

# Introduction to the ESCALATE Training Materials to support Higher Education in responding to Digitalization

## COORDINATED HIGHER INSTITUTIONS RESPONSES TO DIGITALISATION



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# Supporting higher education to respond to digitalization

- ESCALATE is an Erasmus+ strategic partnership composed by 6 partners from 5 different EU countries, with the aim to understand "university disruption" at regional and local levels and the threats posed to universities and labour market from digitalization; who are the educational institutions and organizations involved; what innovations can be employed to help understand and tackle digitalization impacts; and ultimately seek to elicit more effective local and regional higher education institutions' responses to digitalization across Europe.
- The ESCALATE project has explored new and emerging innovative practices in understanding and responding to digitalization at university level, as well as at regional and local policy levels.
- This research has been turned into a new suite of training materials for higher education leaders, teachers and researchers, as well as labour market practitioners and analysts.
- The new materials have been developed across 6 major themes to embrace new concepts and principles resulting directly from digitalization.
- The modularity of the training materials offers a selection of modules or the implementation of the whole course.

# New Foresighting, Forecasting and Digital Analysis Materials

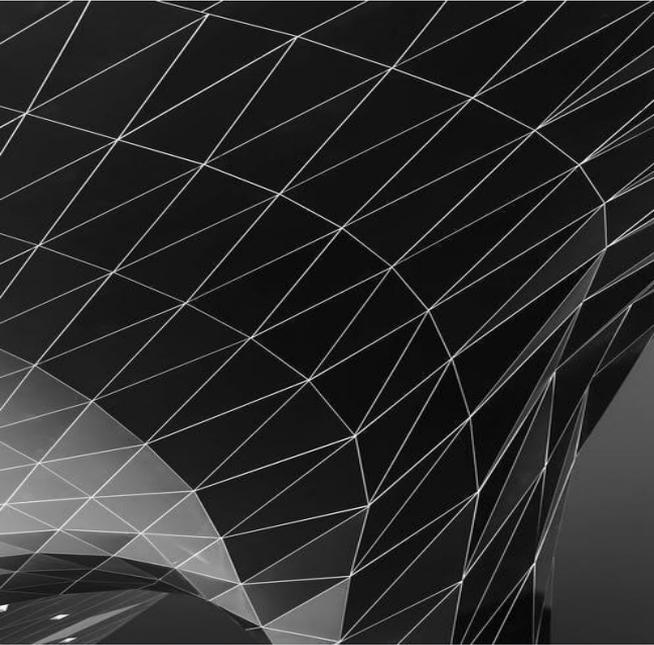
There are six ESCALATE modules, each of which is organized in units. The units include theoretical knowledge as well as good practices, examples and reflections.

1. Digital education disruption – the role of online learning and digital technologies
2. Enabling open-source technology and innovative solutions for educators and students
3. New educational opportunities created by digital technologies and barriers to going digital
4. Labour market and new sectoral responses to digitalization
5. Innovations in skills, policy design and education system governance
6. Unintended consequences and the ethics of digitalization



The following slides provide a description and outline the contents of each of the 6 modules to better guide the learner into the different themes.

# Module 1: Digital education disruption – the role of online learning and digital technologies



In this module we will examine the particular ways in which digital technologies enhance online teaching and learning and their role in a digital globalized economy, with a keen focus on digital disruption in higher education. The aim of this module is to give you an understanding of how digital disruption in HEIs can be overcome, through new types of education and skilling programs that help students cope with the future of work.

You will receive a general overview of broader education systems, innovations and particular ways of leveraging digital enablers and education providers to offer differentiated education experiences essential for learners/students to compete in a world where the nature and structure of work is significantly changing. Finally, you will acknowledge how to provide access to learning to retune and upskill learners/ students (including as regards the acquisition of versatile “soft” skills that go hand in hand with digital skills, such as critical thinking, emotional intelligence, creativity), according to their specific needs in real time and tailored to various professional profiles.

# Module 1: Digital education disruption – the role of online learning and digital technologies

## CONTENTS

### **Unit 1: The use of digital technologies in online teaching and learning**

- 1.1. The emergence of new digital technologies
- 1.2. New digital technologies in online education
  - 1.2.1. *Extended Reality (XR)*
  - 1.2.2. *Artificial intelligence*
  - 1.2.3. *Gamification*
- 1.3. Benefits of using new digital technologies in online education

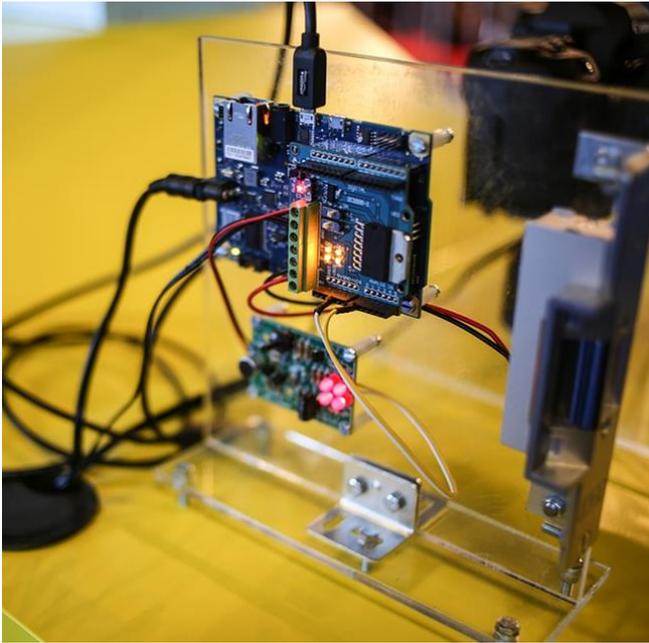
### **Unit 2: The role of online teaching and learning in a globalized digital economy**

- 2.1. Online learning environments
- 2.2. Implementation of online teaching-learning in HEIs
- 2.3. Online learning and teaching methods
- 2.4. Digital skills and competences for the digital transformation

### **Unit 3: Digital disruption in higher education**

- 3.1. What is digital education disruption?
- 3.2. Disruptive education technologies
- 3.3. Managing the disruption of higher education
- 3.4. Key characteristics of disruptive innovations
- 3.5. Enabler of disruptive innovations

## Module 2: Enabling open-source technology and innovative solutions for educators and students



The module will help you both to understand the availability and potential offered by open-source technologies in the specific relation between students and educators, identifying also the impact on the involved institutions. You will receive a general overview of the most important technologies and innovative solutions for educators and students pertinent to digitalisation.

You will also see examples mostly related to the responses to the new COVID-19 period which pushed universities and training institution to adopt new ways of teaching and reaching students. Finally, concrete recommendations will be provided seeking to ensure universities are able to appropriately assess and understand the pros and cons of adopting such technologies, in order to provide a support in planning the training policies for the future years (when, hopefully, the COVID-19 situation will be overcome and the choice of how providing the training will be free).

# Module 2: Enabling open-source technology and innovative solutions for educators and students

## CONTENTS

### **Unit 1: Open Source Technologies in Education**

- 1.1. Definition of Open Source and Distinction from Open Educational Resources
- 1.2. Typologies of Open Source Technologies in Education
- 1.3. Description of the teaching process based on Open Source Technologies

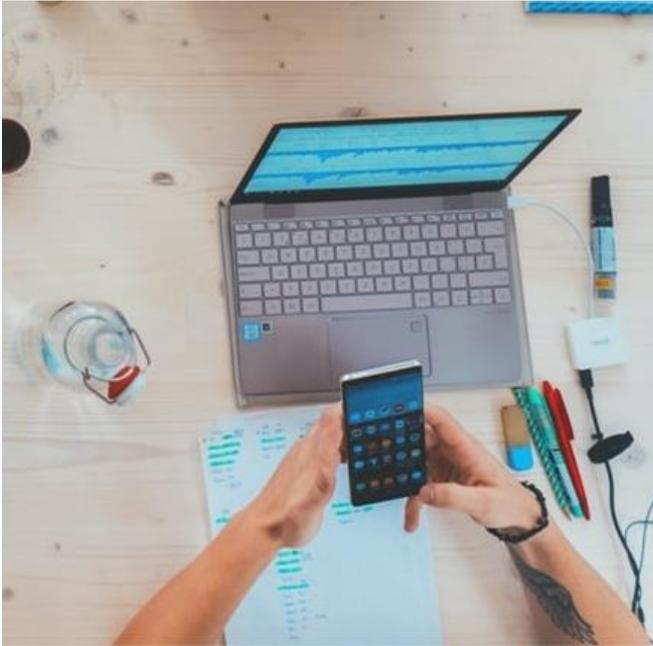
### **Unit 2: Impacts and Benefits of Open Source Technologies in Education**

- 2.1. Overview of technologies and solutions available for universities and schools
- 2.2. Benefits of Open Source Software in education
- 2.3. Exploration of potential impacts (also to respond to the needs emerged during COVID-19 period)

### **Unit 3: Examples of Solutions**

- 3.1. Examples of solutions adopted in Education and why
- 3.2. Additional Tools that are or could be used by Universities
- 3.3. Recommendations and Conclusions

# Module 3: New educational opportunities created by digital technologies and barriers to going digital



In this module we will see how technology is allowing for educational content to be delivered to students in new and different ways. Indeed, the expectations of young people are rapidly changing and students are no longer satisfied with traditional lectures. The aim of this module is to give you an understanding of how educational content can be offered in different formats through different channels.

You will receive a general overview of how courses can be organised and delivered in a way that is more relevant for a faster-moving digital generation. You will also see examples of multimedia and online resources that can be integrated into the classroom. Finally, concrete recommendations to overcome the barriers to going digital will be provided.

# Module 3: New educational opportunities created by digital technologies and barriers to going digital

## CONTENTS

### **Unit 1: Accessible and flexible educational contents**

- 1.1. Massive amounts of information available
- 1.2. Change in expectations of learners
- 1.3. Change in roles of teachers and learners
- 1.4. Trends in education
- 1.5. New learning methods
- 1.6. Access to Lifelong learning

### **Unit 2: New software and apps to help learning providers to manage, plan, deliver and track the learning process**

- 2.1. Digital learning management systems and e-learning platforms
- 2.2. e-learning authoring tools
- 2.3. Communication tools
- 2.4. Assessment tools

### **Unit 3: Barriers to going digital**

- 3.1. Inequalities on access to technology and to digital devices.
- 3.2. Digital skills of educators and learners
- 3.3. Recommendations to overcome barriers

# Module 4: Labour market and new sectoral responses to digitalization



The module will help you both to understand the availability and potential offered from labour market tools and resources and to identify where new sectoral activities are taking place that will impact on what their institutions are delivering.

You will receive a general overview of the most important forecasting and fore-sighting developments pertinent to digitalisation. You will also see examples of responses to digitalisation within certain sectors and how this is leading to a different skills requirement for workers engaged in Europe within these sectors. Finally, concrete recommendations will be provided seeking to ensure universities are able to appropriately assess and understand the pressures that are being and will increasingly be placed upon them from digitalisation and AI in the workplace.

# Module 4: Labour market and new sectoral responses to digitalization

## CONTENTS

### **Unit 1: The impacts of digitalization on the labour market and key sectors**

- 1.1. Digital technologies and society
- 1.2. Evidence of impact on the labour market in Europe
- 1.3. Predictions of future impact on the labour market
- 1.4. Evidence of impacts on selected European sectors
- 1.5. Predictions of future impact on selected European sectors

### **Unit 2: Labour market monitoring and available tools**

- 2.1. Overview of LMI and its purpose and potential relevance to digitalisation
- 2.2. Exploration of international/European Monitoring, Forecasting and Fore-sighting Tools
- 2.3. Sectoral Tools
- 2.4. Exploration of what LMI universities use and why

### **Unit 3: Policy Responses to Digitalisation**

- 3.1. The European level response to the impact of digitalisation
- 3.2. What national responses are we seeing that impact on Universities
- 3.3. Potential University responses to these impacts
- 3.4. Recommendations for universities and Higher education policymakers to better utilise LMI and Tools to build on new opportunities

## Module 5: Innovations in skills, policy design and education system governance



The digital age leaves its marks on all activities of a university, including its management. New skills and competencies are required as digital technologies reshape activities in the field of university management. Reporting schemes are increasingly demanding, teaching and learning processes are accompanied by digital tools (learning analytics) and reshape procedures in quality management, curriculum design and student assessment.

Research is more and more characterised by digitised forms of cooperation and sharing of knowledge. All of these new technologies need to be critically analysed and to be incorporated in university governance. Questions that are arising, for instance refer to new cooperative forms of academic work and their relationship to the competitive nature of scientific endeavour.

# Module 5: Innovations in skills, policy design and education system governance

## CONTENTS

### **Unit 1: University governance in the field of research and development**

- 1.1. Introduction: Digitalisation in the focus of higher education governance
- 1.2. Research in a digital age
- 1.3. Research networks

### **Unit 2: University governance in the field of higher education**

- 2.1. Quality management of digital learning formats
- 2.2. eTeaching: Tasks for university management
- 2.3. Paradigm shifts: Individualised and personalised learning
- 2.4. Curriculum design in a digital age

### **Unit 3: University governance in the field of knowledge transfer and science communication**

- 3.1. Knowledge transfer
- 3.2. Digital science communication
- 3.3. Further and adult education in a digital age

# Module 6: Unintended consequences and the ethics of digitalisation



In this module we will see some of the unintended consequences and issues that may result from an increase in digitally delivered education and the impacts on individual learners, educators, their institutions and society. Such unintended consequences may involve changes to the way teaching and learning occurs and the varying effects on different groups of students and staff; changes in social interaction and how lifelong social networks are created; problems of the digital divide (both skills and access to physical infrastructure); an increase in surveillance of students, staff and organisations; and ethical and data protection issues related to increased digital learning.

Of course, not all of these factors are negative and effects will depend on how increased adoption of digital education is planned and implemented, but the issues demand that they are explicitly considered and critically examined at an early stage before introducing new digital systems of learning.

# Module 6: Unintended consequences and the ethics of digitalisation

## CONTENTS

### **Unit 1: Effects of transitioning to online/digital teaching and learning in the Higher Education context**

- 1.0. Introduction
- 1.1. Potential issues with technology-led (or influenced) rather than pedagogically-led education
- 1.2. The changing roles and responsibilities of teachers and students
- 1.3. Social interaction and effects on networks and face-to-face embodied socialisation
- 1.4. Digital divide, digital access and equality issues in learning and teaching

### **Unit 2: GDPR and ethical issues**

- 2.1. What is data protection and GDPR?
- 2.2. GDPR requirements in Higher Education
- 2.3. Emergent data protections issues in a digitized Higher Education environment
- 2.4. Learning online, plagiarism, open-source materials, uses of copyright materials
- 2.5. Ethical issues related to online teaching and learning

### **Unit 3: Digital footprints, privacy and surveillance**

- 3.1. What are: digital footprints, privacy and surveillance?
- 3.2. Surveillance and the commercialisation of the surveillance logic
- 3.3. Pros and cons of surveillance of students, teachers and workers
- 3.4. Privacy and data protection issues for students, staff and organisations
- 3.5. Cyber security issues for educational institutions and individuals (staff and students)



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