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Unit 2: Synchronous E-learning with Zoom

Dr. Maria Fragkaki, Dr. Stylianos Mystakidis, Mr. Nikolaos Gorgolis
University of Patras, Greece

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BENEFIT

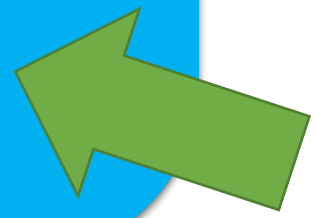
Blended Learning

Face-to-Face

+

Asynchronous
E-learning

Synchronous
E-learning



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Learning Outcomes

After completing this unit, you will be able to:

1. Discuss in depth Synchronous E-learning characteristics, advantages and limitations
2. Design pedagogically-informed Synchronous E-learning sessions with Zoom
3. Use effectively Zoom platform as Hosts/Trainers

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Structure

- ✓ Synchronous E-learning Theory
  - Synchronous E-learning Introduction, definition
  - Design of a Synchronous E-learning Session / Class
- ✓ Synchronous E-learning Platform Zoom: Demonstration
  - Practice in Zoom
- ✓ Recap, comments
- ✓ Assignment

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Synchronous E-learning: Definition

Etymology: syn + chronos (time), synchronous = at the same time

Synchronous E-learning is distance education delivered **in real-time**

".. Synchronous learning requires the presence of both parties, teachers and students at the same time for teaching and learning to take place. It is therefore also referred to as 'live' or real-time instruction." (Chen, Ko, Kinshuk & Lin, 2005)

Other terms: web conferencing, video conferencing

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Synchronous vs. Asynchronous E-learning

	Synchronous (e.g. Zoom)	Asynchronous (e.g. Moodle)
Advantages		
Disadvantages Limitations		

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Synchronous E-learning Design

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Synchronous E-learning Session Structure 1

Introduction

- Icebreaker
- Introductions – feeling of community (belonging)
- Link with previous knowledge
- Presentation of purpose and aims – motivation (commitment – ‘educational contract’)

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Synchronous E-learning Session Structure 2

Main Part

- Break lesson into smaller steps, processes, logical parts - “chunking”
- Short duration of each part
- Teaching techniques for Synchronous E-learning
  - Lecture
  - Demonstration
  - Practice (exercises or Link to LMS)

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Synchronous E-learning Session Structure 3

Finish - Conclusions

- Recap – Summary (main points)
- Link with next topics/sessions – Re-Motivation (commitment – ‘contract’)
- Reference (with a slide) to next scheduled activities & deadlines

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Synchronous E-learning Platform: Zoom

Zoom as a host (& co-host)

- ✓ Audio visual tools
- ✓ Screen sharing
- ✓ Annotation
- ✓ Settings
- ✓ Breakout rooms

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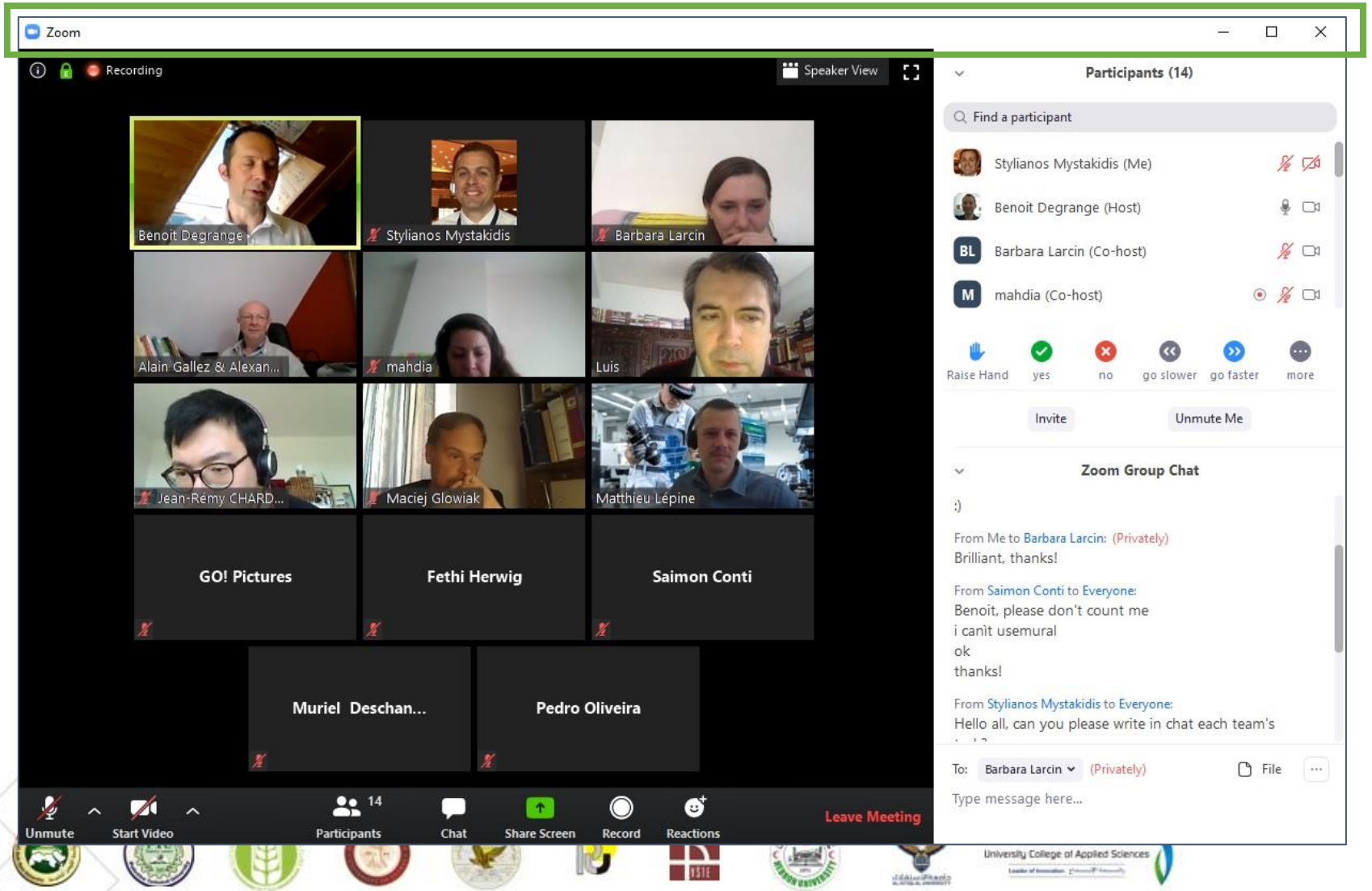
BENEFIT

Zoom for all… (exit full view please!)



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Zoom for all... (where did Zoom go;!)

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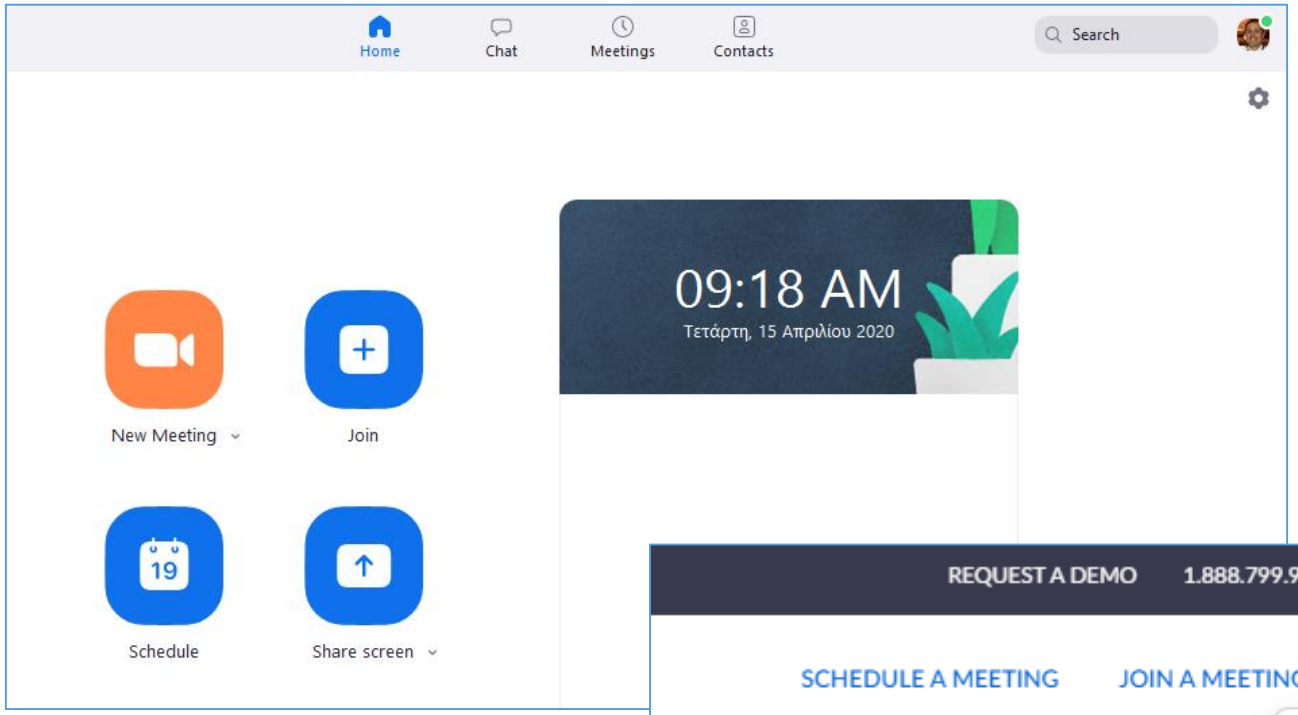
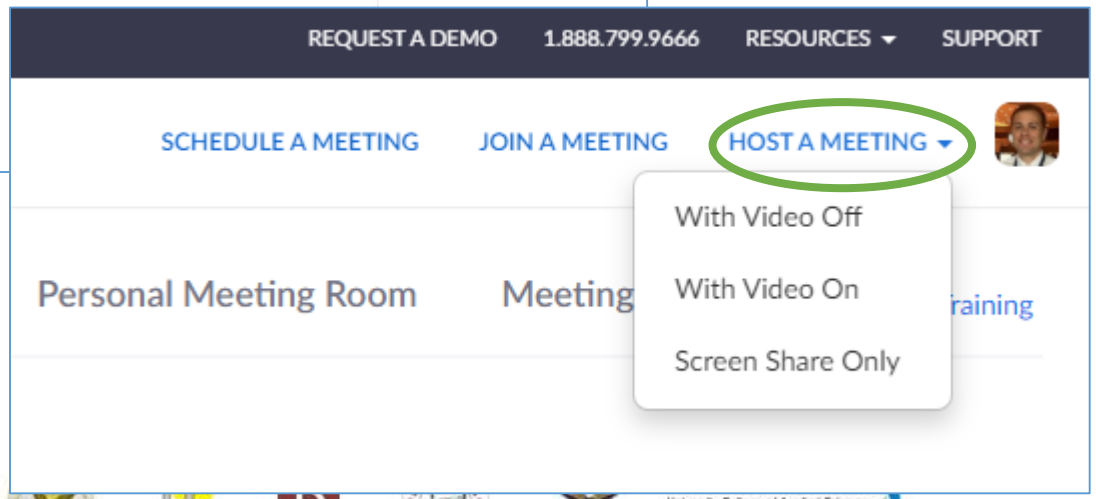
BENEFIT

Zoom as a host (client & account)





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BENEFIT

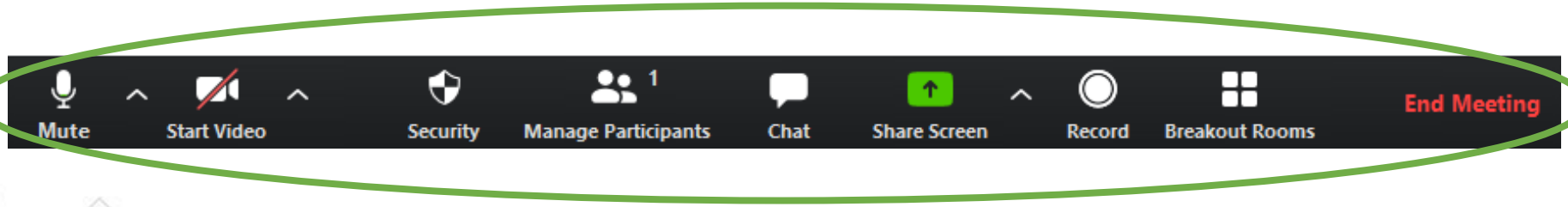
Zoom as a host (toolbar)

Join Audio

Computer Audio Connected

Share Screen

Invite Others



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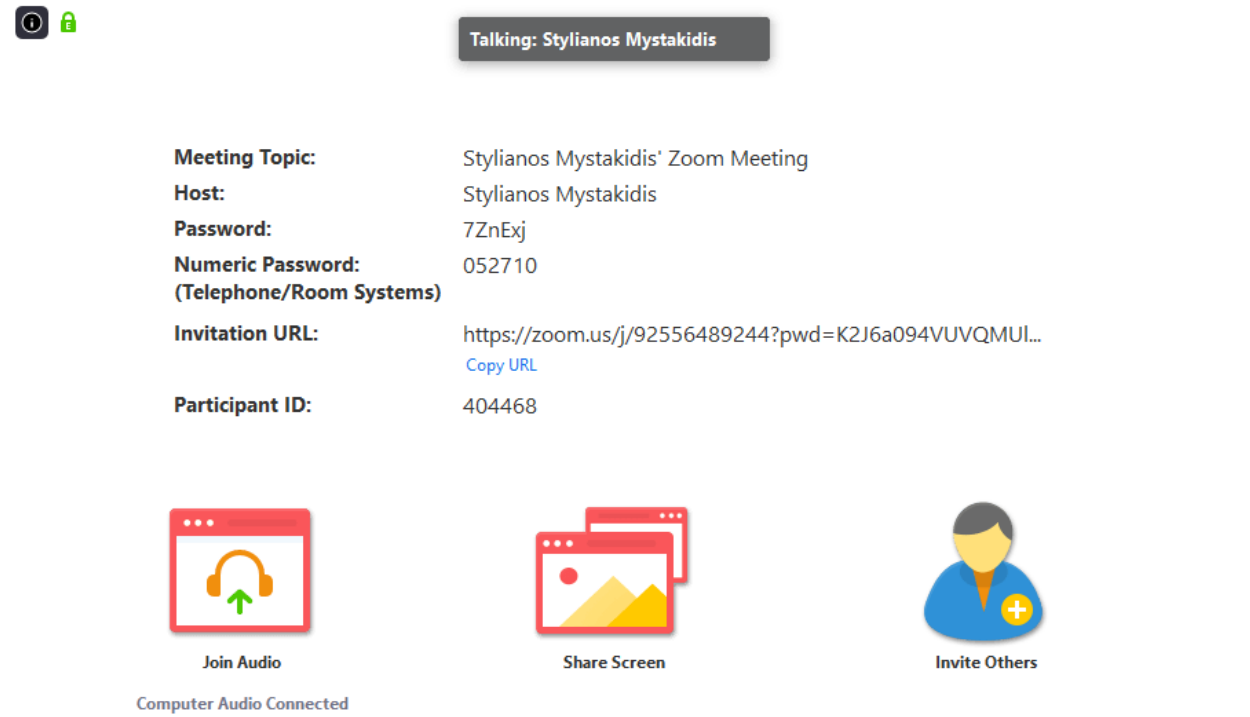
BENEFIT

Zoom as a host (audio, video)



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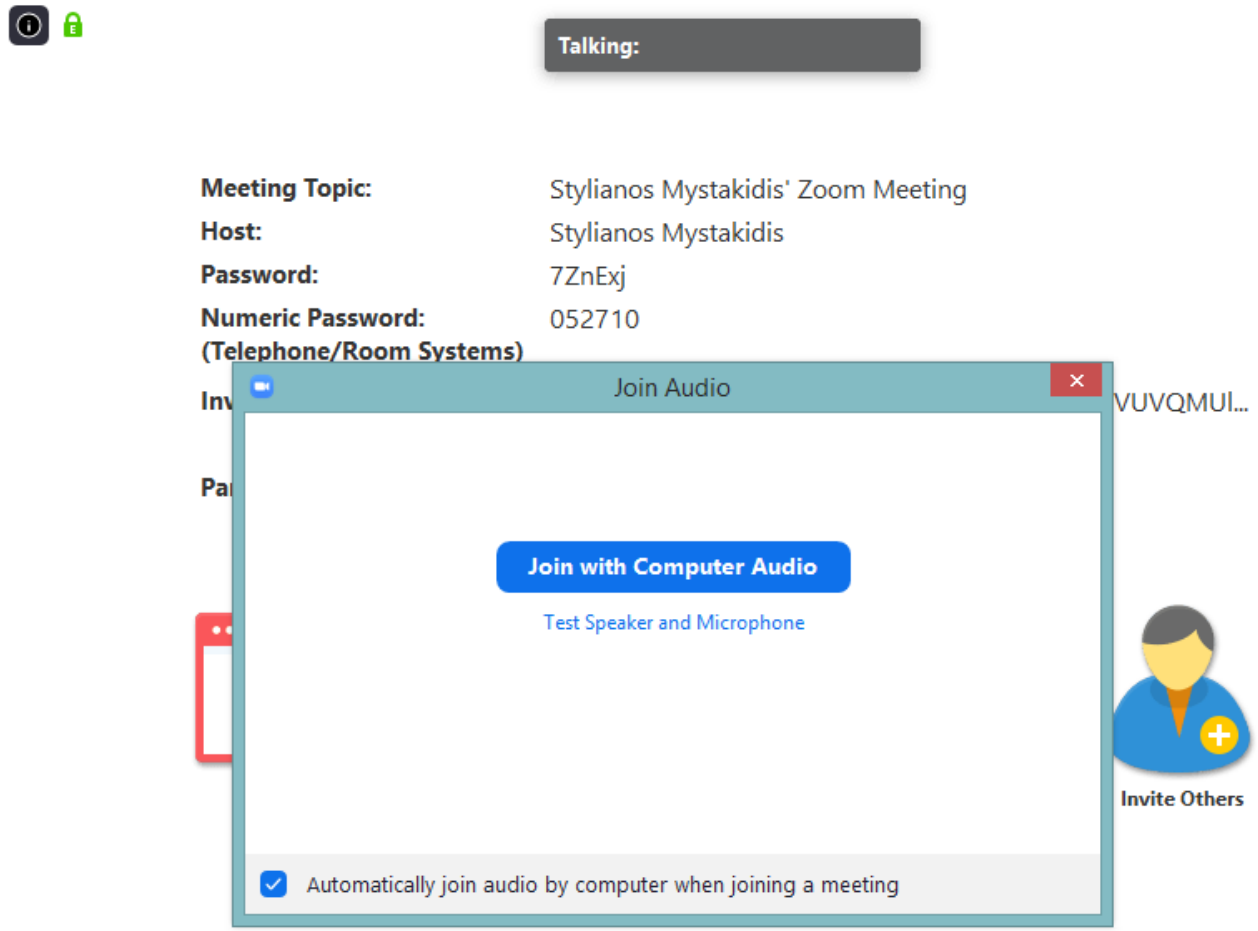
BENEFIT

Zoom as a host (audio)



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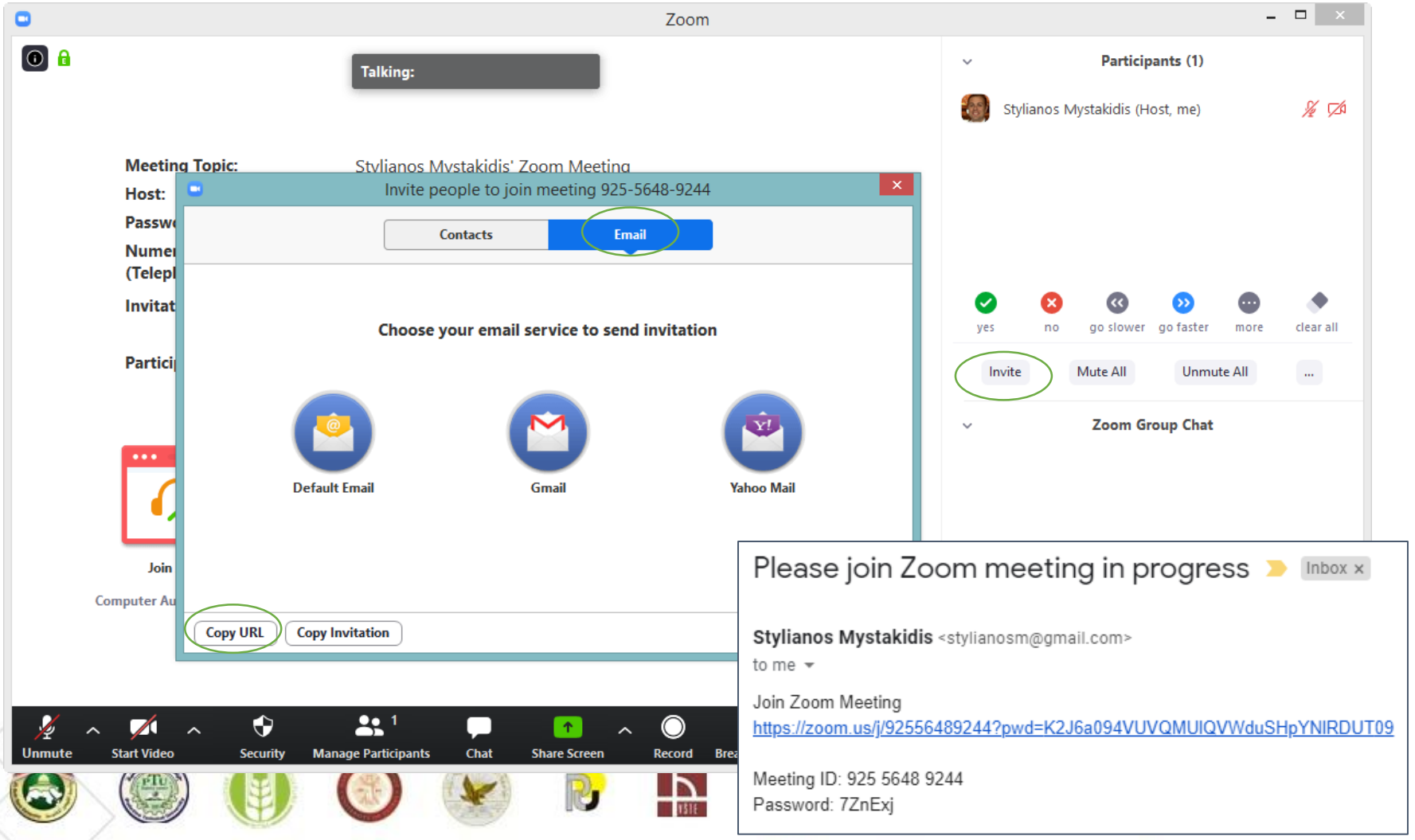
BENEFIT

Zoom as a host (invite)



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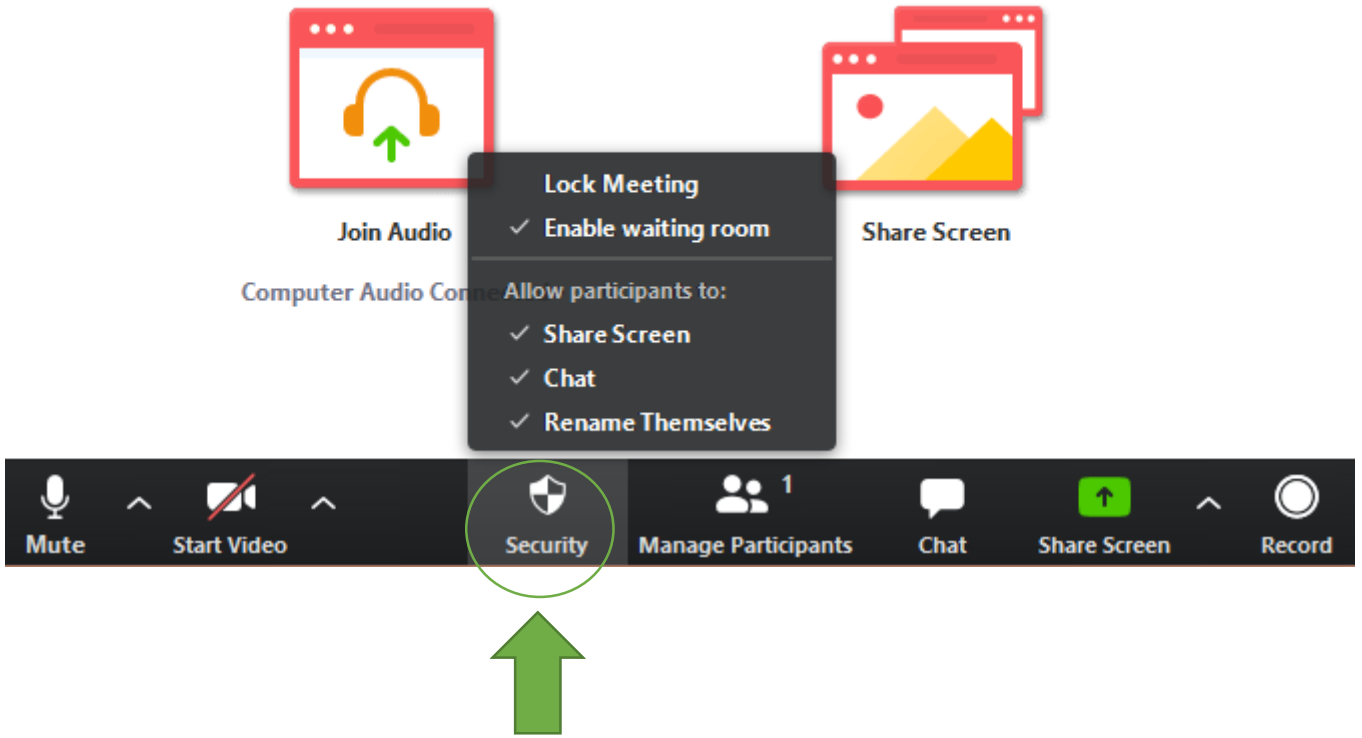
BENEFIT

Zoom as a host (security)



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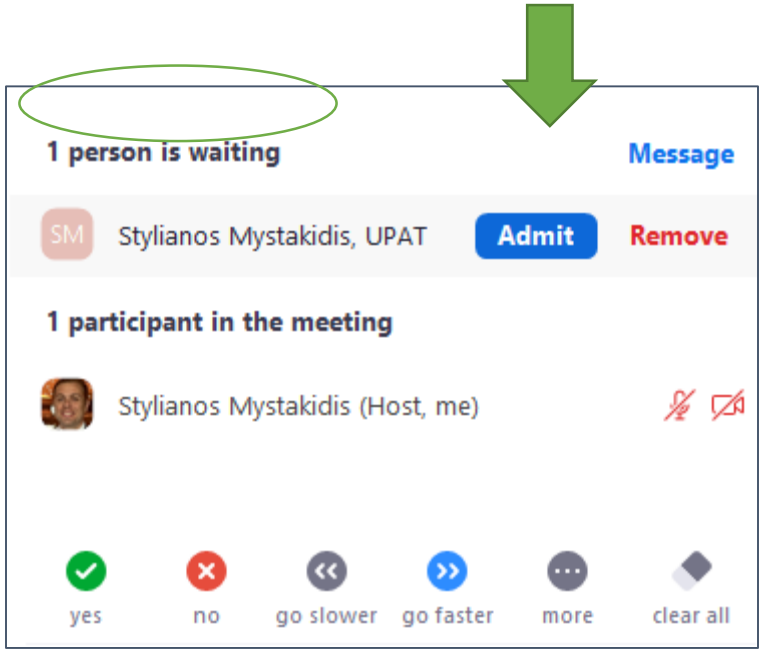
BENEFIT

Zoom as a host (waiting room)



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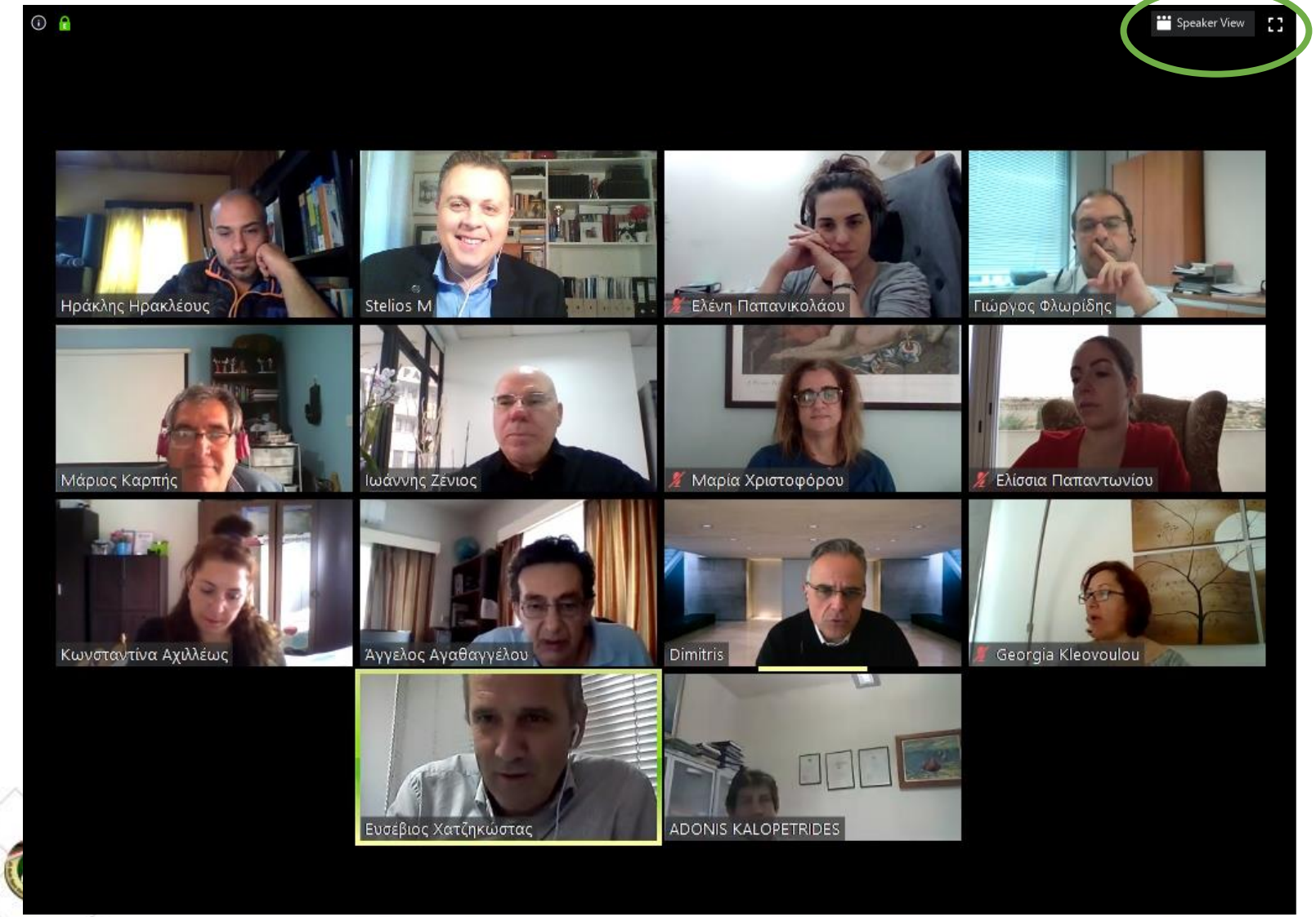
BENEFIT

Zoom as a host (Gallery View)



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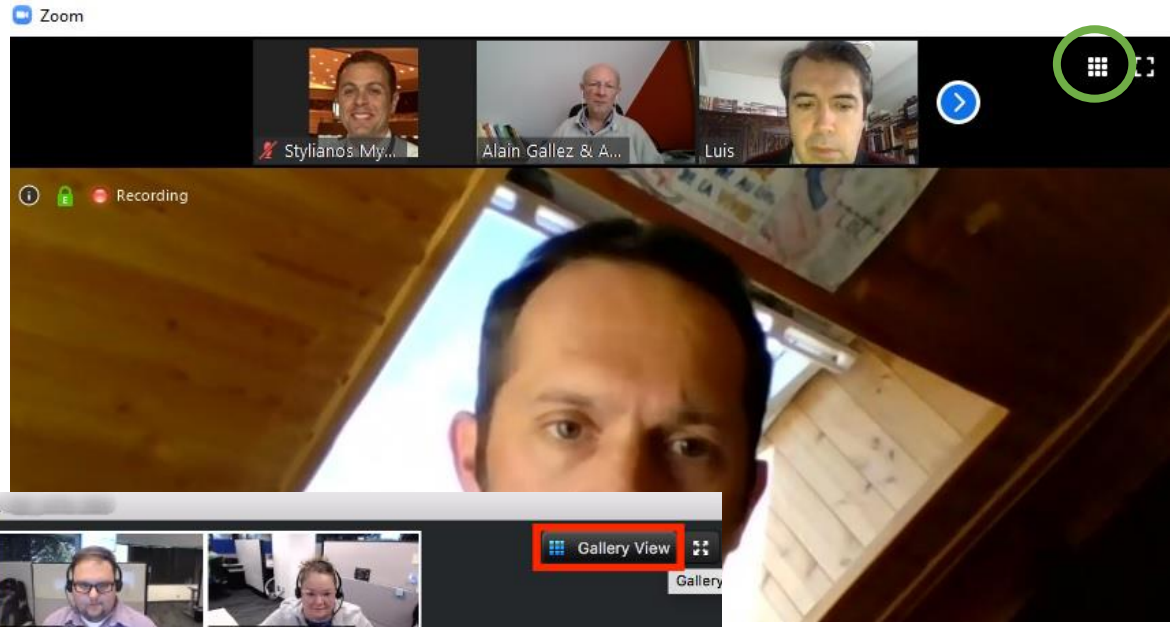
BENEFIT

Zoom as a host (Speaker View)



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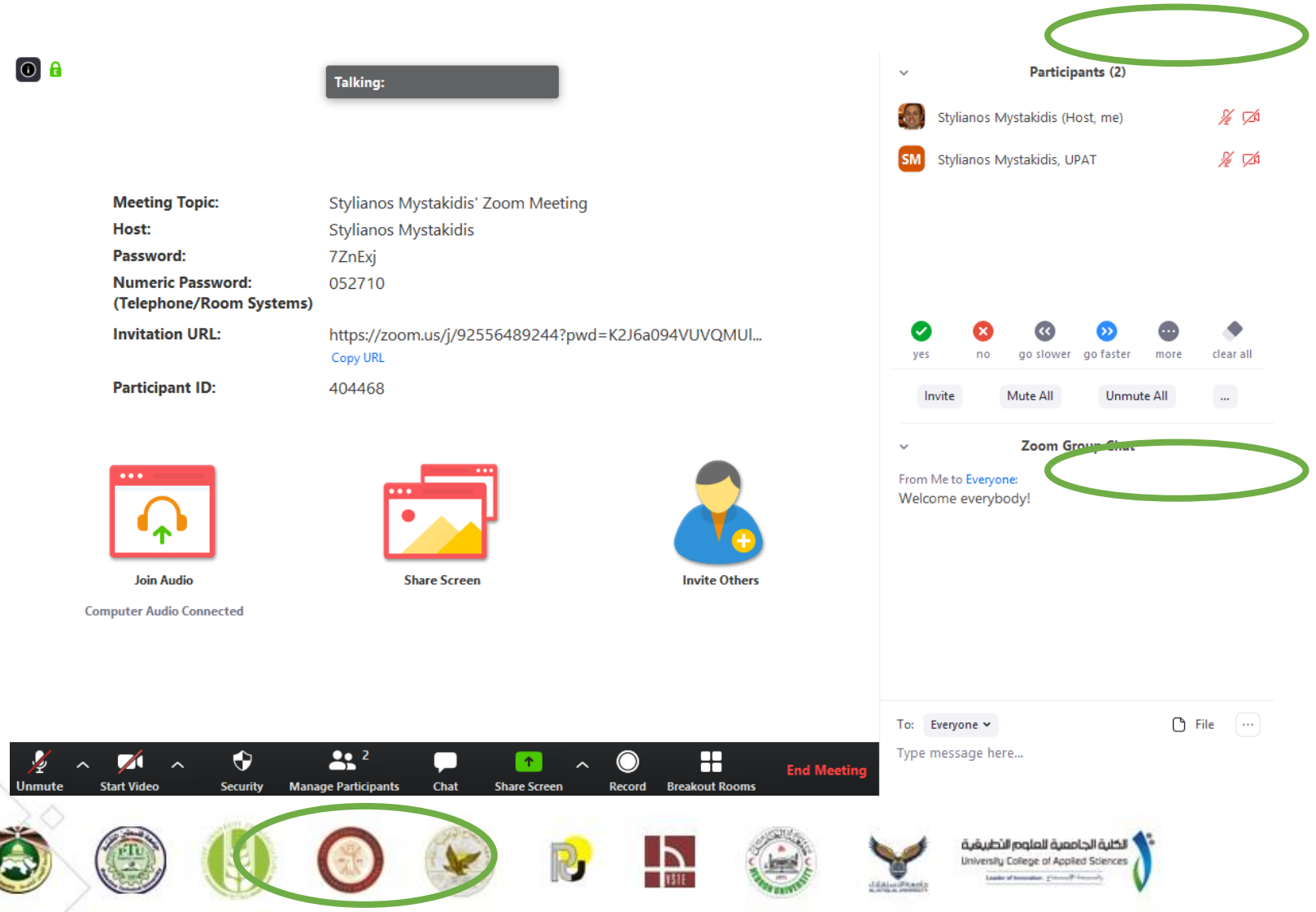
BENEFIT

Zoom as a host (Participants, Chat)



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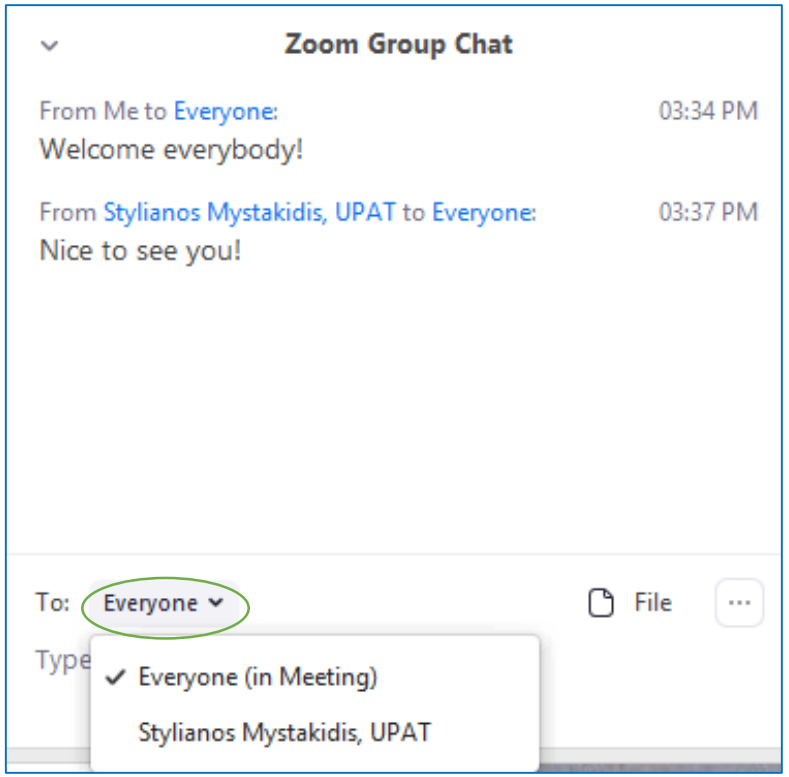
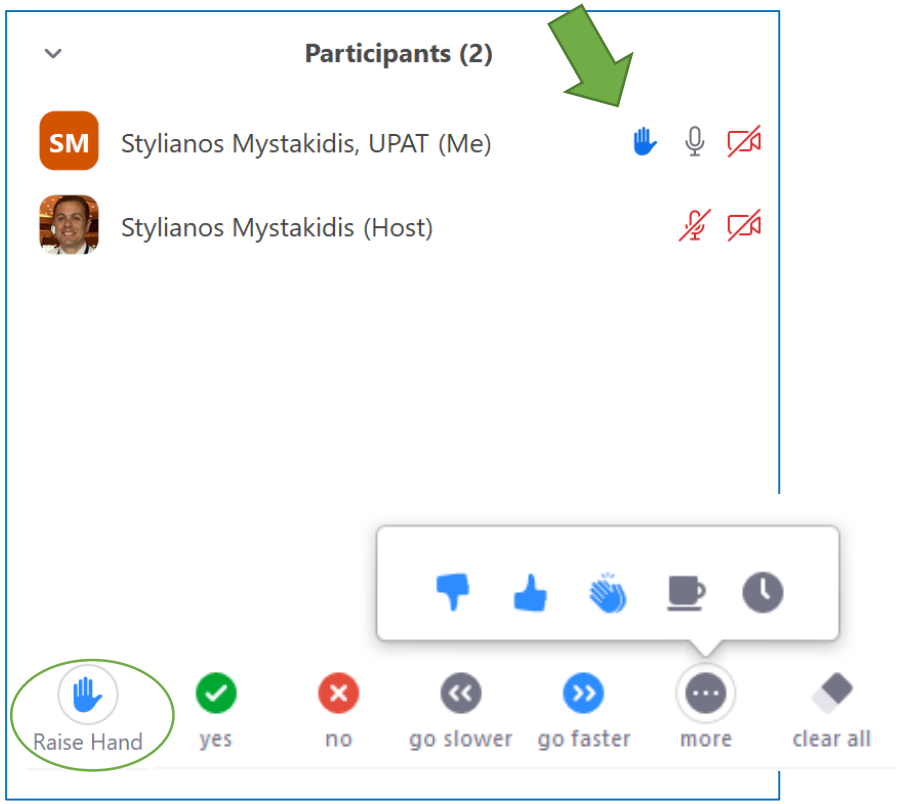
BENEFIT

Zoom as a host (Chat, Emojis)





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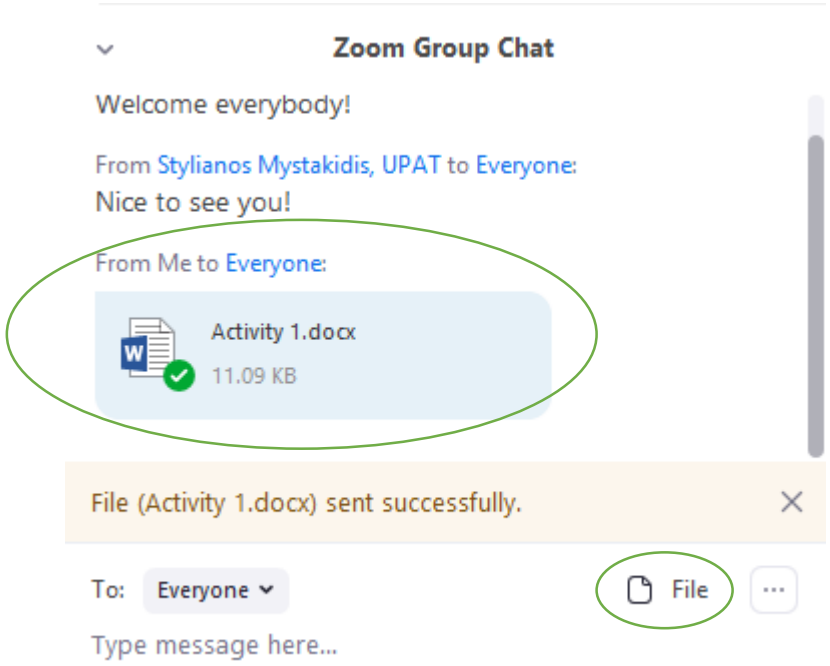
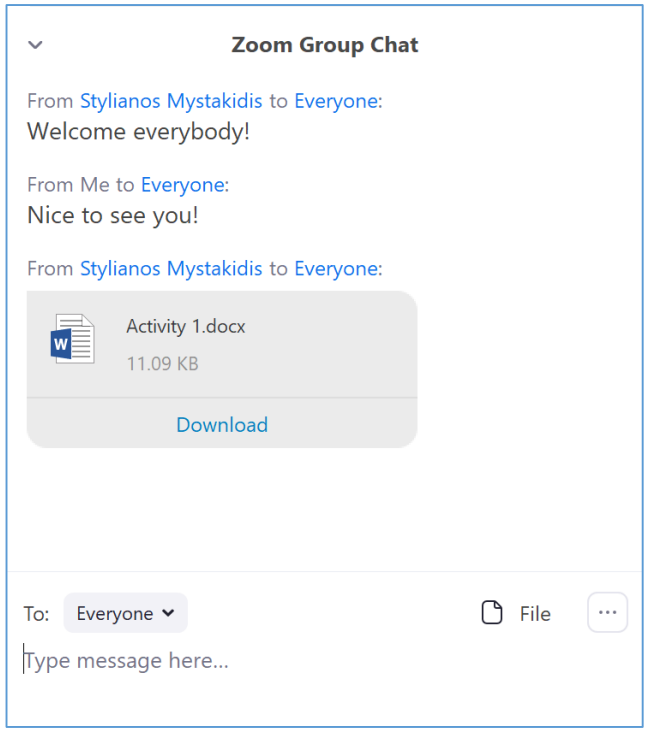
BENEFIT

Zoom as a host (Send File)





Participant View

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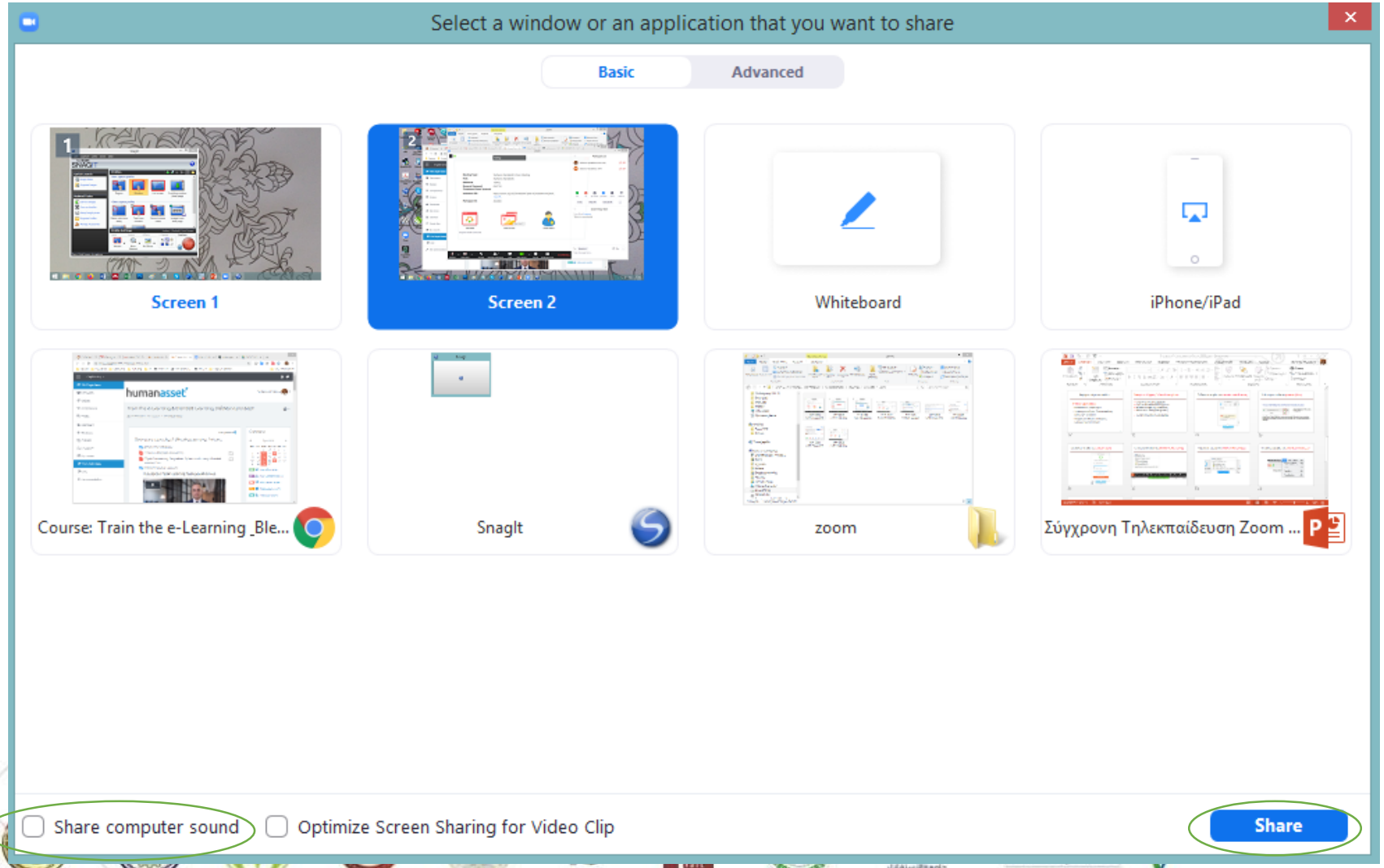
BENEFIT

Zoom as a host (screen sharing)



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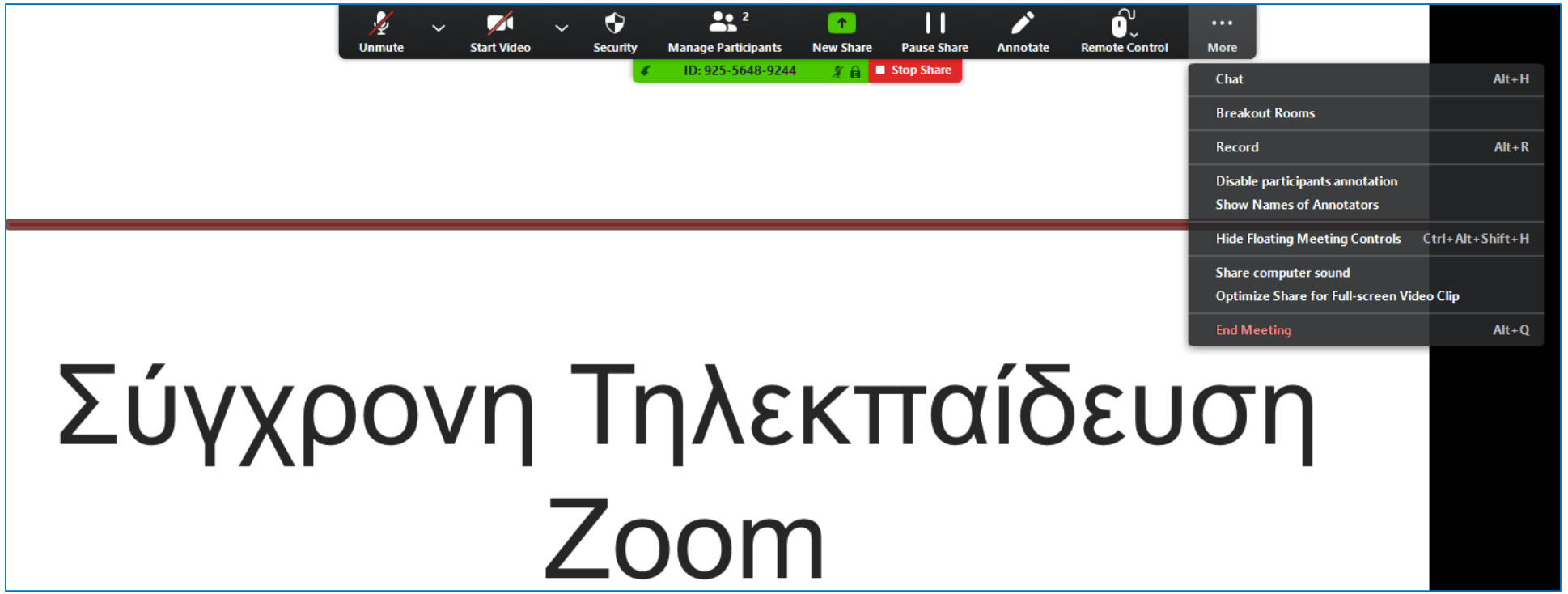
BENEFIT

Zoom as a host (controls)



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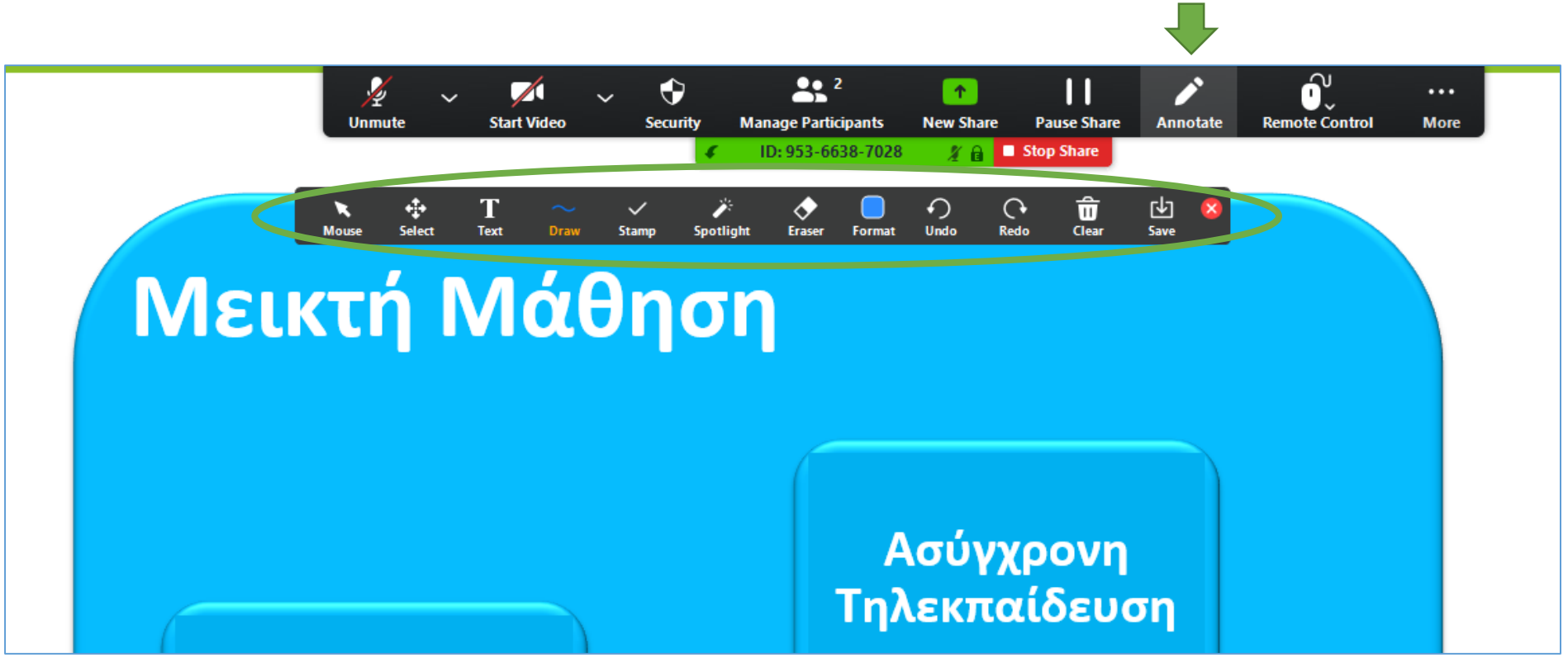
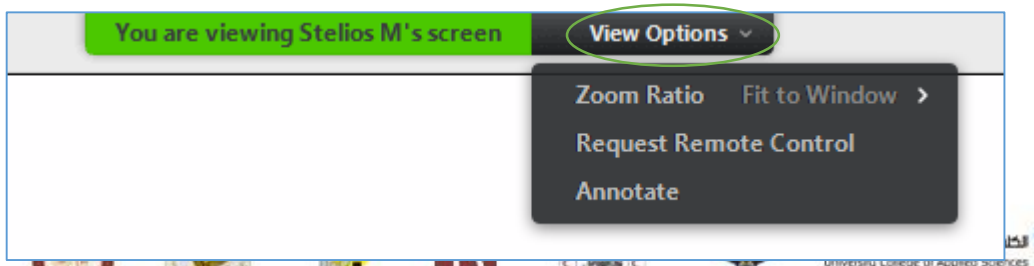
BENEFIT

Zoom as a host (Annotation)



Participant View



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Annotation Competition!

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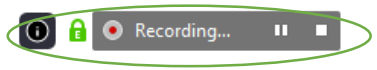
BENEFIT

Zoom as a host (recording)

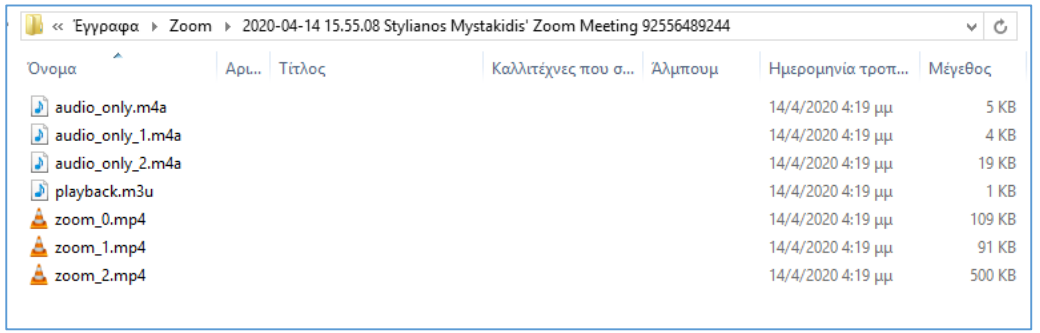


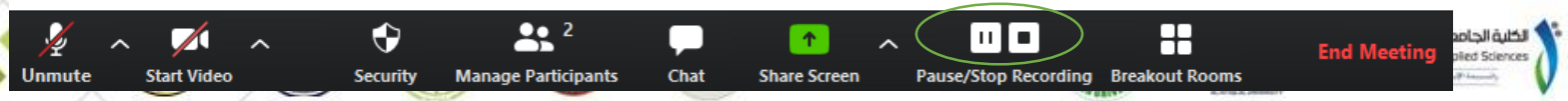
Meeting Topic: Stylianos Mystakidis' Zoom Meeting
Host: Stylianos Mystakidis
Password: 7ZnExj
Numeric Password: (Telephone/Room Systems) 052710
Invitation URL: https://zoom.us/j/92556489244?pwd=K2J6a094VUVQMUl...
Copy URL
Participant ID: 404468

Join Audio

Computer Audio Connected

Share Screen





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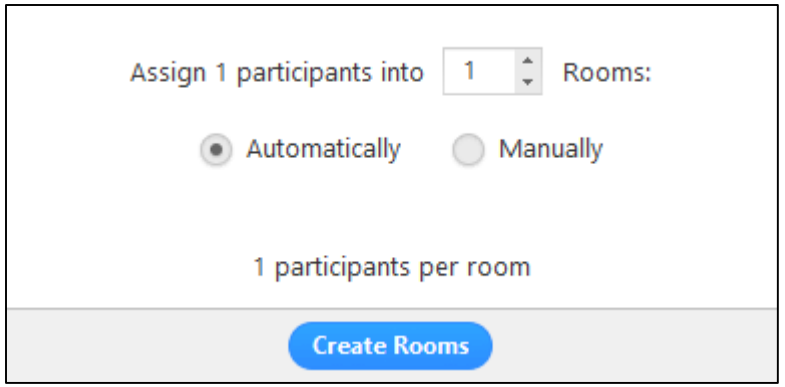
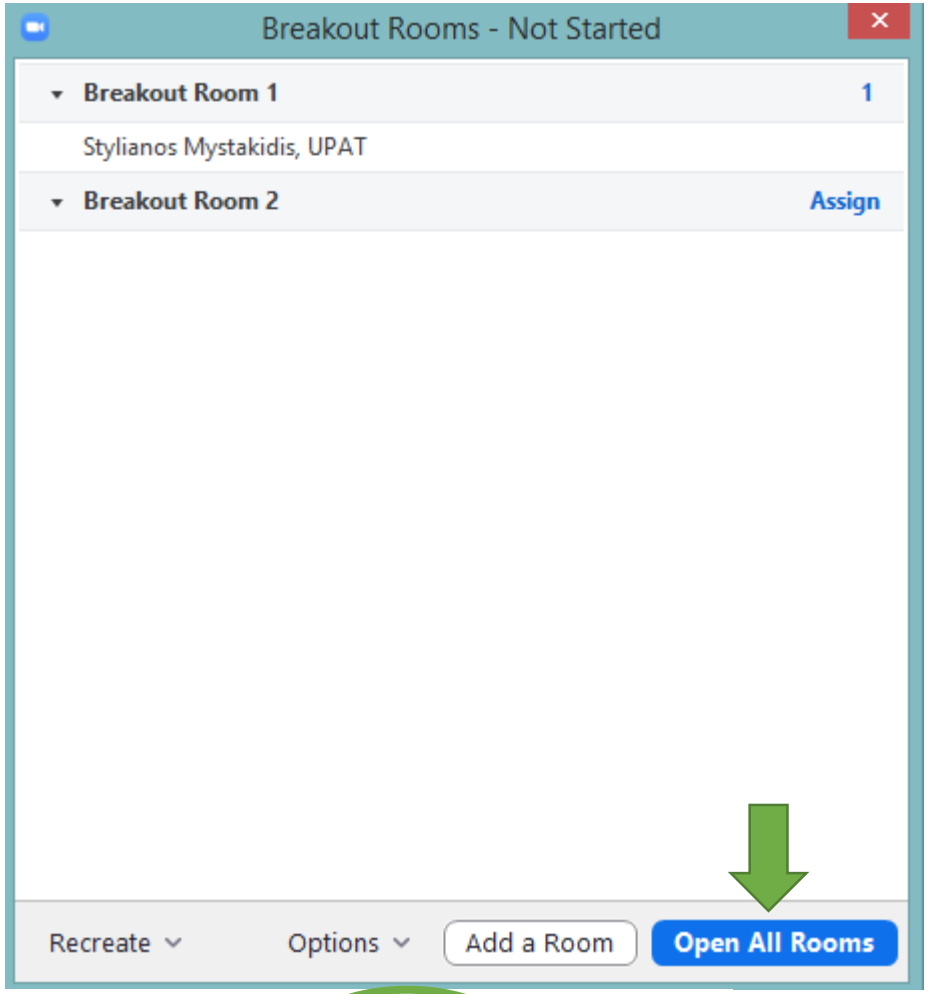
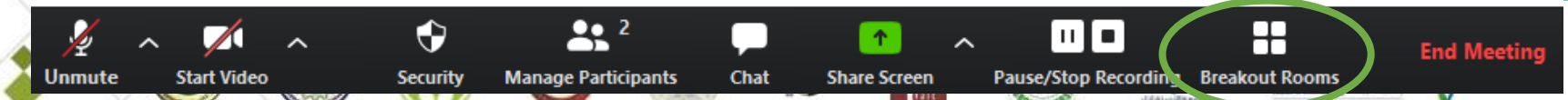
Zoom as a host (break-out rooms)







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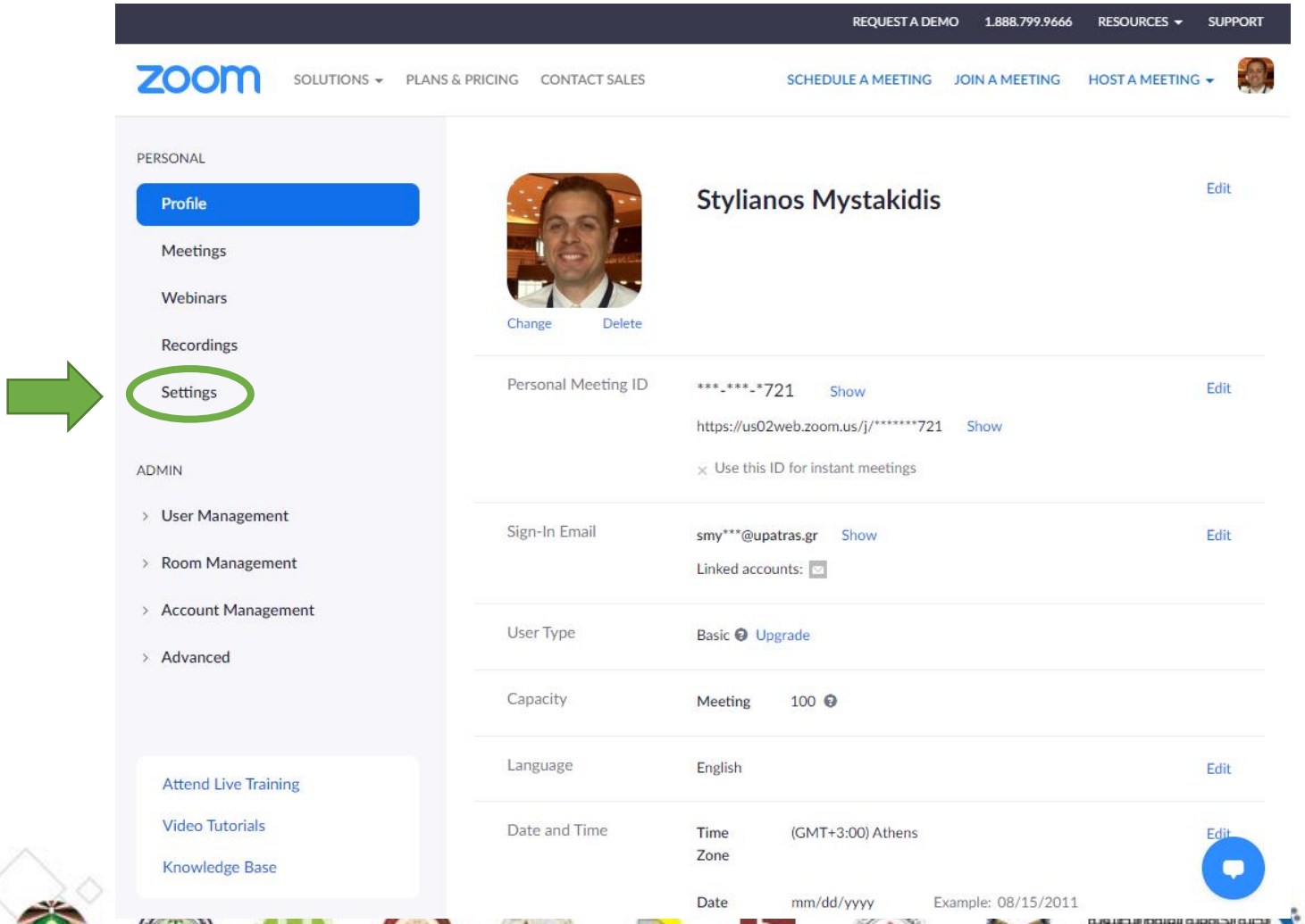
BENEFIT

Zoom as a host (Settings - Web)



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Group Practice – Basic Activities

- Change view (Speaker/Gallery View)
- Share Screen / Presentation
- Share Whiteboard
- Send a file in Chat

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BENEFIT

Group Practice – Advanced Activities

- Annotation on shared presentation
- Shared screen & Chat
- Use external link/website/service
- For risk-takers only 1: Remote Control!
- For risk-takers 2: Share iPhone screen!

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Web Conferencing Tools (WCT1)

- ✓Basic tools:
  - Skype (https://www.skype.com/)
  - Zoom (https://zoom.us/)
  - Google Meet (https://meet.google.com/)
  - Microsoft Teams (http://teams.microsoft.com/)
  - Cisco WebEx (http://www.webex.com)
  - Spreed (www.spreed.com)
  - Anymeeting (https://www.anymeeting.com/)
  - Flashmeeting (http://flashmeeting.e2bn.net/)

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Web Conferencing Tools (WCT2)

✓Virtual classroom Platforms:

- Blackboard (http://www.blackboard.com/)
- Adobe Connect (https://www.adobe.com/products/adobeconnect.html)
- WizIQ (http://www.wiziq.com)

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Web Conferencing Tools (WCT3)

- ✓Open Software (to install in a local server)
  - eFront (http://www.efrontlearning.net)
  - BigBlueButton (http://bigbluebutton.org) (BBB+Moodle)
  - OpenMeetings (http://openmeetings.apache.org/)

- ✓For small teams (courses, businesses, web based server)
  - mikogo (https://www.mikogo.com/)

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Assignment

- Assignment Type: Individual

✓Step 1: Design your synchronous e-learning microteaching session (duration: 15') according to the provided template

✓Step 2: Upload your session plan in Moodle

✓Step 3: Create the necessary resources and activities

✓Step 4: Practice with other participants in your own time in Zoom and prepare to deliver your microteaching on Day 5 of the Workshop (Monday, 23rd November)

◆Questions?

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Synchronous E-learning Design Template

	Microteaching Title:							
no.	Subunit / Part	Learning Outcomes (Knowledge, Skills, Attitudes)	Duration (in minutes)	Learning Mode	Tecniques (Lecture, Demonstration, Practice, Exercise, Case Study, Brainstorming, Discussion, Group work, Questions & Answers, Role play, Simulation, Game etc.)	Medium (Projector, Flipchart, Platform, Web service etc.)	Educational Resources (PowerPoint Slides, Video, audio file, Pdf, Scorm)	Evidence / Evaluation (Test, assignment, observation etc)
1				Synchronous				
2				Synchronous				
3				Synchronous				

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BENEFIT

Thank you for your active participation!

Title: **"BENEFIT INSTUCTIONAL DESIGN and EXCELLENCE FRAMEWORK"**

WP1: Capacity Building and Training

Task: 2

Deliverable: 1.2 Instructional Design and Curriculum Development

Contributors: Dr. Maria Fragkaki, Dr. Stylianos Mystakidis, Mr. Nikolaos Gorgolis (UPAT)

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Content

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PART 1

A. BENEFIT -INSTRUCTIONAL DESIGN FRAMEWORK

for

PRECISION AGRICULTURE CURRICULUM DEVELOPMENT

1. INTRODUCTION

What is it: BENEFIT- Instructional Design Framework consists the basis of the Precision Agriculture Curriculum. It defines not only the Pedagogy that it will be used to support the Precision Agriculture Course/s, but also the related Content and the needed Technology, as well as their effective and efficient alignment

Why we need it: If we were developing a synchronous curriculum, without setting all the crucial aspects of its design (pedagogy-content-technology), someone could say that our project would not have either a basis on to stand or an instructional framework to be infused by. It would be a curriculum without heart and mind-without philosophy.

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How it will support the curriculum development: The "BENEFIT -Instructional Design Framework" will set the scaffolding of the whole Precision Agriculture Curriculum design and consequently the PA Course/s development. The BENEFIT TPACK Model will add a critical thinking component to the project, by specifying the basic elements of the pedagogy, the content, the technology and their combinations, within a layered, multifaceted, multi-factorial approach that emphasizes "why" and "how" beyond "what".

2. BENEFIT-Instructional Design Framework MODEL

The BENEFIT-Instructional Design Framework it is based on the TPACK model and features a complex interplay of three primary forms of knowledge: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK).

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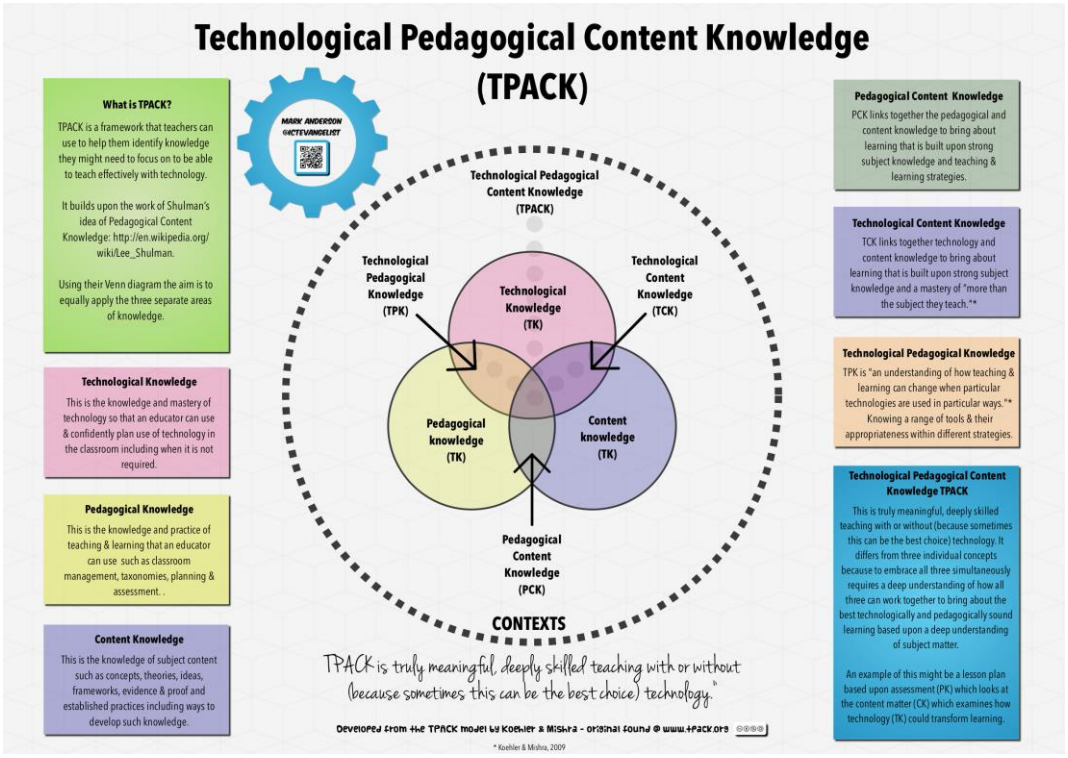

Figure 1: TPACK MODEL

To achieve high quality of learning in a Precision Agriculture Course, learners' knowledge about the subject matter (CK), and knowledge about specific ways of thinking and acting with PA technological tools and applications (TK) need to be coupled with

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the pedagogical understanding why learners learn, what they learn and how they can use their adapted knowledge (PK).

Specific **dimensions** have to be considered:

Specifically:

A. BENEFIT- Instructional Design Framework for the PA Curriculum **Technological Pedagogical Content Knowledge (TPACK)** **http://tpack.org/**	
DIMENSIONS	**DESCRIPTION**
A.1. BENEFIT Content Knowledge (CK): Content	**A.1.1. Define the content/resources of the already existing Precision Agriculture Curriculum or the new one:** (e.g. core aim, sub-aims, learning outcomes, course/s topics, course/s modules, teaching resources, assignments, types of assessment, etc.)
A.2.BENEFIT Pedagogical	**A.2.1.Define the Philosophy of the course (culture, ethics):** Each nation,

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Knowledge (T-PK): Pedagogy	country, society, community, citizen has a culture (e.g. beliefs, customs, norms, social behavior, way of life, etc.), and agricultural ethics (e.g. what is morally right and what is not) *Supported Material* https://www.ethicaladvocate.com/7-biggest-ethical-issues-facing-agricultural-industry/
	A.2.2. Define the Theory and the learning objectives of the course/s : Describe the theoretical framework that will infuse your course (e.g. Deeper Learning, Experimental Learning, Inquire-based learning, etc.); what kind of learners you need to promote (e.g. passive learners or active and reflective learners?); Describe the Course/s objectives & Learning outcomes – course objectives clearly describe what you intend course participants to learn by the end of the course. Learning outcomes describe an intended or observed state, e.g. what your students will learn or

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	what your students actually learned[1]; explain how the theory you have chosen supports the type of the learners you want?
	A.2.3. **Define the Teaching Methodologies and the Assessment Methods s of the course**: Describe the teaching methodologies you will use (e.g. collaboration in small teams, experiments, problem solving, video-lectures, etc.); Describe the assessment methodologies you will use, and consider that the selection of appropriate assessment methods depends on factors like as planned learning outcomes, level of study, target groups of learners and their skills, knowledge and area of expertise, available resources, and delivery mode of the course and so on. (e.g. Case studies, Examination, Multiple-choice tests, Practical project, Self-assessment, peer-assessment, etc.); explain how the teaching and assessment methods are aligned with the theory of the course.

[1] Additional reading:
http://resources.depaul.edu/teaching-commons/teaching-guides/course-design/Pages/course-objectives-learning-outcomes.aspx

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A.3. BENEFIT Technology Knowledge (T-TK): Defining Technology	**A.3.1. Define the *technological equipment*** (existing and required), meaning infrastructure and software/applications, that you consider necessary for secure the relevant quality of the educational process (e.g. labs, infrastructure, connectivity, PA software and applications, e-learning platforms, etc.)

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1ST ACTIVITY (development):

INSTRUCTIONAL DESIGN FRAMEWORK

UNIT 3:	INSTRUCTIONAL DESIGN
BENEFIT-ToR:	PART 1
1ST ACTIVITY	"Instructional Design Framewor for P.A. Curricula (collaborative development activity)

Each University has to describe the resources (A1), the pedagogy (A2) and the technology (A3) that will use for the curriculum's development, so both university instructors and developers to be confident to design and develop the Precision Agriculture curricula effectively and efficiency. (see detailed description in the **1ST ACTIVITY: INSTRUCTIONAL DESIGN** doc.

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PART 2

BENEFIT -INSTRUCTIONAL DESIGN EXCELLENCE

for

PRECISION AGRICULTURE CURRICULA DEVELOPMENT

1. INTRODUCTION

What is it: "BENEFIT- Instructional Design Excellence" framework provide instructional excellence of the Precision Agriculture Curricula. It sets the success indicators criteria for the effective and efficient alignment of the BENEFIT- Instructional Design Framework and the Syllabus of the P.A course/s

Why we need it: If we were developing an innovative curriculum, without setting all the crucial aspects of its design (pedagogy-content-technology), someone could say that it would not have either a basis or a philosophy to be infused by. It would be a meaningless curriculum, unreliable and without validity

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How it will support the curriculum development: The "BENEFIT -Instructional Design Excellence Framework" will certify the best alignment of the three types of the BENEFIT-Instructional Design Framework (**T**echnological, **P**edagogical **A**nd **C**ontent **K**nowledge).

Each University has initially to be self-assessed if it meets the "BENEFIT Instructional Design Excellence Indicators" and then to peer-assessed from two more Institutions (one Palestinian Institution and one European Institution).

2. BENEFIT-INSTRUCTIONAL DESIGN EXCELLENCE INDICATORS

*Specific **success indicators** have to be considered*:

BENEFIT INSTRUCTIONAL DESIGN EXCELLENCE INDICATORS
B1. BENEFIT Pedagogical Content Knowledge– Describe how the recourses you have chosen (A.1.2., A.1.3) can be aligned with the pedagogy you follow (A.3.1.) and the Course/s Syllabus.

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Define the Pedagogical and Content Knowledge success indicators and relate them with the Course's Syllabus (***PCK indicators***)
B2. BENEFIT -Technological Content Knowledge – Describe how the technological aspects (A.3.1) can be aligned with the content/recourses you have chosen and the Course/s Syllabus (A.1.2., A.1.3); Define the Technological Content Knowledge success indicators and relate them with Course's Syllabus(***TCK indicators)***
B3. **BENEFIT Technological Pedagogical Knowledge–** Describe how the technological aspects (A.3.1) can be aligned with the pedagogical aspects you have set and the Course's Syllabus (A.2.1., A.2.2., A.2.3.). Define the Technological and Pedagogical Knowledge instructional design success indicators and relate them with Course's Syllabus **(*TPK indicators)***

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2nd ACTIVITY:

INSTRUCTIONAL DESIG EXCELLENCE

UNIT 9:	INSTRUCTIONAL DESIGN
BENEFIT-ToR:	PART 2
2ND ACTIVITY	"Instructional Design Excellence for P.A. Curricula *(collaborative assessment activity)*

Each University has to define the BENEFIT- Instructional Design Excellence success indicators and relate them with the Course/s Syllabus.

This is a critical input for the development of the BENEFIT-Terms of Reference (ToR), because it will set the quality parameters of all the instructional design types of knowledge, so both university instructors and developers to be confident to design and develop the Precision Agriculture curricula effectively and efficiency. see detailed description in the **2nd ACTIVITY: INSTRUCTIONAL DESIG EXCELLENCE** doc.

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3. RECOMMENDATIONS

We propose a list of recommendations and emerging characteristics that Palestinian Institutions must consider:

Specifically:

The efficiently alignment of the Instructional Design and the Course/s Syllabus it will define BENEFIT Project success. The basic question for PA course developers to succeed "**BENEFIT *Instructional Design Excellence"*** (***B-IDE)*** is to answer this the question:

"Through which way the BENEFIT-Instructional Design dimensions are in line with the course/s syllabus factors"?

Pedagogical Content Knowledge **Technological Pedagogical Knowledge**

Technological Content Knowledge

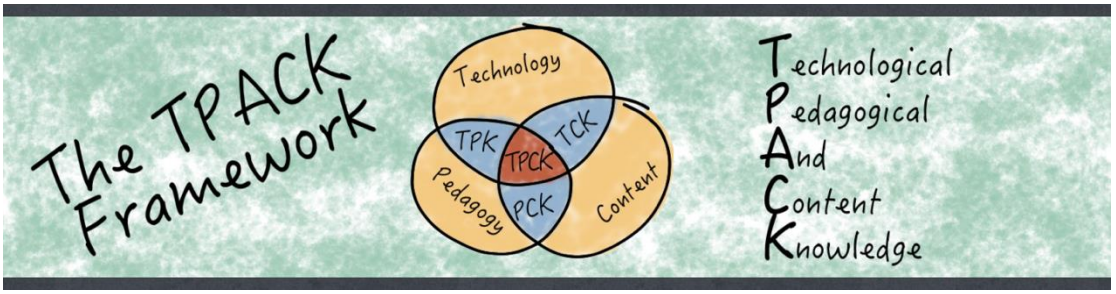

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Figure 2: BENEFIT Instructional Design Excellence

In order to promote Deeper Learning in Precision Agriculture Curricula and Courses:

- A critical-reflective and well instructional designs Precision Agriculture Curriculum, based on meaningful and qualitative success indicators in Higher Education settings.
- BENEFIT- Instructional Design Pedagogy should be infused by constructivist learning theories and sustainable, ethical and problem-solving methodologies; Instructional Design Content should integrate Open Educational Resources (OER) and authentic topics related with the most emerging agriculture issues in Palestine and Instructional Design Technology should provide Palestinian learners with the most state of the art collaborative course software and applications and the most updated Precision Agriculture technologies.
- Critical success indicators should be incorporated in project's curriculum design. The curriculum developers must reflect on the impact of their course design and avoid reverting to practices that aren't linked with the intended learning outcomes;

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- The conventional student – teacher stereotypes must be broke-up. In academic settings, usually the students are expected to assume the role of a novice who follow the instructions of the expert, namely the teacher. In complex technologically Precision Agriculture environments, this dynamic can be inverted. To the extent that millennials are digital natives or residents, they can be active contributors to more aspects of course design, development and implementation towards a harmonic creation of sustainable P.A. Community of Practice
- Unleash student creativity and initiative: Students can assume responsibility and undertake their own projects in line with Deeper Learning principles following their passions. Educators are advised to facilitate spaces, time, methods, and even intrinsic incentives for informal peer interactions even outside the strict course boundaries.

1. EPILOGUE

Both "BENEFIT Instructional Design Framework" and "BENEFIT Instructional Design Framework Success Indicators" set the basis of the Precision Agriculture Curricula and the Courses.

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Title: "Course Syllabus"

WP1: Capacity Building and Training

Task: 2

Deliverable: 1.2 Instructional Design and Curriculum Development

Contributors: Zuzana Palkova (SUA)
Maria Fragkaki (UPAT)
Marta Harnicarova (VSTE)

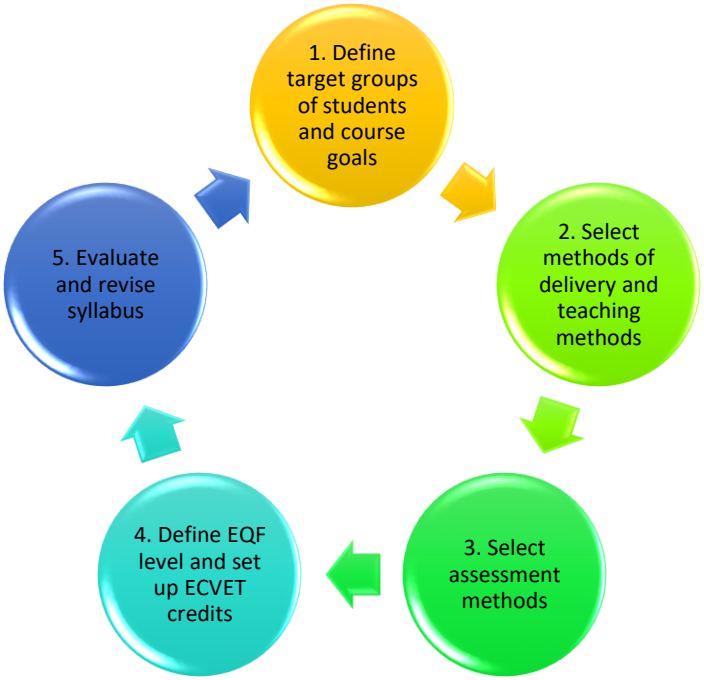
INTRODUCTION

The Course/s Syllabus Template, has been infused by the "BENEFIT -Instructional Design Framework" and follows the structure and methodology that will be the most effective for BENEFIT updated or new courses, considering **factors** such as:

- **BENEFIT Instructional Design Dimensions**
  - Content Knowledge
  - Pedagogical Knowledge
  - Technological Knowledge
- **BENEFIT Instructional Design Success Indicators**
  - Pedagogical Content Knowledge
  - Technological Content Knowledge
  - Technological Pedagogical Knowledge
- **BOLOGNA Principles and ECTS System**
  - **Mode of completion and ECVET Credits allocated** - ECVET is European instrument to support lifelong learning, the mobility of European learners and flexibility of learning pathways to achieve qualifications. For more information follow the official document of European Commission "The European Credit System for Vocational Education and Training"
  - **EQF level** - The European Qualifications Framework (EQF) acts as a translation device to make national qualifications more readable across Europe, promoting workers' and learners' mobility between countries and facilitating their lifelong learning. The EQF aims to relate different countries' national qualifications systems to a common European reference framework. Individuals and employers will be able to use the EQF to better understand and compare the qualifications levels of different countries and different education and training systems. Since 2012, all new qualifications issued in Europe carry a reference to an appropriate EQF level[1].
- **Teaching hours** - the precise timing is very important part of the course design. During the Course/s syllabus development is very important to consider a time necessary for active learning and for learners to complete major assignments and prepare for exams.

[1] Additional reading:
https://en.wikipedia.org/wiki/European_Qualifications_Framework

Process of syllabus development



The Syllabus Template below.

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Syllabus

A. General Information

Organisation: *e.g. Al-Quds Open University*

Course title: *e.g. Course 1-Digital Farming and Precision Agriculture*

3. Degree: *e.g. BSc.*

4. Type: *e.g. New*

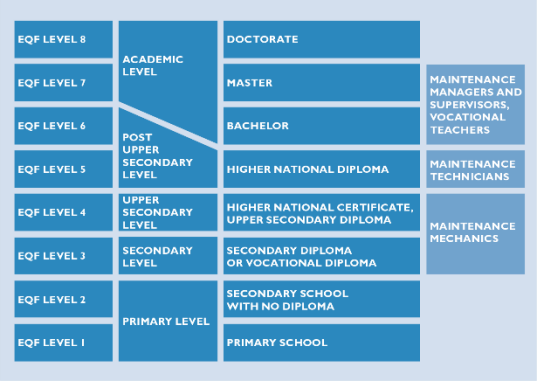
5. Mode of delivery: *e.g. face to face, online, blended, synchronous, asynchronous,*

6. Language of the course: *e.g. Arabic*

7. Modules: *e.g. 1.Farming; 2. Digital Farming; 3. Precision Agriculture*

8. Teaching hours (per course/per semester/per module)*: e.g. 60 hours/Winter semester; 30h/Summer semester; 3o hours/ Modul1; 20 hours/Module 2; 20 hours/ Module 3*

9.EQF level[2]:



[3]

10. Supervisor/Professor: *e.g. Supervisor: Dr. Mahmoud Hawamdeh; Professor: Dr. Saeda Mustafa*

[2] Additional reading: http://www.theeducators.com/home/certificate/system-guidelines/#:~:text=The%20EQF%20is%20a%20common,European%20Qualification%20Framework)%20reference%20system.

[3] Additional reading: https://en.wikipedia.org/wiki/European_Qualifications_Framework

B. SPECIFIC INFORMATION

1. **Course Description: e.g. The course is about…..**
2. **Course Objectives: e.g. students to apply….**
3. **Learning Outcomes:** *e.g. students to solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.*

C. MODULES

MODULE 1: e.g. "Farming"

1. **Description:** *e.g. The course is about….*
2. **Objectives:** *e.g. students to apply….*
3. **Learning Outcomes:** *e.g. students to solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.*
4. **Learning Material (Basic and Recemented):** *e.g. link with an OER……, open book pdf.*

Pedagogical Framework

5. **Learning theory:** *e.g. Inquired-based learning when students will explore….*
6. **Teaching Methodologies:** *e.g. problem solving of the……*
7. **Learning Activities/PA Technological Tools:** *e.g. Students will do this...and that….using this technological application …….in order to experiment on…….*
8. **Assignments:** *e.g. Students will write an essay of 3000 words describing……or students will record. Video-lecture with "Camtasia" to……*
9. **Assessment and feedback:** *e.g. Initially the teacher will explore students' opinions about….. (diagnostic assessment). In the middle of the module students will……so the teacher to understand……(formative assessment). Final exams will be……. (summative assessment)*
10. **References**

MODULE 2

1. **Description:** *e.g. The course is about….*
2. **Objectives:** *e.g. students to apply….*
3. **Learning Outcomes:** *e.g. students to solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.*
4. **Learning Material (Basic and Recemented):** *e.g. link with an OER……, open book pdf.*

Pedagogical Framework

5. **Learning theory:** *e.g. Inquired-based learning when students will explore….*
6. **Teaching Methodologies:** *e.g. problem solving of the….*
7. **Learning Activities/PA Technological Tools:** *e.g. Students will do this...and that….using this technological application …….in order to experiment on…….*
8. **Assignments:** *e.g. Students will write an essay of 3000 words describing……or students will record. Video-lecture with "Camtasia" to……*
9. **Assessment and feedback:** *e.g. Initially the teacher will explore students' opinions about… (diagnostic assessment). In the middle of the module students will……so the teacher to understand……(formative assessment). Final exams will be……. (summative assessment)*
10. **References**

MODULE 3:

1. **Description:** *e.g. The course is about….*
2. **Objectives:** *e.g. students to apply…*
3. **Learning Outcomes:** *e.g. students to solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.*
4. **Learning Material (Basic and Recemented):** *e.g. link with an OER……, open book pdf.*

Pedagogical Framework

5. **Learning theory:** *e.g. Inquired-based learning when students will explore….*
6. **Teaching Methodologies:** *e.g. problem solving of the….*
7. **Learning Activities/PA Technological Tools:** *e.g. Students will do this... and that….using this technological application …….in order to experiment on…….*
8. **Assignments:** *e.g. Students will write an essay of 3000 words describing……or students will record. Video-lecture with "Camtasia" to……*
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10. **References**

BENEFIT

Curriculum and Bologna principles (ECTS system)

- Training workshop 1
- **Contributors:**
- SUA Team, Zuzana Palkova
- VSTE Team, Marta Harnicarova

European Higher Education Area

The European Higher Education Area (EHEA):

- a unique international collaboration on higher education
- the result of the political will of 48 countries with different political, cultural and academic traditions

Consultative members

- a **non-voting category of members**
- represent **stakeholder organisations and other institutions** that have a European scope to their work and are instrumental in the implementation of the Bologna Process
  - Council of Europe (CoE)
  - UNESCO,
  - European University Association (EUA)
  - European Association of Institutions of Higher Education (EURASHE)
  - European Students' Union (ESU)
  - European Association for Quality Assurance in Higher Education (ENQA)
  - Education International (EI)
  - BUSINESS EUROPE

European Higher Education Area

The European Higher Education Area (EHEA):

- step by step during the last twenty years, built an area implementing a common set of commitments:
  - structural reforms
  - shared tools
- these 48 countries agree to and adopt reforms on higher education on the basis of common key values– such as:
  - freedom of expression,
  - autonomy for institutions,
  - independent student unions,
  - academic freedom,
  - free movement of students and staff
- Through this process, countries, institutions and stakeholders of the European area continuously adapt their higher education systems making them more compatible and strengthening their quality assurance mechanisms.

For all these countries, the main goal is to increase staff and students' mobility and to facilitate employability.

European Higher Education Area

- As part of the European Higher Education Area, all participating countries agreed to:
  - introduce a **three-cycle higher education system** consisting of bachelor's, master's and doctoral studies
  - ensure the **mutual recognition of qualifications and learning periods abroad** completed at other universities
  - implement a system of quality assurance, to strengthen the **quality and relevance** of learning and teaching

Bologna Process

- Bologna Process - key to building the necessary trust for:
  - successful **learning mobility**,
  - cross-border academic cooperation
  - the mutual recognition of study periods and qualifications earned abroad
  - enhancing the quality and relevance of learning and teaching

Bologna Process

- The Bologna Process also provides:
  - a forum for dialogue with neighbouring countries regarding higher education reforms and questions related to shared academic principles, such as the independence of universities and the participation of students in civil society activities
  - an important space for soft diplomacy with neighbouring countries in the Western Balkans (with the exception of Kosovo), Eastern Partnership countries, Turkey and Russia, as well as many other countries

Bologna Process - History

- **<u>Erasmus programme:</u>**
  - triggered more intense and structured cooperation among European higher education institutions
  - a demand for student mobility grew rapidly – difficulties to recognise periods of study across different national higher education systems with divergent degree structures and different academic traditions

Bologna Process - History

- the **Sorbonne and Bologna Declarations (1998) -** the response of national governments to the challenges arising from the mobility of European students and graduates

http://ehea.info/media.ehea.info/file/1998_Sorbonne/61/2/1998_Sorbonne_Declaration_English_552612.pdf

Bologna Process - History

- Much progress has been made in reforming higher education systems in EU Member States and beyond, as indicated by regular **implementation reports**

https://eacea.ec.europa.eu/national-policies/eurydice/sites/eurydice/files/bologna_internet_0.pdf

Bologna Process

- seven thematic chapters:
  - The European Higher Education Area Landscape
  - Learning and Teaching
  - Degrees and Qualifications
  - Quality Assurance and Recognition
  - Opening Higher Education to a Diverse Student Population
  - Relevance of the Outcomes and Employability
  - Internationalisation and Mobility

EHEA Tools

- various instruments have been developed, adopted and implemented at the European, national, regional and institutional level aiming at facilitating fair recognition of foreign qualifications and/or study periods abroad:
  - **European Credit Transfer and Accumulation System** (ECTS),
  - the **Diploma Supplement** (DS),
  - the **overarching and national qualifications frameworks** (QFs),
  - the **European Standards and Guidelines for Quality Assurance of Higher Education** (ESG)

ECTS

- **EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)**
  - a tool of the European Higher Education Area for making studies and courses more transparent and thus helping to enhance the quality of higher education

ECTS

- **ECTS Guide 2015**

  https://op.europa.eu/en/publication-detail/-/publication/da7467e6-8450-11e5-b8b7-01aa75ed71a1

- **ECTS Calculator**

  https://msingermany.co.in/ects-credits-calculator/

Diploma Supplement

- **What is it**
  - a document describing the knowledge and skills acquired by holders of higher education degrees
  - it provides additional information to that included in the official degrees / diplomas and/or transcript, making it more easily understood, especially by employers or institutions outside the issuing country
- **Who is it for**
  - it is issued to graduates of higher education institutions along with their degree or diploma
- **What it is not**
  - a substitute for the original diploma or degree
  - an automatic system that guarantees recognition

Diploma Supplement

- **Where can it be obtained**
  - it is issued by the higher education institution awarding the original diploma or degree

https://europass.cedefop.europa.eu/documents/european-skills- passport/diploma-supplement/examples

STANDARDS AND GUIDELINES FOR QUALITY ASSURANCE

- based on the following four principles for quality assurance in the EHEA:
  - Higher education institutions have primary responsibility for the quality of their provision and its assurance
  - Quality assurance responds to the diversity of higher education systems, institutions, programmes and students
  - Quality assurance supports the development of a quality culture
  - Quality assurance takes into account the needs and expectations of students, all other stakeholders and society

https://enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf

THE FRAMEWORK OF QUALIFICATIONS

http://ecahe.eu/w/index.php/European_Qualifications_Framework

- the Framework's aim is to organise national higher education qualifications into an overarching European-wide qualifications framework
- within this Framework, qualifications are defined according to levels of complexity and difficulty
- generic descriptors of the requisite learning outcomes at each level have been defined by expert working groups within the Bologna Process
- these descriptors are broadly applicable in all national contexts

THE STANDARDS FOR QUALITY ASSURANCE

- the standards for quality assurance have been divided into three parts:
  - Internal quality assurance
  - External quality assurance
  - Quality assurance agencies

https://enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf

1. POLICY FOR QUALITY ASSURANCE

- Standard:
  - Institutions should have a policy for quality assurance that is made public and forms part of their strategic management.
  - Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders.

2. DESIGN AND APPROVAL OF PROGRAMMES

- Standard:
  - institutions should have processes for the design and approval of their programmes
  - the programmes should be designed so that they meet the objectives set for them, including the intended learning outcomes
  - the qualification resulting from a programme should be clearly specified and communicated, and refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area

3. STUDENT-CENTRED LEARNING, TEACHING AND ASSESSMENT

- Standard:
  - institutions should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach

4. STUDENT ADMISSION, PROGRESSION, RECOGNITION AND CERTIFICATION

- Standard:
  - institutions should consistently apply pre-defined and published regulations covering all phases of the student “life cycle”, e.g. student admission, progression, recognition and certification

5. TEACHING STAFF

- Standard:
  - institutions should assure themselves of the competence of their teachers
  - they should apply fair and transparent processes for the recruitment and development of the staff

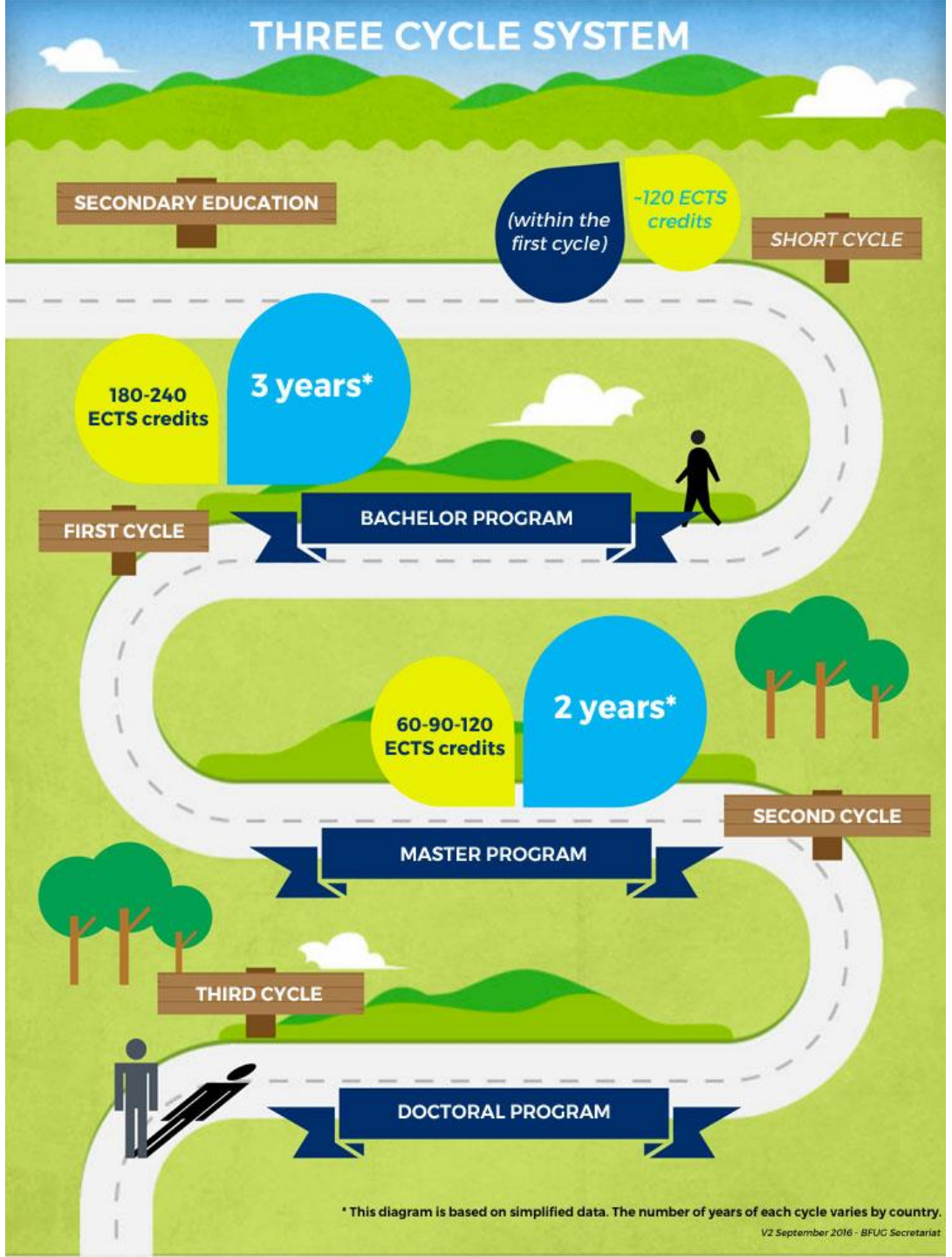
6. LEARNING RESOURCES AND STUDENT SUPPORT

- Standard:
  - institutions should have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provide

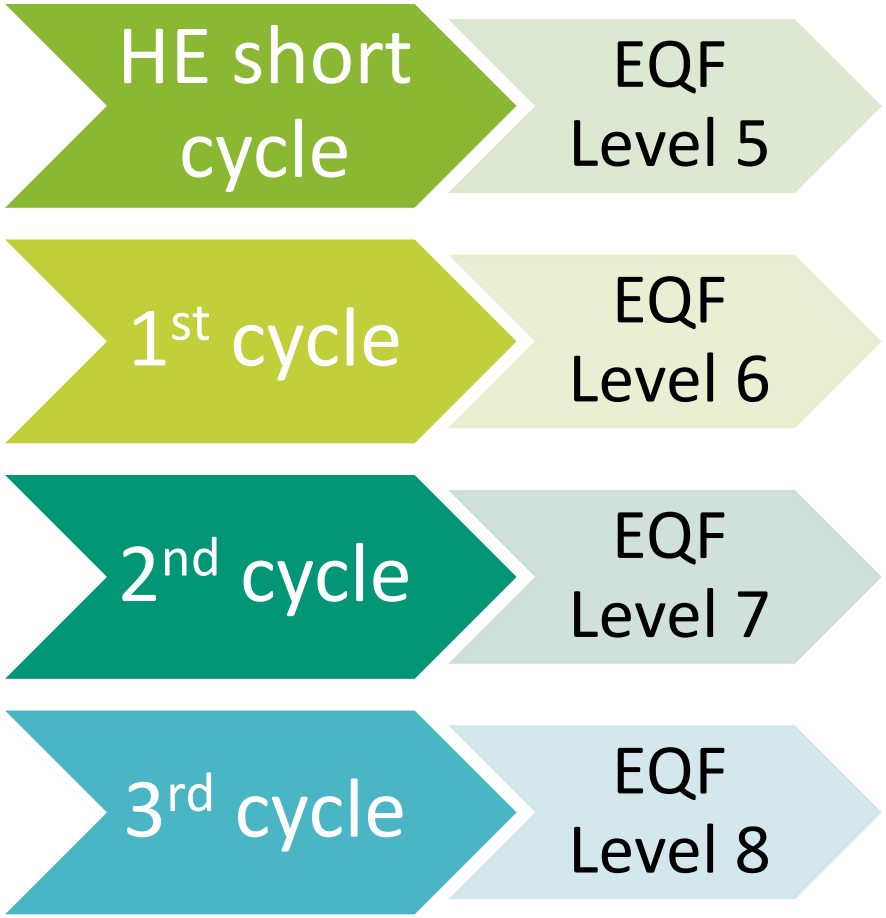
7. INFORMATION MANAGEMENT

- Standard:
  - institutions should ensure that they collect, analyse and use relevant information for the effective management of their programmes and other activities
- The information gathered depends on the type and mission of the institution:
  - Key performance indicators
  - Profile of the student population
  - Student progression, success and drop-out rates
  - Students' satisfaction with their programmes
  - Learning resources and student support available
  - Career paths of graduates

THE FRAMEWORK OF QUALIFICATIONS



THE FRAMEWORK OF QUALIFICATIONS



Thank you for your attention

Title: **"BENEFIT INSTUCTIONAL DESIGN and EXCELLENCE FRAMEWORK"**

WP1: Capacity Building and Training

Task: 2

Deliverable: 1.2 Instructional Design and Curriculum Development

Contributors: Dr. Maria Fragkaki, Dr. Stylianos Mystakidis, Mr. Nikolaos Gorgolis (UPAT)

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Content

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PART 1

A. BENEFIT -INSTRUCTIONAL DESIGN FRAMEWORK

for

PRECISION AGRICULTURE CURRICULUM DEVELOPMENT

1. INTRODUCTION

What is it: BENEFIT- Instructional Design Framework consists the basis of the Precision Agriculture Curriculum. It defines not only the Pedagogy that it will be used to support the Precision Agriculture Course/s, but also the related Content and the needed Technology, as well as their effective and efficient alignment

Why we need it: If we were developing a synchronous curriculum, without setting all the crucial aspects of its design (pedagogy-content-technology), someone could say that our project would not have either a basis on to stand or an instructional framework to be infused by. It would be a curriculum without heart and mind-without philosophy.

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How it will support the curriculum development: The "BENEFIT -Instructional Design Framework" will set the scaffolding of the whole Precision Agriculture Curriculum design and consequently the PA Course/s development. The BENEFIT TPACK Model will add a critical thinking component to the project, by specifying the basic elements of the pedagogy, the content, the technology and their combinations, within a layered, multifaceted, multi-factorial approach that emphasizes "why" and "how" beyond "what".

2. BENEFIT-Instructional Design Framework MODEL

The BENEFIT-Instructional Design Framework it is based on the TPACK model and features a complex interplay of three primary forms of knowledge: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK).

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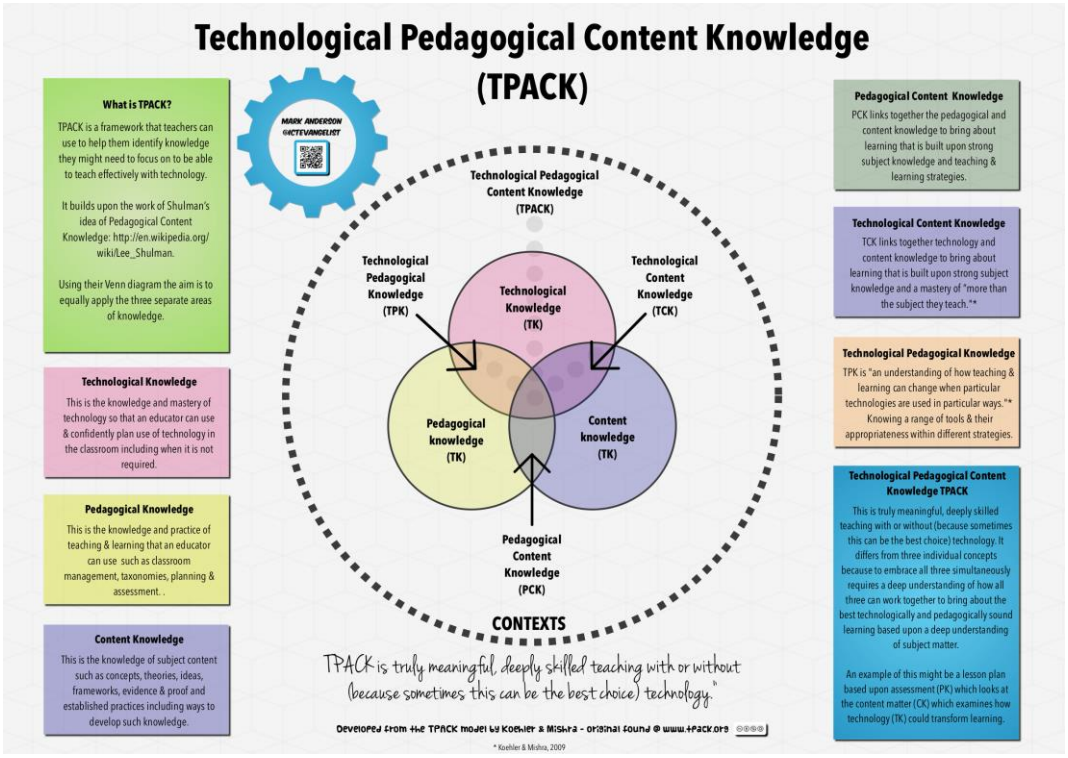

Figure 1: TPACK MODEL

To achieve high quality of learning in a Precision Agriculture Course, learners' knowledge about the subject matter (CK), and knowledge about specific ways of thinking and acting with PA technological tools and applications (TK) need to be coupled with

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the pedagogical understanding why learners learn, what they learn and how they can use their adapted knowledge (PK).

Specific **dimensions** have to be considered:

Specifically:

A. BENEFIT- Instructional Design Framework for the PA Curriculum **Technological Pedagogical Content Knowledge (TPACK)** **http://tpack.org/**	
DIMENSIONS	**DESCRIPTION**
A.1. BENEFIT Content Knowledge (CK): Content	**A.1.1. Define the content/resources of the already existing Precision Agriculture Curriculum or the new one:** (e.g. core aim, sub-aims, learning outcomes, course/s topics, course/s modules, teaching resources, assignments, types of assessment, etc.)
A.2.BENEFIT Pedagogical	**A.2.1.Define the Philosophy of the course (culture, ethics):** Each nation,

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Knowledge (T-PK): Pedagogy	country, society, community, citizen has a culture (e.g. beliefs, customs, norms, social behavior, way of life, etc.), and agricultural ethics (e.g. what is morally right and what is not) *Supported Material* https://www.ethicaladvocate.com/7-biggest-ethical-issues-facing-agricultural-industry/
	A.2.2. Define the Theory and the learning objectives of the course/s : Describe the theoretical framework that will infuse your course (e.g. Deeper Learning, Experimental Learning, Inquire-based learning, etc.); what kind of learners you need to promote (e.g. passive learners or active and reflective learners?); Describe the Course/s objectives & Learning outcomes – course objectives clearly describe what you intend course participants to learn by the end of the course. Learning outcomes describe an intended or observed state, e.g. what your students will learn or

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	what your students actually learned[1]; explain how the theory you have chosen supports the type of the learners you want?
	A.2.3. **Define the Teaching Methodologies and the Assessment Methods s of the course**: Describe the teaching methodologies you will use (e.g. collaboration in small teams, experiments, problem solving, video-lectures, etc.); Describe the assessment methodologies you will use, and consider that the selection of appropriate assessment methods depends on factors like as planned learning outcomes, level of study, target groups of learners and their skills, knowledge and area of expertise, available resources, and delivery mode of the course and so on. (e.g. Case studies, Examination, Multiple-choice tests, Practical project, Self-assessment, peer-assessment, etc.); explain how the teaching and assessment methods are aligned with the theory of the course.

[1] Additional reading:
http://resources.depaul.edu/teaching-commons/teaching-guides/course-design/Pages/course-objectives-learning-outcomes.aspx

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A.3. BENEFIT Technology Knowledge (T-TK): Defining Technology	**A.3.1. Define the *technological equipment*** (existing and required), meaning infrastructure and software/applications, that you consider necessary for secure the relevant quality of the educational process (e.g. labs, infrastructure, connectivity, PA software and applications, e-learning platforms, etc.)

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1ST ACTIVITY (development):

INSTRUCTIONAL DESIGN FRAMEWORK

UNIT 3:	INSTRUCTIONAL DESIGN
BENEFIT-ToR:	PART 1
1ST ACTIVITY	"Instructional Design Framewor for P.A. Curricula (collaborative development activity)

Each University has to describe the resources (A1), the pedagogy (A2) and the technology (A3) that will use for the curriculum's development, so both university instructors and developers to be confident to design and develop the Precision Agriculture curricula effectively and efficiency. (see detailed description in the **1ST ACTIVITY: INSTRUCTIONAL DESIGN** doc.

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PART 2

BENEFIT -INSTRUCTIONAL DESIGN EXCELLENCE

for

PRECISION AGRICULTURE CURRICULA DEVELOPMENT

1. INTRODUCTION

What is it: "BENEFIT- Instructional Design Excellence" framework provide instructional excellence of the Precision Agriculture Curricula. It sets the success indicators criteria for the effective and efficient alignment of the BENEFIT- Instructional Design Framework and the Syllabus of the P.A course/s

Why we need it: If we were developing an innovative curriculum, without setting all the crucial aspects of its design (pedagogy-content-technology), someone could say that it would not have either a basis or a philosophy to be infused by. It would be a meaningless curriculum, unreliable and without validity

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How it will support the curriculum development: The "BENEFIT -Instructional Design Excellence Framework" will certify the best alignment of the three types of the BENEFIT-Instructional Design Framework (**T**echnological, **P**edagogical **A**nd **C**ontent **K**nowledge).

Each University has initially to be self-assessed if it meets the "BENEFIT Instructional Design Excellence Indicators" and then to peer-assessed from two more Institutions (one Palestinian Institution and one European Institution).

2. BENEFIT-INSTRUCTIONAL DESIGN EXCELLENCE INDICATORS

*Specific **success indicators** have to be considered*:

BENEFIT INSTRUCTIONAL DESIGN EXCELLENCE INDICATORS
B1. BENEFIT Pedagogical Content Knowledge– Describe how the recourses you have chosen (A.1.2., A.1.3) can be aligned with the pedagogy you follow (A.3.1.) and the Course/s Syllabus.

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Define the Pedagogical and Content Knowledge success indicators and relate them with the Course's Syllabus (***PCK indicators***)
B2. BENEFIT -Technological Content Knowledge – Describe how the technological aspects (A.3.1) can be aligned with the content/recourses you have chosen and the Course/s Syllabus (A.1.2., A.1.3); Define the Technological Content Knowledge success indicators and relate them with Course's Syllabus(***TCK indicators)***
B3. **BENEFIT Technological Pedagogical Knowledge–** Describe how the technological aspects (A.3.1) can be aligned with the pedagogical aspects you have set and the Course's Syllabus (A.2.1., A.2.2., A.2.3.). Define the Technological and Pedagogical Knowledge instructional design success indicators and relate them with Course's Syllabus **(*TPK indicators)***

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2nd ACTIVITY:

INSTRUCTIONAL DESIG EXCELLENCE

UNIT 9:	INSTRUCTIONAL DESIGN
BENEFIT-ToR:	PART 2
2ND ACTIVITY	"Instructional Design Excellence for P.A. Curricula *(collaborative assessment activity)*

Each University has to define the BENEFIT- Instructional Design Excellence success indicators and relate them with the Course/s Syllabus.

This is a critical input for the development of the BENEFIT-Terms of Reference (ToR), because it will set the quality parameters of all the instructional design types of knowledge, so both university instructors and developers to be confident to design and develop the Precision Agriculture curricula effectively and efficiency. see detailed description in the **2nd ACTIVITY: INSTRUCTIONAL DESIG EXCELLENCE** doc.

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3. RECOMMENDATIONS

We propose a list of recommendations and emerging characteristics that Palestinian Institutions must consider:

Specifically:

The efficiently alignment of the Instructional Design and the Course/s Syllabus it will define BENEFIT Project success. The basic question for PA course developers to succeed "**BENEFIT *Instructional Design Excellence"*** (***B-IDE)*** is to answer this the question:

"Through which way the BENEFIT-Instructional Design dimensions are in line with the course/s syllabus factors"?

Pedagogical Content Knowledge **Technological Pedagogical Knowledge**

Technological Content Knowledge

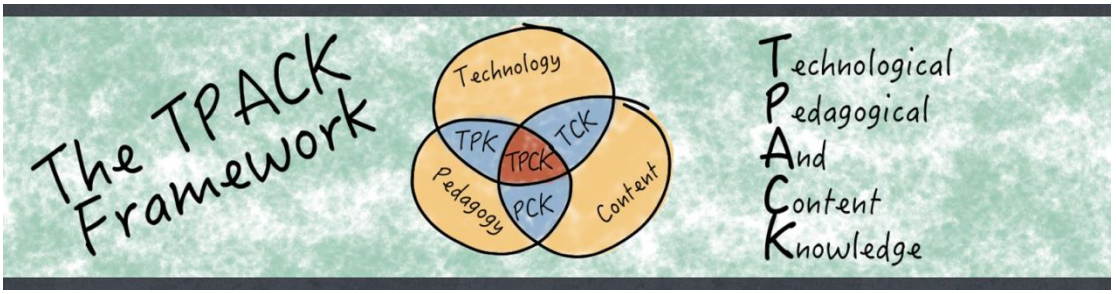

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Figure 2: BENEFIT Instructional Design Excellence

In order to promote Deeper Learning in Precision Agriculture Curricula and Courses:

- A critical-reflective and well instructional designs Precision Agriculture Curriculum, based on meaningful and qualitative success indicators in Higher Education settings.
- BENEFIT- Instructional Design Pedagogy should be infused by constructivist learning theories and sustainable, ethical and problem-solving methodologies; Instructional Design Content should integrate Open Educational Resources (OER) and authentic topics related with the most emerging agriculture issues in Palestine and Instructional Design Technology should provide Palestinian learners with the most state of the art collaborative course software and applications and the most updated Precision Agriculture technologies.
- Critical success indicators should be incorporated in project's curriculum design. The curriculum developers must reflect on the impact of their course design and avoid reverting to practices that aren't linked with the intended learning outcomes;

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- The conventional student – teacher stereotypes must be broke-up. In academic settings, usually the students are expected to assume the role of a novice who follow the instructions of the expert, namely the teacher. In complex technologically Precision Agriculture environments, this dynamic can be inverted. To the extent that millennials are digital natives or residents, they can be active contributors to more aspects of course design, development and implementation towards a harmonic creation of sustainable P.A. Community of Practice
- Unleash student creativity and initiative: Students can assume responsibility and undertake their own projects in line with Deeper Learning principles following their passions. Educators are advised to facilitate spaces, time, methods, and even intrinsic incentives for informal peer interactions even outside the strict course boundaries.

1. EPILOGUE

Both "BENEFIT Instructional Design Framework" and "BENEFIT Instructional Design Framework Success Indicators" set the basis of the Precision Agriculture Curricula and the Courses.

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Title: **"BENEFIT INSTUCTIONAL DESIGN and EXCELLENCE FRAMEWORK"**

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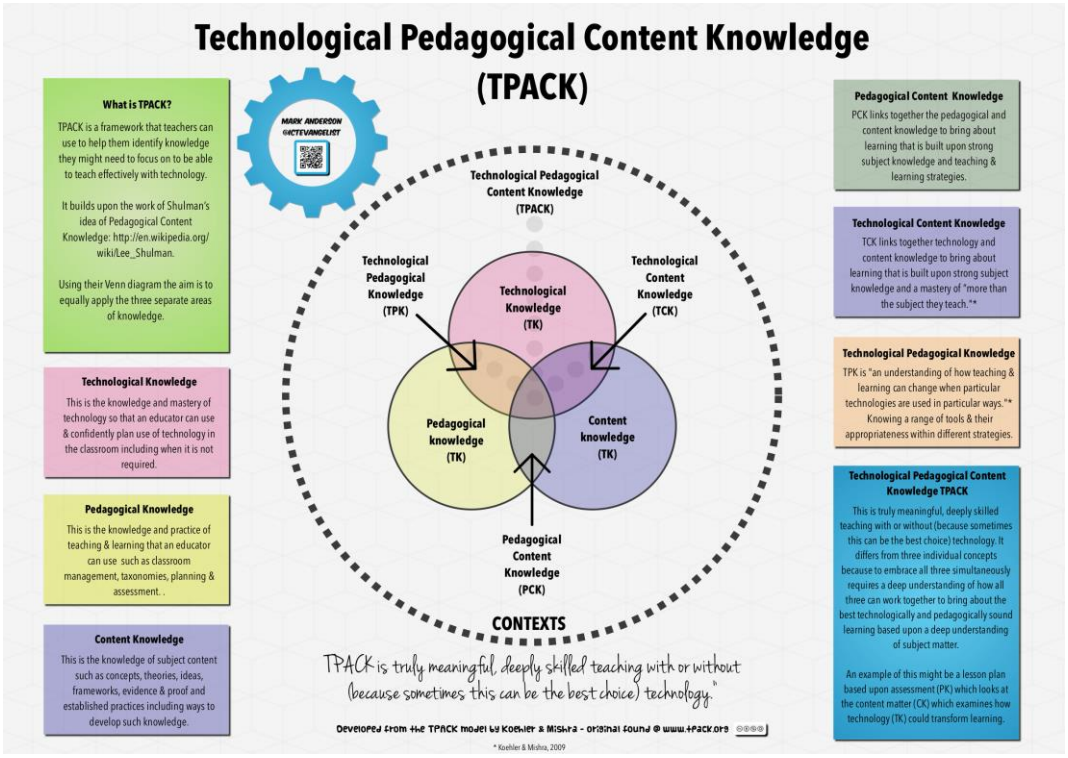

Figure 1: TPACK MODEL

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1ST ACTIVITY (development):

INSTRUCTIONAL DESIGN FRAMEWORK

UNIT 3:	INSTRUCTIONAL DESIGN
BENEFIT-ToR:	PART 1
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PART 2

BENEFIT -INSTRUCTIONAL DESIGN EXCELLENCE

for

PRECISION AGRICULTURE CURRICULA DEVELOPMENT

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Each University has initially to be self-assessed if it meets the "BENEFIT Instructional Design Excellence Indicators" and then to peer-assessed from two more Institutions (one Palestinian Institution and one European Institution).

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B3. **BENEFIT Technological Pedagogical Knowledge–** Describe how the technological aspects (A.3.1) can be aligned with the pedagogical aspects you have set and the Course's Syllabus (A.2.1., A.2.2., A.2.3.). Define the Technological and Pedagogical Knowledge instructional design success indicators and relate them with Course's Syllabus **(*TPK indicators)***

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2nd ACTIVITY:

INSTRUCTIONAL DESIG EXCELLENCE

UNIT 9:	INSTRUCTIONAL DESIGN
BENEFIT-ToR:	PART 2
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We propose a list of recommendations and emerging characteristics that Palestinian Institutions must consider:

Specifically:

The efficiently alignment of the Instructional Design and the Course/s Syllabus it will define BENEFIT Project success. The basic question for PA course developers to succeed "**BENEFIT *Instructional Design Excellence"*** (***B-IDE)*** is to answer this the question:

"Through which way the BENEFIT-Instructional Design dimensions are in line with the course/s syllabus factors"?

Pedagogical Content Knowledge **Technological Pedagogical Knowledge**

Technological Content Knowledge

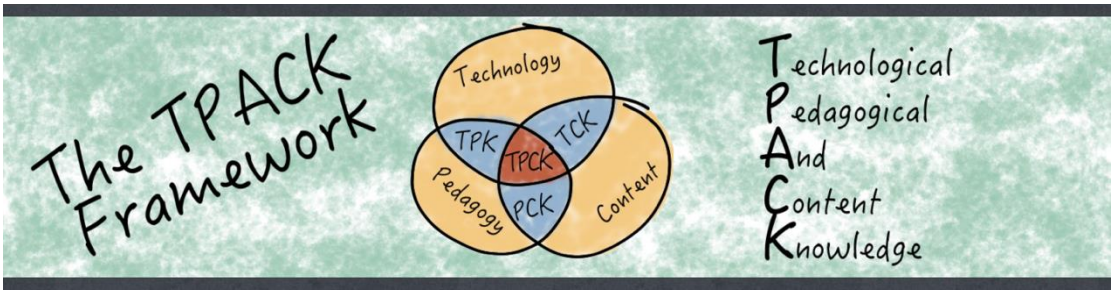

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Figure 2: BENEFIT Instructional Design Excellence

In order to promote Deeper Learning in Precision Agriculture Curricula and Courses:

- A critical-reflective and well instructional designs Precision Agriculture Curriculum, based on meaningful and qualitative success indicators in Higher Education settings.
- BENEFIT- Instructional Design Pedagogy should be infused by constructivist learning theories and sustainable, ethical and problem-solving methodologies; Instructional Design Content should integrate Open Educational Resources (OER) and authentic topics related with the most emerging agriculture issues in Palestine and Instructional Design Technology should provide Palestinian learners with the most state of the art collaborative course software and applications and the most updated Precision Agriculture technologies.
- Critical success indicators should be incorporated in project's curriculum design. The curriculum developers must reflect on the impact of their course design and avoid reverting to practices that aren't linked with the intended learning outcomes;

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- The conventional student – teacher stereotypes must be broke-up. In academic settings, usually the students are expected to assume the role of a novice who follow the instructions of the expert, namely the teacher. In complex technologically Precision Agriculture environments, this dynamic can be inverted. To the extent that millennials are digital natives or residents, they can be active contributors to more aspects of course design, development and implementation towards a harmonic creation of sustainable P.A. Community of Practice
- Unleash student creativity and initiative: Students can assume responsibility and undertake their own projects in line with Deeper Learning principles following their passions. Educators are advised to facilitate spaces, time, methods, and even intrinsic incentives for informal peer interactions even outside the strict course boundaries.

1. EPILOGUE

Both "BENEFIT Instructional Design Framework" and "BENEFIT Instructional Design Framework Success Indicators" set the basis of the Precision Agriculture Curricula and the Courses.

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