

PR5 Report - Selection of best tools for teaching on agrotechnology

Task 5.1 Analysis of partners' infrastructural equipment, digital platforms, and software



LATEST

Local-focused AgTech Education
for Successful Ag Transitions

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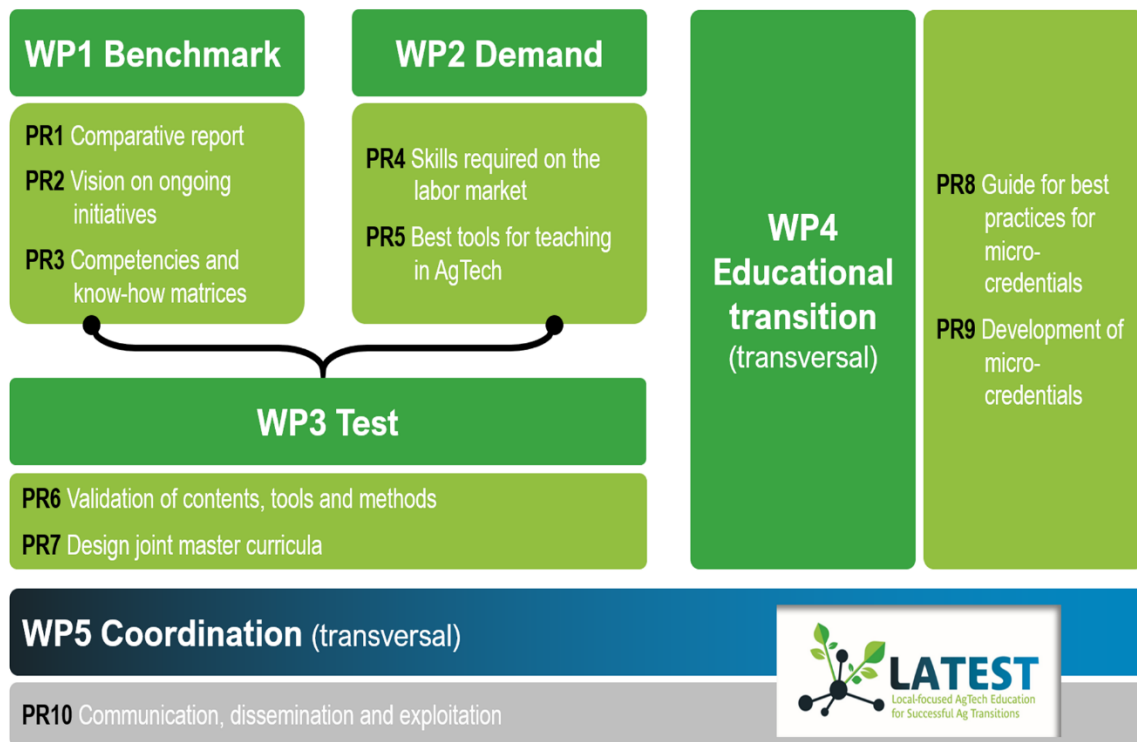
1 INTRODUCTION

The process of shifting from current agricultural practices to more sustainable ones is known as agricultural transition, encompassing agro-ecological, climate-smart and/or energetic transitions. Several research papers and reports have underlined the role of agricultural technologies (AgTech) as one of the main levers, together with the institutional innovations, to reach successful agricultural transitions. AgTech includes both hardware and software innovations, such as traditional and automated equipment, farm management information systems, and other technologies overcoming the principles of precision agriculture to monitor and manage farming practices in their environmental and socio-technical context. In this vein, AgTech used at the farm level and beyond are expected to improve the use and management of natural resources while increasing productivity and reducing trade-offs, such as GHG emissions. However, innovations and technologies require mastery and the learning of new skills by farmers and other operators of the agricultural sector. To face this need, multiple training and educational programs have emerged. Although, programs and skills remain scattered across countries and specific technologies.

The LATEST Project aims at providing an exhaustive overview of educational and training programs in AgTech as a basis to design multidisciplinary innovative, locally fine-tuned academic programs to develop, implement and adapt AgTech for European agricultural stakeholders – including manufacturers, farmers, public and private technical services – in the transition towards sustainable and climate-smart agricultural systems. The main beneficiaries will be students, life-long learners, partners of the project, associated partners, and, according to the strategy of open-access results, the whole agricultural community. The overall expected result is to contribute positively to the diffusion of AgTech as a supporting tool for the mitigation of climate change in the regions targeted by the project.

The project involves as partners the Polytechnic Institute UniLaSalle in Beauvais, France (coordinator), the University of Udine in Italy, the University of Hohenheim in Germany, the BOKU University in Austria and the Harper Adams University in UK. Moreover, 14 associated partners (manufacturers as individuals or in an associated form, farmers associations, agricultural cooperatives networks or associations of agricultural engineers); Eight of them are available to provide lectures and training facilities during the program and to offer internships/apprenticeships during the program.

The project is organized into five Work Packages (WP) and ten associated project results (PR).



Starting from the assumption that the post pandemic conditions will encompass both online and face-to-face activities, several aspects must be carefully analysed to exploit the powerfulness of both methods, including the comparison among used software programs to support the educational goals and the readiness of local infrastructural equipment (e.g., internet connection, number of laptops per person).

PR5 is aimed at collecting and organizing in a structured and shared database all the relevant information on the platforms, tools, organizations, cultural approaches, and experiences already existing at each partner institution.

The collected information will allow to elaborate an action plan aimed at:

- identifying the needs for upgrading existing - or creating new - facilities at each partner institution;
- identifying the most suitable multimedia/digital tools for ‘real-time’ and/or ‘on-demand’ contents, as well as the most suitable strategy to support both teacher/student and student/student interactions;
- displaying the existing courses, seminars and cross-cutting activities provided in e-learning mode by each partner.

2 METHOD

An on-line survey has been submitted to the person in charge for PR5 of each partner.

A first draft has been prepared in March 2022 and discussed within a short group of partners. The updated draft has been presented during the UniHohenheim meeting (May 9-10, 2022), when several suggestions were discussed and implemented in the form. Thereafter, all the partners received the survey, which was filled up within the end of the year. In few cases, when the answer to some questions were lacking, or unclear information have been released, additional data were required up to the end of the following year.

The survey layout is reported in Annex 1. It was organized in 7 sections:

1. Institution
2. Computer Network
3. Video conferencing
4. E-learning
5. On-line courses
6. Active learning
7. Additional information

42 questions were included in the poll.

The answers were collected and analysed, providing comments on the main results. Pie charts were drawn to facilitate the discussion. When appropriate, questions were grouped, and an aggregate comment was provided.

Abbreviations used in the reports

BOKU: Universität für Bodenkultur, Wien, Austria

HAU: Harper Adams University, Edgmont, Newport, UK

HOH: University of Hohenheim, Stuttgart, Germany

ULS: Polytechnic Institute UniLaSalle, Beauvais, France

UNIUD: University of Udine, Udine, Italy

BS: Bachelor of Science programs

MS: Master of Science programs

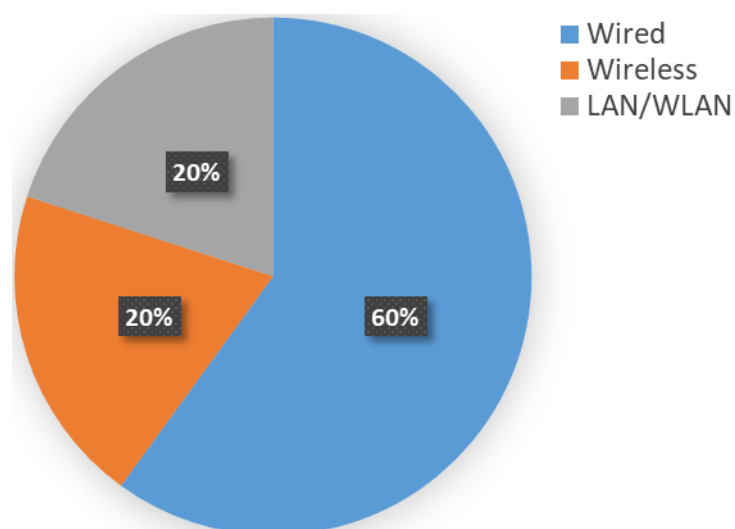
PhD: Philosophy Doctor programs

LLL: Long Life Learning

3 RESULTS

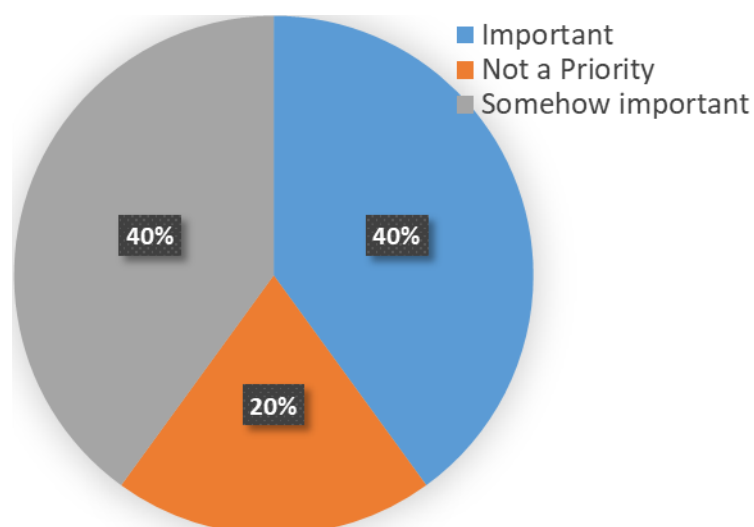
3.1 SECTION 2 – COMPUTER NETWORK

Q2. Which is the main type of connection used in your organization?



The consortium's institutions generally choose wired connections; at HOH, personnel have LAN access and students have WLAN.

Q3. Which is the interest of your organization in using mobile platforms?

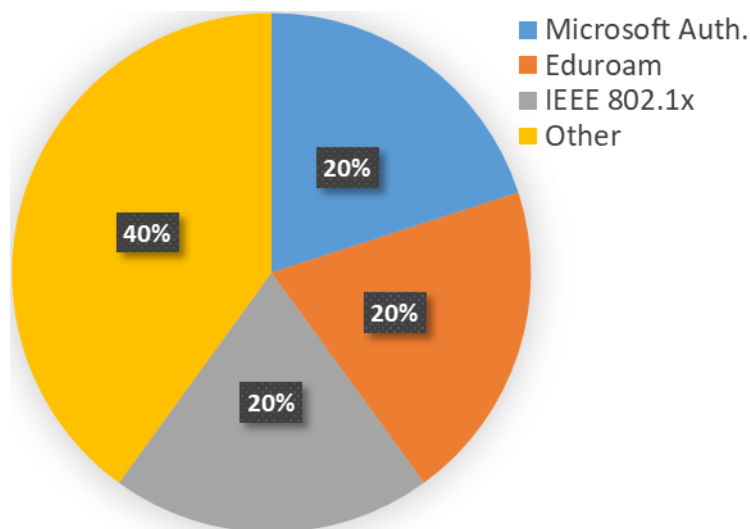


Only ULS, out of all the consortium's institutions, says it has little interest in employing mobile platforms.

Q4. Is your organization included in the Eduroam circuit?

Every consortium member institution signs up for the Eduroam network.

Q5. Which type of authentication (authentication service) is used in your organization?



Occasionally, responses appear to have minimal relevance to the query, most often because the authentication phrase is not understood correctly.

Q6. How many computer stations are available to students in the buildings of your organization?

In some cases, the data pertains to the whole institution rather than the sphere of interest of the LATEST project, indicating variations throughout the Institutions in terms of size and areas of interest. In details:

BOKU: 8 PC rooms and 300.000 VPN-connections

HAU: approximately 200 open access and another 200 in Teaching rooms.

HOH: 253

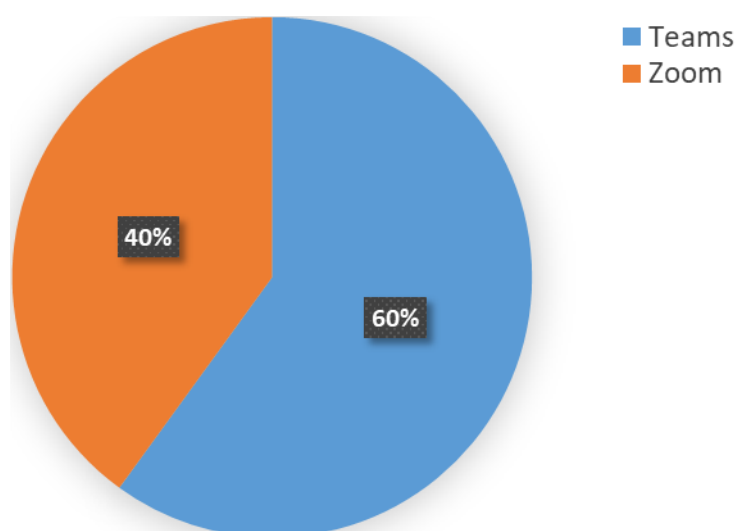
ULS: 186 (193 considering the stances of the teachers in the classrooms)

UNIUD: about 850 stations in 29 rooms/labs

3.2 SECTION 3 – VIDEO CONFERENCING

Q7, Q8. Insert the name of the video conferencing platform currently in use within your organization

Q9. Is the platform in use officially designated by the organization or simply recommended?



The platforms are formally designated in each of the consortium's institutions.

Q10. The video conferencing platform is used both for communication among staff members and between staff and students?

Both staff and students use the platforms at every institution in the consortium.

Q11. Does your organization provide the academic staff of video conferencing training courses?

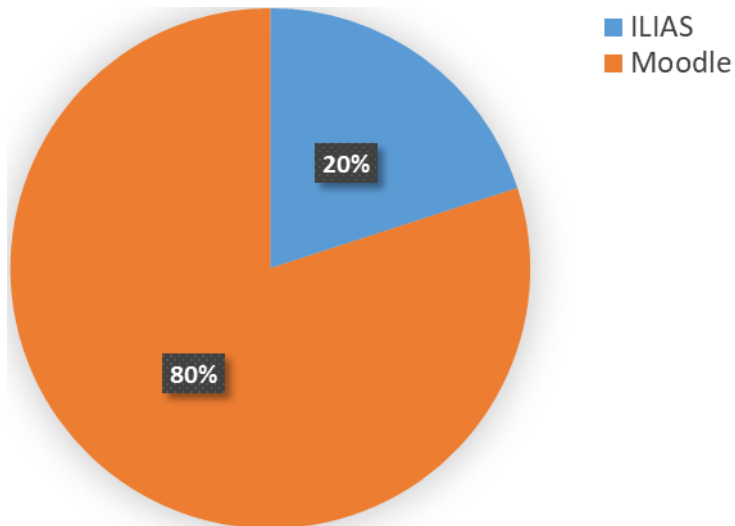
Q12. How does video conferencing training courses are carried out?

Training programs are offered to staff and students by each of the consortium's institutions; all training sessions are conducted remotely.

3.3 SECTION 4 – E-LEARNING

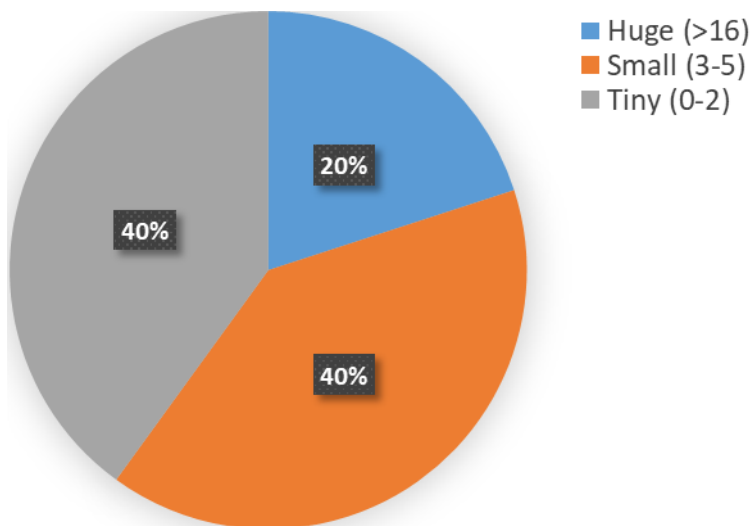
Q13, Q14. Insert the name of the e-learning platform currently in use within your organization

Q15. Is the platform in use officially designated by the organization or simply recommended?



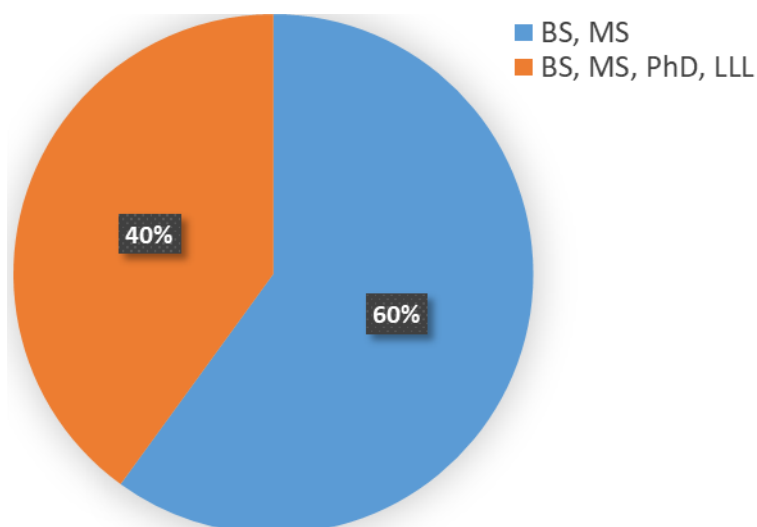
The platforms are formally designated in each of the consortium's institutions.

Q16. Which is the dimension of your e-learning structure?



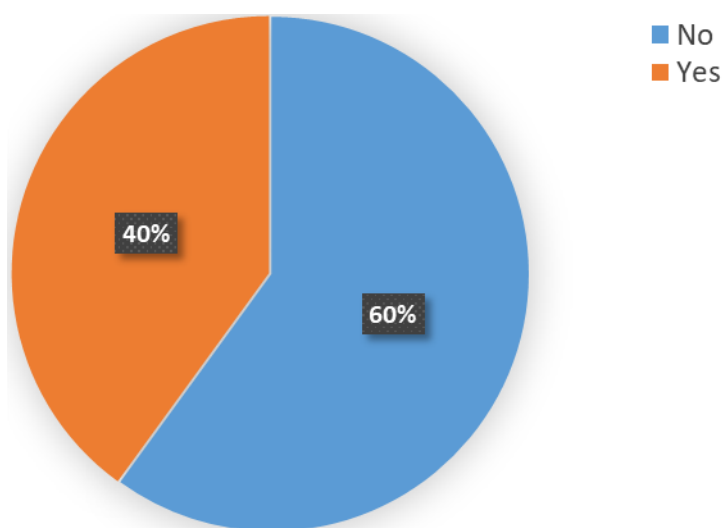
In this instance as well, the responses demonstrate how the Institutions differ in terms of size and focus areas.

Q17. In which academic programs does your organization use e-learning platform?



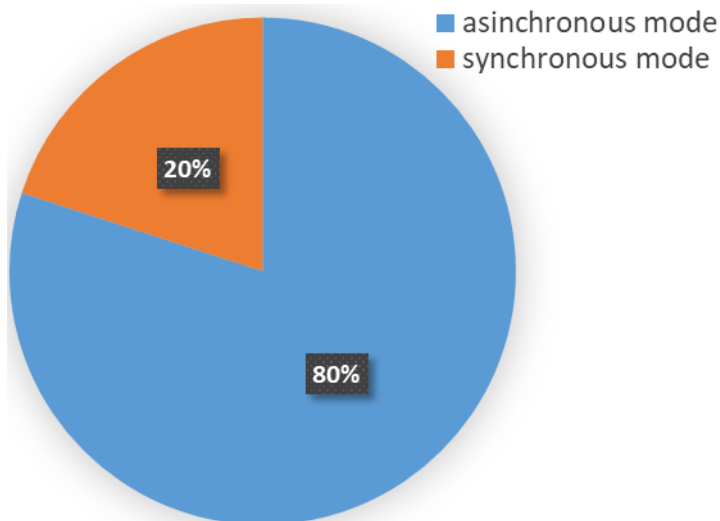
While all of the consortium's institutions employ e-learning systems for their BS and MS programs, only BOKU and HOH go so far as to use them for PhD programs and Long Life Learning.

Q18. Do you have a board of the faculties to steer the e-learning processes?



The responses reflect the institutions' efforts in e-learning, as corroborated by a wealth of additional survey data.

Q19. How does your organization preferentially use e-learning platform?



BOKU is the only institution that favors asynchronous e-learning.

Q20. Who is in charge of the technical decision for the e-learning infrastructure?

Teams of experts make technical choices in each of the consortium's institutions.

BOKU: Team E-Learning of the Division of E-Learning and Didactics

HAU: Director of IT

HOH: Communication, Information and Media Centre (KIM)

ULS: IT department

UNIUD: Central ICT Service

Q21. Who is in charge of the e-learning budget?

Subjects other than the technical teams oversee the e-learning services budget at BOKU and HAU.

BOKU: Head of Teaching and Learning Services

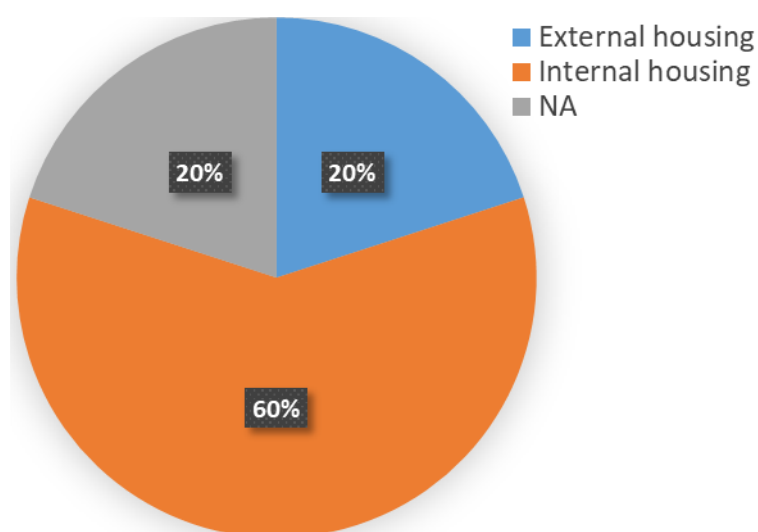
HAU: Associate Pro Vice Chancellor

HOH: Communication, Information and Media Centre (KIM)

ULS: IT department

UNIUD: Central ICT Service

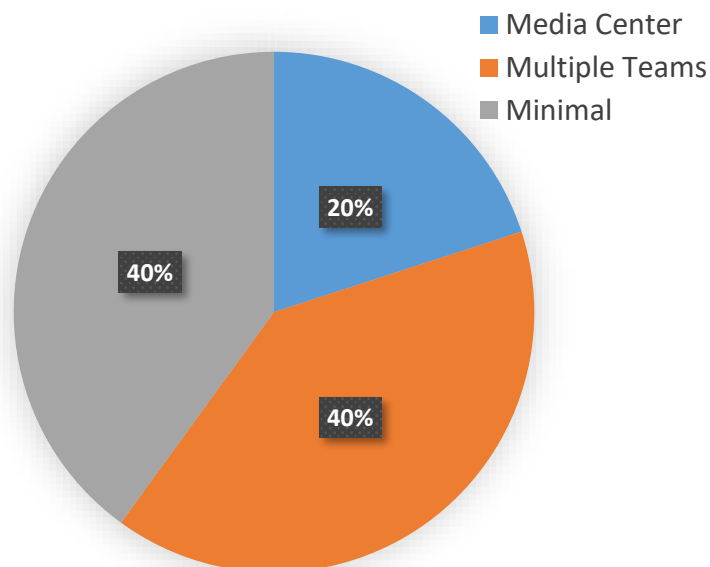
Q22. If your institution has or thinks to have an e-learning service, which is the preferred type?



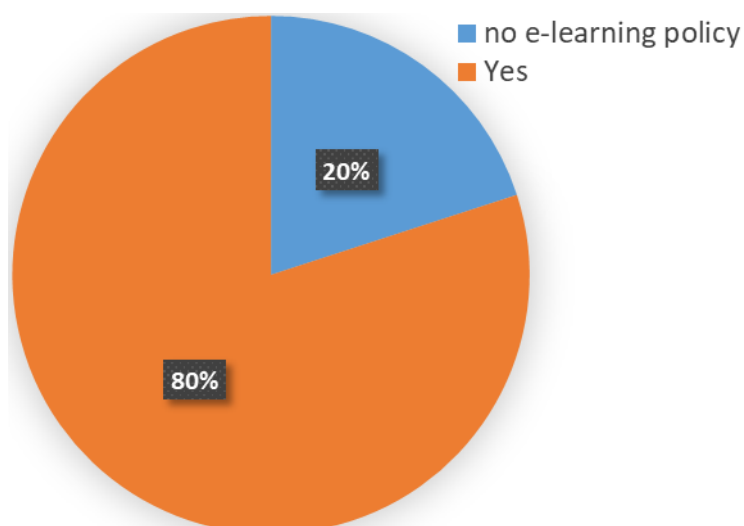
The e-learning program at HAU is managed internally and has external housing. BOKU doesn't offer information.

Q23. How is the e-learning service integrated with IT services for teacher, students and administration?

Selection of best tools for teaching on agrotechnologies
PROJECT RESULT#5, Task 5.1 – LATEST



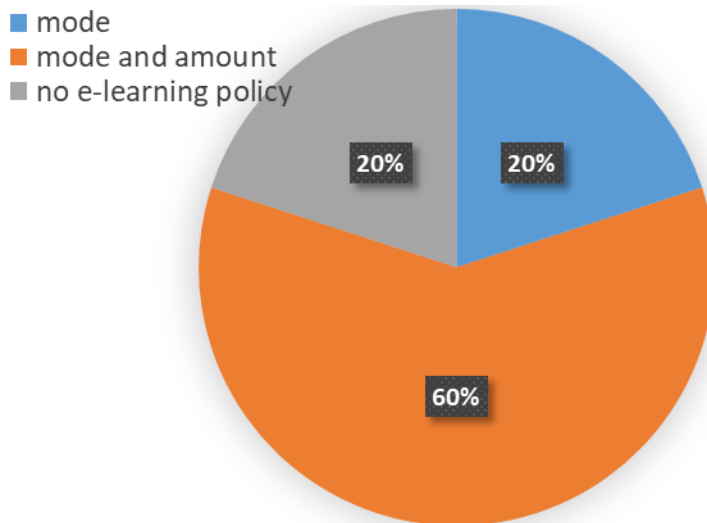
Q24. Does Covid-19 pandemic emergency significantly modify e-learning policy of your organization?



Q25. How did Covid-19 pandemic emergency modify e-learning policy of your organization?

Q26. Please explain how the e-learning policy of your organization has been affected by Covid-19 pandemic emergency

Selection of best tools for teaching on agrotechnologies
PROJECT RESULT#5, Task 5.1 – LATEST



BOKU: There is no e-learning policy.

HAU: New expectations for online materials; greater access on digital accessibility

HOH: Higher education policy has stipulated that the university is a presence university. Exclusively online teaching was only tolerated in the pandemic. Due to the pandemic, there was an increase in e-learning activities. Among other things, use of learning videos, digital lecture and exercise units, digital examinations. These will also be maintained on a small scale in the post-pandemic period.

ULS: UniLaSalle does not provide fully online training. The switch from face-to-face to distance learning during the Covid 19 pandemic was mainly made by accompanying the teachers and installing some equipment for hybrid teaching. We already had software solutions that allowed us to provide distance learning courses and to carry out videoconferences

UNIUD: At the beginning of the emergency, a sudden shift towards e-learning occurred, where most of the personnel (both teachers and staff) and the students were not skilled in managing lessons remotely. Lots of problems also in the reliability of the internet network at the regional level. More than two years after, awareness on the opportunity of e-learning as an integrative teaching tool strongly increased

Q27. Please submit a list of courses, seminars and cross-cutting activities provided in e-learning mode by your organization, with evidence of the educational program

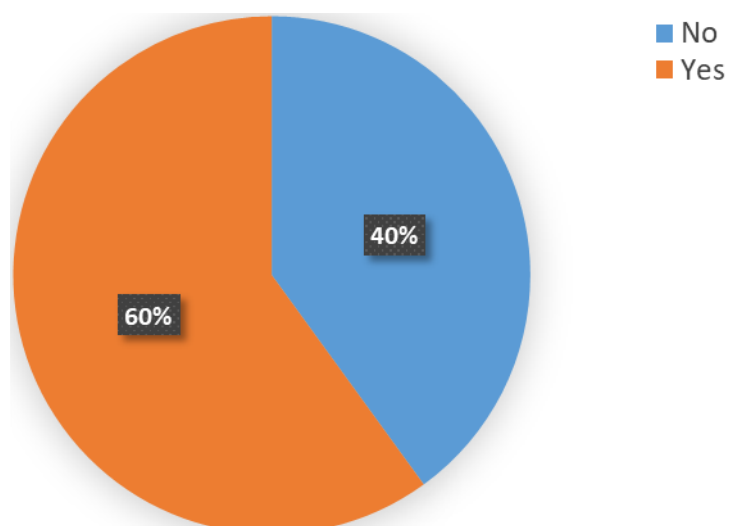
HAU: PgC Data Science (online) - other courses are blended

HOH: Most of the courses are supported by e-learning. Especially for the provision of learning materials

ULS: Alternatives pour une agriculture durable (David Grandgirard)

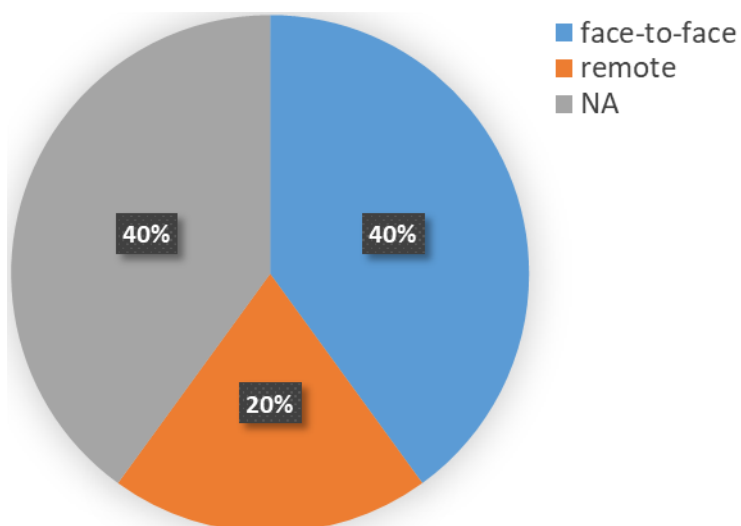
UNIUD: Examples from the fields of agricultural engineering, digitalisation and sustainability

Q28. Does your organization provide the academic staff of e-learning training courses?



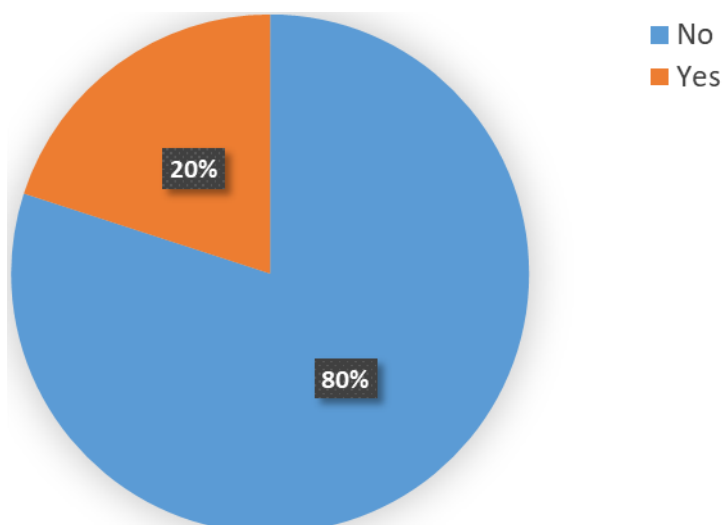
Q29. How does e-learning training courses are carried out?

Selection of best tools for teaching on agrotechnologies
PROJECT RESULT#5, Task 5.1 – LATEST



3.4 SECTION 5 – ON-LINE COURSES

Q30. Does your organization provide full on-line academic programs?



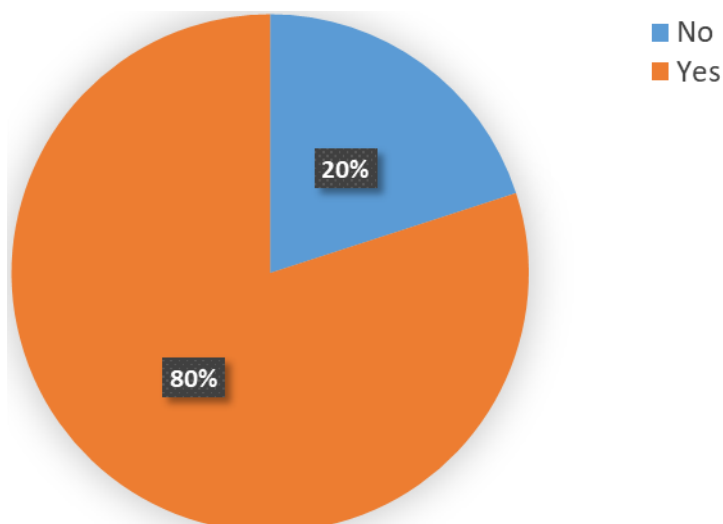
Q31. At which level does your organization provide full on-line academic programs?

HAU: MS programs

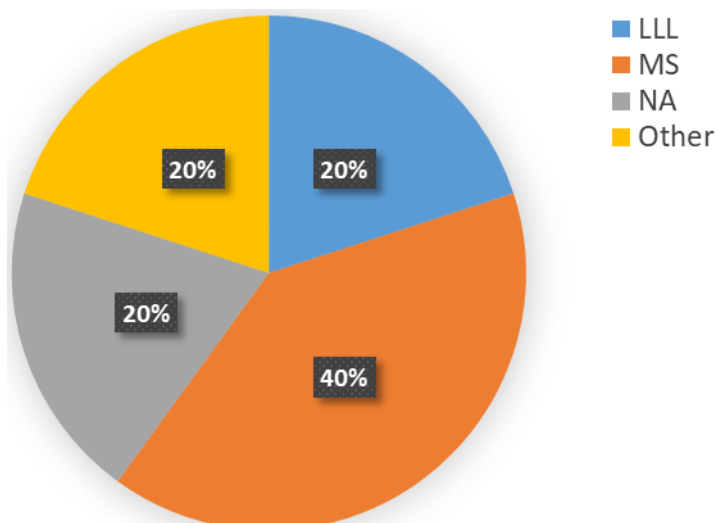
Q32. Please submit a list of full on-line academic programs provided by your organization

HAU: See Institution website

Q33. Does your organization provide mixed on-line and conventional academic programs?



Q34. At which level does your organization provide mixed on-line and conventional academic programs?



Q35. Please submit a list of mixed on-line and conventional academic programs provided by your organization

HOH: on-site teaching is the standard. Only a few online lessons. Used individually by individual lecturers. However, when and where is not recorded centrally.

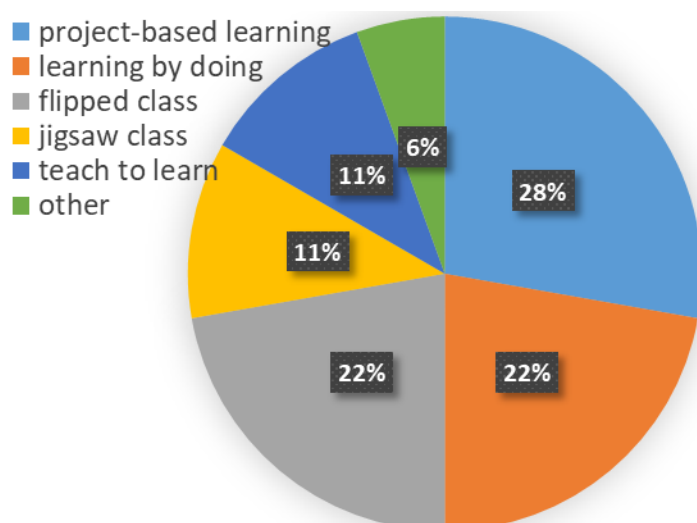
UNIUD: most programs are allowed to provide up to 10% of activities in remote

3.5 SECTION 6 – ACTIVE LEARNING

Q36. Does your organization use active learning methods in educational programs?

Active learning techniques are used in educational programs at all of the consortium's institutions.

Q37. What active learning methods have your organization experienced?



Q38. Insert the name of other active learning methods used

BOKU: brainstorming, discussing, group work

HAU: Case study learning, practical classes, team-based learning, and lots of different everyday teaching methods with active elements

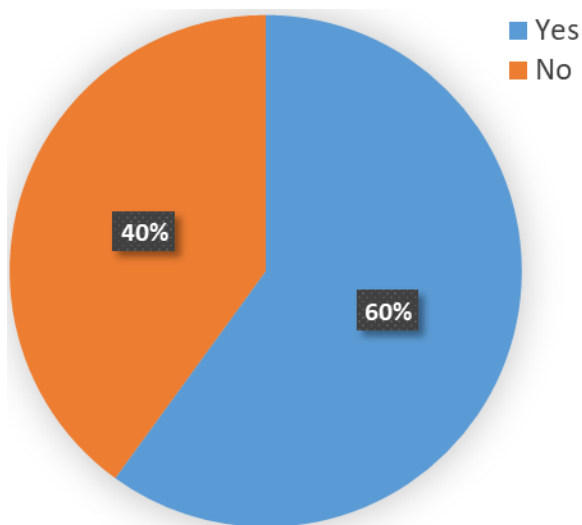
Q39. Does your organization intend to use active learning methods in educational programs in the near future?

In the near future, every institution in the consortium plans to expand the use of active learning techniques in their curricula.

3.6 SECTION 7 – ADDITIONAL INFORMATION

Q 40. Please provide the name of the person who filled in the survey [PRIVACY]

Q41. Is this person an e-learning manager within the Organization?



Q42. Which is the role of the person who filled in the survey?

BOKU: Member Lifelong Learning (Staff)

HAU: Associate Pro Vice Chancellor (Academic)

HOH: Scientific staff (Academic)

ULS: Department training director (Academic); Ingenieur pedagogique multimedia, Director IT department (Staff)

UNIUD: Former Director of the Department (Academic)

4 CONCLUSION

The study compiles the findings from the survey, which looked at the digital platforms, software, and infrastructure tools that the project's partners employed for their educational initiatives.

Based on data on digital and multimedia tools, organizational structures, cultural perspectives, and past and upcoming experiences, it may be inferred that the consortium's member institutions have a shared history and set of guidelines for facilitating interactions between students and teachers.

The use of pilot experiences indicates the possibility of synergies and linkages that may be evaluated and developed across the institutions.

The survey's findings imply that major infrastructure obstacles should not stand in the way of a cooperative education program built on distributed competence-based instructional modules.

5 ANNEX 1 – LATEST SURVEY PR5_T5.1

LATEST Survey PR5_T5.1 - Academic



Analysis of partners' infrastructural equipment, digital platforms and software

GOAL 1. Information on the platforms, tools, organizations, cultural approaches and experiences already existing and filling the database

GOAL 2. Identify the most suitable multimedia/digital tools to support both teacher/student and student/student interactions

1. Organization

- ☐ INSTITUT POLYTECHNIQUE UNILASALLE
- ☐ HARPER ADAMS UNIVERSITY
- ☐ UNIVERSITÀ DEGLI STUDI DI UDINE
- ☐ UNIVERSITÄT HOHENHEIM
- ☐ UNIVERSITÄT FÜR BODENKULTUR WIEN

2. Computer Network

2. Which is the main type of connection used in your organization?

- ☐ Wired
- ☐ Wireless

3. Which is the interest of your organization in using mobile platforms?

- ☐ Not a Priority
- ☐ Somehow important
- ☐ Important
- ☐ Priority

4. Is your organization included in the Eduroam circuit?

- ☐ Yes
- ☐ No

5. Which type of authentication (authentication service) is used in your organization?

6. How many computer stations are available to students in the buildings of your organization?

3. Video conferencing

7. What video conferencing platform is currently in use within your organization?

- ☐ Teams
- ☐ Zoom
- ☐ Meet
- ☐ Skype
- ☐ Hangouts
- ☐ other

8. Insert the name of the video conferencing platform currently in use within your organization

9. Is the platform in use officially designated by the organization or simply recommended?

- ☐ official
- ☐ recommended

10. The video conferencing platform is used both for communication among staff members and between staff and students?

- ☐ Yes
- ☐ No

11. Does your organization provide the academic staff of video conferencing training courses?

- ☐ Yes
- ☐ No

12. How does video conferencing training courses are carried out?

- ☐ face-to-face teaching
- ☐ remote teaching

4. e-learning

13. What e-learning platform is currently in use within your organization?

- ☐ Moodle
- ☐ Blackboard
- ☐ ISpring Learn
- ☐ Canvas
- ☐ Brightspace
- ☐ Open Edx
- ☐ Other

14. Insert the name of the e-learning platform currently in use within your organization

15. Is the platform in use officially designated by the organization or simply recommended?

- ☐ official
- ☐ recommended

16. Which is the dimension of your e-learning structure?

- ☐ Tiny 0-2 People
- ☐ Small 3-5
- ☐ Medium 6-10
- ☐ Large 11-15
- ☐ Huge greater than 16

17. In which academic programs does your organization use e-learning platform?
(more than 1 answer allowed)

- ☐ bachelor
- ☐ master
- ☐ doctoral
- ☐ long life education

18. Do you have a board of the faculties to steer the e-learning processes?

- ☐ Yes
- ☐ No

19. How does your organization preferentially use e-learning platform?

- ☐ synchronous mode
- ☐ asynchronous mode

20. Who is in charge of the technical decision for the e-learning infrastructure?

21. Who is in charge of the e-learning budget?

22. If your institution has or thinks to have an e-learning service, which is the preferred type?

- ☐ In-House hosting
- ☐ External Housing - In house management
- ☐ External housing and hosting

23. How is the e-learning service integrated with IT services for teacher, students and administration?

24. Does Covid-19 pandemic emergency significantly modify e-learning policy of your organization?

- ☐ Yes
- ☐ No

25. How did Covid-19 pandemic emergency modify e-learning policy of your organization?
(more than 1 answer allowed)

- ☐ quantitatively (more courses/increased share)
- ☐ qualitatively (different approach)

26. Please explain how the e-learning policy of your organization has been affected by Covid-19 pandemic emergency

27. Please submit a list of courses, seminars and cross-cutting activities provided in e-learning mode by your organization, with evidence of the educational program (if necessary, please send further information in separate documents at paolo.ceccon@uniud.it)

28. Does your organization provide the academic staff of e-learning training courses?

☐ Yes

☐ No

29. How does e-learning training courses are carried out?

☐ face-to-face teaching

☐ remote teaching

5. On-line courses

30. Does your organization provide full on-line academic programs?

☐ Yes

☐ No

31. At which level does your organization provide full on-line academic programs?

- ☐ bachelor
- ☐ master
- ☐ doctoral
- ☐ long-life education

32. Please submit a list of full on-line academic programs provided by your organization (if necessary, please send further information in separate documents at paolo.ceccon@uniud.it)

33. Does your organization provide mixed on-line and conventional academic programs?

- ☐ Yes
- ☐ No

34. At which level does your organization provide mixed on-line and conventional academic programs?

- ☐ bachelor
- ☐ master
- ☐ doctoral
- ☐ long-life education

35. Please submit a list of mixed on-line and conventional academic programs provided by your organization ((if necessary, please send further information in separate documents at paolo.ceccon@uniud.it)

6. Active learning

36. Does your organization use active learning methods in educational programs?

☐ Yes

☐ No

37. What active learning methods have your organization experienced?

(more than 1 answer allowed)

☐ flipped class

☐ teach to learn

☐ learning by doing

☐ jigsaw classroom

☐ project-based learning

☐ others

38. Insert the name of other active learning methods used

39. Does your organization intends to use active learning methods in educational programs in the near future?

☐ Yes

☐ No

☐ Maybe

7. Additional information

40. Please provide the name of the person who filled in the survey

41. Is this person an e-learning manager within the Organization?

☐ Yes

☐ No

42. Which is the role of the person who filled in the survey?

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