovative ideas into successful business plans for impact investments, in the field of natural resources

The special case of ECOSTAR e-learning course

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- **4 partner Universities**
 - UNIPD, Italy
 - Polytechnic Univ. of Madrid, Spain
 - Univ. of Brasov, Romania
 - Univ. Manchester, U
- **15 e-moderators** (1 coordinator, 1 assistant coordinator, lecturers: initially trained for consistency in the approach)
- **150 learning hours/student** (30 direct online interaction with e-moderators/lecturers)
- **6 to 7.5 ECTS**
- **5 online e-modules + assignments**

The special case of ECOSTAR e-learning course

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E-learning course - Ecosystem services and products: from ideas to business. Program and timetable 2017-2018 (6-8 ECTS)

Module title	Expected learning outcomes	E-lessons (BP = component of Business Plan)	Modality	Timetable	Developer & E-lecturer
1: Are you innovation friendly?	<ul style="list-style-type: none"> Moodle platform understand course structure socialize with e-fellows 	1.1 Log in and answer the welcome letter 1.2 Have you ever seen innovation and entrepreneurship?	Web surfing	1 week Monday 16/10 Friday 20/10	DEVELOPER 2 Italy (Lucio & Coim) E-LECTURER 3 Spain + 3 Italy
2: Entrepreneurship ecosystem	<ul style="list-style-type: none"> Understand regulatory frameworks Comprehend market driving forces 	2.1 How to become an entrepreneur: definition, legal, taxation and constitution framework (BP) 2.2 Market driving forces: policies	Web surfing and law review	1 week Monday 23/10 Friday 27/10	DEVELOPER 1 Italy (Coim) Private Partners E-LECTURER 3 Spain
3: Market outlooks	<ul style="list-style-type: none"> learn key concepts trends of ecosystem services markets overview of value regional and domestic initiatives 				
4: The business idea	<ul style="list-style-type: none"> get familiar with business plan learn from best E-business plan and initiatives 				
5: Let's focus	<ul style="list-style-type: none"> Examine two case studies among the proposed Develop a business idea 	5.3 SWOT analysis (BP) Choose 2 (??) topics: 1) natural capital 2) economic evaluation 3) wild forest products 4) investments 5) payment ecosystem services 6) forest certification 7) carbon market 8) ecotourism.		Friday 1/12	3 Italy + 1 UK + 1 Romania 1 Spain
6: Final Examination		6.1 Individual assignment: development of business plan idea using the CANVAS model (1000 words) (BP) https://docs.google.com/drawings/d/102mQZQmMxw0CalmNaP25KChQwAIt9t4baYgT5VWNAAtemplate/preview?usp=drive_web		2 weeks, Monday 4/12, Friday 10/12	
RESULTS OF FINAL EXAMINATION	UNIPD & UPM give marks & comments on assignment to students (includes a proposal for next step)			Evaluated by E-LECTURERS 1 Italy + 1 Spain. Grades by 31/01/2018	
COURSE EVALUATION BY STUDENTS	Students fill in an on-line form (anonymous)			By 10/12	

Evaluation of participants' performance:
 25% active online participation
 25% mid term evaluation (4.2)
 50% final examination (6.1)

The special case of ECOSTAR e-learning course

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5 modules + mid term assignment + final assignment
 Each module has 2 to 4 e-lessons

Introduction: to introduce the learning topic

Spark: to start the learning process (image, video, etc.)

Objective: to clarify the learning objective of the e-lesson

Task: to specify what the student has to do in order to pass the E-lesson. The fulfilment of the task is objective and verifiable. To complete a task the student has to:

posts at least one message addressing the task within the defined deadlines;

posts at least one comment to address contributions of fellows;

Suggested resources: to provide student with learning sources (web sites, articles, databases, etc.)

Start and deadline: to fix the start and end time of the E-lesson

The special case of ECOSTAR e-learning course

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E-LESSON 1.2: Identifying innovation

Introduction

Definition: **Innovation is NOT invention**. Innovation gives invention a commercially viable application. Innovation can be incremental or radical.

Incremental innovation is the improvement of existing knowledge and applying it to enhance the exploitation of existing products and services. Whereas, **radical innovation** completely uproots existing conventions, altering the knowledge base and changing the markets and the products and services.

Innovation is defined by the area to which it refers: technological innovation, business innovation, economic innovation, social innovation, etc.

Our focus will be on social innovation. Social innovation is defined by the [European Sustainable Development Network](#) as new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources (natural and social capital, for example).

How can you identify innovation?

- Follow a models of
- **Upset w/ unhappy** (what makes products, services or processes, or processes with the old opportunity?)
- **Pushing products "up-market"**: think about common, banal products and services that exist in the market, how could you push them "up the market"?
- **Pushing products "down-market"**: contrarily, think about high end market products that don't yet have a common, low-end market equivalent.
- **Look at the current trends**: have a look at the existing social, environmental and economic trends to see what's popular and innovate!
- **Attributing to existing products**: can you improve, add and/or take away from existing products?
- **Changing elements in an existing business model**: an innovator may improve a part or parts of existing business models to innovate; the markets; the sales channels; the customers, for example.

Spark

Look at what social innovation means!
<https://www.youtube.com/watch?v=ed0E48boEO4>



Objective

Identify an example of innovation in the field of ecosystem services in your country or a place you visited: highlight it to your e-fellows.

Task

1. Post at least one example of innovation in the field of ecosystem services in your home country or in a country you have visited. You can use any sort of media (short articles, stories, photos, video, maps, etc.). You can either use your own evidence and information or post evidence taken from other sources (please cite them);
2. Explain why your example is innovative replying to all of the following questions:
 - a) Is the idea creative; yes/no – why?
 - b) Does the idea come from a dissatisfaction or lack of existing products or services; yes/no – why?
 - c) Does the product/service satisfy a need; yes/no – why?
 - d) Is the product/service simple to use; yes/no – why?
 - e) Is there a need to understand the users' consumption behaviour through needs

MAX TIME FOR A STUDENT 2-3 hours

- i) What are its advantages?
- j) Does it have a positive social/environmental impact; yes/no – why?
- k) Can you identify the technologies (if any) that are needed? (give examples for: core components; developers; payment mechanisms)
- l) Can you identify any suppliers/partners?
- m) What kind of regulations/guidelines exist for this product/service (national/regional/international)?
- n) Is certification an issue; yes/no – why?
- a) Is safety/security of the product/service an issue; yes/no – why?

3. Comment on at least one other person's post.

Remember: always be concise! (MAX 300 words to describe your example + pictures, maps and other supporting material)

The E-lesson is finished when you post your evidence of innovation and you provide a comment on someone's post.

Start

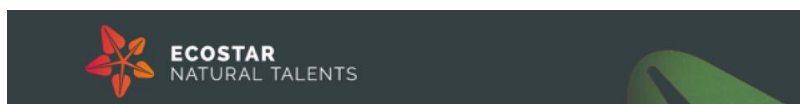
Monday 16/10/2017 at 12:00 CET (Central Europe Time)

Deadline

Friday 20/10/2017 at midnight CET

The special case of ECOSTAR e-learning course

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Participants:

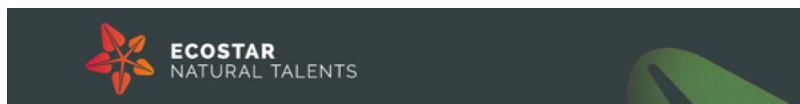
- 171 involved participants & lecturers
- **156 enrolled participants**
 - 67% students formally enrolled in a University (BS, MSc and PhD)
 - 33% non students (e.g., entrepreneurs)
- 135 active participants
- **69 participants who completed the e-course (51.1 %)**
- 26 nationalities (9 EU countries)

Level of satisfaction (anonymous evaluation form):

- **93% of participants are satisfied**, the e-course met their expectations
- 78% of participants think there is not much duplication/repetition of contents with other courses

The special case of ECOSTAR e-learning course

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Why it is “a special case”, i.e. why it differs from other e-learning courses we regularly deliver?

- **Target includes entrepreneurs** and more in general persons not necessarily enrolled as students in a University study curriculum/program
- Coordinated by UNIPD, but delivered with the contribution of **other partner Universities (e-moderators of groups)**
- Relatively **high number of participants**

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4. Implications of these types of e-learning courses for quality assurance at UNIPD 1/2

Positive/potential

- **Diversification** of the courses offered by the University
- **Flexibility** of the e-modules' schedule (time-complementing frontal lessons)
- Attraction of **high number of participants** from all over the world (visibility, resources)
- **More inclusive teaching techniques**, as suggested by our "Teaching4Learning@UNIPD" pedagogical specialized team, to increase the level of students' satisfaction and performance
- **Easier involvement of experts/lecturers** from other Universities/organisations

Implications of these types of e-learning courses for quality assurance at UNIPD 2/2

Negative/challenges

- **Shorter/simplified scientific contents**
- **Need special skills** (e.g., qualified e-moderators, communication/video design and recording teams)
- **Need more resources** than traditional courses (ideally there should be 1 e-moderator/lecturer every 10-12 students)
- **Two different procedures needed:**
 - ✓ for students: no attendance fees, transcript of records (ECTS registered)
 - ✓ for non-students: 109€ + VAT (co-financed by ECOSTAR project; 52 self-paying participants), only a certificate of attendance issued by ETIFOR
- Currently, the **formal recognition of ECTS** and issuing of a certificate by UNIPD is **not allowed for non-students**

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5. Final remarks

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- **Internal obsolete mechanisms**/procedures/requirements of the University needs to be revised/updated to adapt to the new demand
- **One MOOC in the MSc Forest Sciences will be developed soon at UNIPD**, with the aim of filling the knowledge gaps of those students who have not a forestry background at the Bachelor level
- **Communication experts** needed (for story-boards, videos, etc.) in strict collaboration with lecturers/professors

Thank you for attention!

Dipartimento TESAF
www.tesaf.unipd.it

Spin-off ETIFOR
www.etifor.com



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