EUt+

European University of Technology

Deliverable 35

D3.4.1 ELARA General Installation Layout

Del. Rel. No D3.8

WP 3

Description : The present document represents deliverable D.3.4.1. – General installation layout and sharing of activities and pools.

This document describes the vision and mission of 3.4 task, the strategic lines and objectives to accomplish such mission, as well as the actions to achieve such objectives and their planning.

Comments: In this deliverable, we will be presenting the General Installation Layout of common efforts results from exchanges and team work between the partner universities during 01.2021-12.2021.

Dissemination level: PU-Public

https://www.univ-tech.eu/phase-1-results

This initiative has received funding from the European Union's Erasmus+ programme under grant agreement 101004088 — EUt — EPP-EUR-UNIV-2020.

Co-funded by the European Union

EUT+

EUROPEAN UNIVERSITY OF TECHNOLOGY

Livrable 35

D3.4.1 disposition générale de l'installation d'ELARA

Del. Rel. No D3.8

WP 3

Description : Le présent document présente le livrable d.3.4.1. - disposition générale de l'installation et répartition des activités et des groupes.

Ce document décrit la vision et la mission de la tâche 3.4, les lignes stratégiques et les objectifs pour accomplir cette mission, ainsi que les actions pour atteindre ces objectifs et leur planification.

Commentaires: dans ce livrable, nous présenterons la disposition générale de l'installation des efforts communs résultant des échanges et du travail d'équipe entre les universités partenaires pendant la période 01.2021-12.2021.

Co-funded by the Erasmus+ Programme of the European Union

EUt+ Project

Foreword to deliverable 3.4.1

Task 3.4 is one of the key pieces of EUT +. One of the main objectives of EUT + is to design, develop and test new approaches for the learning and teaching of technology in the context of present global challenges. These different approaches regarding what, why, and how to transform pure information into useful knowledge, represent the key aspect of future higher education in the light of global concerns.

This new entity we invite teachers, students, researchers, and other important representatives to be part of this ongoing process in which new approaches, new techniques, methods, and tools will be developed within t3.4. All these new pieces of knowledge are intended to be used not only in EUt+ alliance but also by any University whose principles are aligned with the principles of EUt+.

Through this specific task (3.4), we also intend to give opportunity and put in practice proper conditions in order to create a forum for the exchange of ideas, experiences, and debates dedicated to the entire teaching community concerned about the improvement of their outputs based of evidence-based practice and/or new theories of learning, in the complex context of education process.

The entire framework regarding the vision, mission, governance, and function of the future European Research Institute are detailed in the main document and follows the following topics:

Motivations

- Vision

Co-funded by the Erasmus+ Programme of the European Union

- Mission and objectives
- Research aims and strategy
- Short run strategy
- Long run strategy
- Methodological framework
- Classification of ELaRA projects
- SWOT analysis

Layout and installation dimension

- Research dimension
- Engagement and projection dimension
- Set-up and governance dimension
- Objectives, key actions and KPIs
- Dimension Research
- Dimension Engagement and Projection
- Dimension Governance

ELaRA Governing Structures

- ELaRA Governing structure: Structure and Core Members
- ELaRA Circular Management Model
- Governing Structure and Layout Dimensions
- Governing Structure and External Projection Dimension
- Task 1: Research projects:
- Task 2. Support projects for teachers and students
- Task 3. PhD Student Strategy in collaboration with doctoral schools.
- Task 4. Strategy/ link with public and private environments
- Task 5. Coordinations for Fundraising and research proposals
- Task 6. Events organization and communication, workshops, conferences, publications
- Task 7. Creation of a common scientific space based on scientific literature
- Task 8. Coordination with EUT+ WPs

Requirements

Co-funded by the Erasmus+ Programme of the European Union

Conclusion

Co-funded by the Erasmus+ Programme of the European Union

PROJET EUT+

AVANT-PROPOS DU LIVRABLE X.Y.Z

MOIS ANNEE

La tâche 3.4 est l'une des pièces maîtresses d'EUT +. L'un des principaux objectifs d'EUT + est de concevoir, développer et tester de nouvelles approches pour l'apprentissage et l'enseignement de la technologie dans le contexte des défis mondiaux actuels. Ces différentes approches concernant le quoi, le pourquoi et le comment de la transformation de l'information pure en connaissances utiles, représentent l'aspect clé du futur enseignement supérieur à la lumière des préoccupations mondiales.

Cette nouvelle entité, nous invitons les enseignants, les étudiants, les chercheurs et autres représentants importants à faire partie de ce processus continu dans lequel de nouvelles approches, de nouvelles techniques, méthodes et outils seront développés au sein de t3.4. Tous ces nouveaux éléments de connaissance sont destinés à être utilisés non seulement dans l'alliance EUT + mais aussi par toute université dont les principes sont alignés sur ceux de l'EUT +.

Par le biais de cette tâche spécifique (3.4), nous avons également l'intention de donner l'opportunité et de mettre en pratique les conditions appropriées afin de créer un forum pour l'échange d'idées, d'expériences et de débats dédiés à l'ensemble de la communauté enseignante concernée par l'amélioration de ses résultats sur la base de pratiques fondées sur des preuves et/ou de nouvelles théories d'apprentissage, dans le contexte complexe du processus éducatif.

L'ensemble du cadre concernant la vision, la mission, la gouvernance et la fonction du futur Institut européen de recherche est détaillé dans le document principal et suit les thèmes suivants :

Motivations

Co-funded by the Erasmus+ Programme of the European Union

- Vision
- Mission et objectifs
- Objectifs et stratégie de recherche
- Stratégie à court terme
- Stratégie à long terme
- Cadre méthodologique
- Classification des projets ELaRA
- Analyse SWOT

Dimension aménagement et installation

- Dimension de recherche
- Dimension engagement et projection
- Dimension de mise en place et de gouvernance
- Objectifs, actions clés et indicateurs clés de performance
- Dimension Recherche
- Dimension Engagement et projection
- Dimension Gouvernance

Structures de gouvernance d'ELaRA

- Structure de gouvernance d'ELaRA : Structure et membres principaux
- Modèle de gestion circulaire ELaRA
- Structure de gouvernance et dimension de projection externe
- Structure de gouvernance et dimension de projection externe
- Tâche 1 : Projets de recherche :
- Tâche 2. Projets de soutien aux enseignants et aux étudiants
- Tâche 3. Stratégie pour les doctorants en collaboration avec les écoles doctorales.
- Tâche 4. Stratégie/lien avec les milieux publics et privés
- Tâche 5. Coordinations pour la recherche de fonds et les propositions de recherche
- Tâche 6. Organisation et communication d'événements, ateliers, conférences, publications
- Tâche 7. Création d'un espace scientifique commun basé sur la littérature scientifique

Co-funded by the Erasmus+ Programme of the European Union

- Tâche 8. Coordination avec les WP de l'EUT+.

Exigences

Conclusion

Co-funded by the Erasmus+ Programme of the European Union

EUt+

European University of Technology

Deliverable 35

D3.4.2a ELARA Summer School package

Del. Rel. No D3.8

WP 3

Description: The following document presents the Autumn Symposium (Summer School 2021 delayed due to the covid crisis) organized by ELaRA (European Laboratory for Pedagogical Action Research and student-Centered Learning).

Comments: /

Dissemination level: PU-Public

https://www.univ-tech.eu/phase-1-results

This initiative has received funding from the European Union's Erasmus+ programme under grant agreement 101004088 — EUt — EPP-EUR-UNIV-2020.

EUT+

EUROPEAN UNIVERSITY OF TECHNOLOGY

Livrable 35

D3.4.éa Première école d'été d'ELARA

Del. Rel. No D3.8

WP 3

Description : Ce document présente l'université d'automne (université d'été 2021 reportée au vu de la situation sanitaire) organisée par elara (european laboratory for pedagogical action research and student-centered learning)

Co-funded by the Erasmus+ Programme of the European Union

PROJET EUT+

AVANT-PROPOS DU LIVRABLE 3.4.2

DECEMBRE 2021

Comme annoncé dans la candidature, l'une des premières actions fortes du laboratoire de pédagogie d'EUT+ - ELaRA (European Laboratory for Pedagogical Action-Research and Student-Centered Learning) a été de mettre en place une université d'été réunissant enseignants, chercheurs et étudiants autour des questions de pédagogie et de formation. La situation de pandémie, qui a été un frein à l'avancement des travaux du laboratoire, a néanmoins justifié d'autant plus l'organisation de cet événement. En effet, la situation sanitaire a été un accélérateur des évolutions des pratiques pédagogiques (cours à distance, nouvelles modalités d'évaluations, interaction sociale...). De plus, notre ambition était de rassembler au niveau européen les acteurs de l'enseignement supérieur afin d'initier une discussion à grande échelle sur les enjeux de l'éducation pour l'avenir des EUT+, et de faire connaître la naissance de ce laboratoire original par son positionnement et ses acteurs.

En pratique, l'école d'automne ou le colloque d'automne avait pour but d'échanger et de questionner tous les éléments essentiels des séquences de cours qui ont été mises en place pendant la période de confinement. L'ambition était également de découvrir, pour la première fois, les pratiques et les modes d'enseignement et d'apprentissage au sein des différentes universités partenaires du projet.

En raison du contexte de crise sanitaire, l'Université d'été initialement prévue en juillet et en présentiel a été reportée en raison de l'incertitude de la situation. La difficulté était également de transposer un événement prévu en présentiel à une conférence 100% en ligne. Cette configuration a nécessité d'adapter le programme et de réfléchir au rythme des sessions afin de rendre l'expérience la plus profitable possible. Pour ces raisons, la conférence initialement prévue durant l'été a été déplacée à l'automne et entièrement en ligne.

Ce document présente

1. L'agenda de l'événement
2. Les résumés des conférences, présentations et ateliers
3. Les résultats pour ELaRA et les perspectives pour la prochaine université d'été

Co-funded by the Erasmus+ Programme of the European Union

EUROPEAN UNIVERSITY OF TECHNOLOGY

EUt+ Initiative

WORK PACKAGE 3:

Deliverable 3.4.1

General Installation Layout

Co-funded by the Erasmus+ Programme of the European Union

Contents

Co-funded by the Erasmus+ Programme of the European Union

Co-funded by the Erasmus+ Programme of the European Union

1. Motivations

Vision

European common laboratory for pedagogical research and student-centered learning (ELaRA) is thought to be the research space where a new way of thinking, teaching and learning technology will be analyzed. ELaRA's ambition is to become the place where will be created what could be thought as the teaching signature of EUt+.

Lots of efforts have been put mobilizing new technologies to improve teaching. Since EUt+ member universities are all tightly related to technology, the core issues will be related to teaching technology. Technology has some specificities that makes it a special topic compared to other disciplines. These specificities could be summarized as follows: technologies are developed thanks to a given social organization, using specific scientific knowledge and evolve quite rapidly compared to other matters. We consider technology as a way to improve human lives and an expression of human creativity that has to be put at the service of human lives and values, especially inclusiveness, embeddedness and equity, as expressed in the EUt+ Manifesto. As a consequence, we think that technology deserves a specific attention and renewed means of transmission and development. According to the bid ELaRA is created to contribute to:

- A1. Design innovative student-centered pedagogies.
- A2. Change in epistemologies and teaching practice, teacher development and methods to facilitate change.
- A3. Educate students about the role of technology in society including ethics and professional development.
- A4. Broaden participation in technology education.

Having all these aspects in mind and because EUt+ is an alliance of 8 Universities, which means different background, identities and multiculturalism, we must create a space in which we could offer the proper conditions for running ***transformative approaches*** (OECD, 2018; OECD, 2019; BRIDGE 47, 2021; UNESCO, 2021; UNESCO, 2021) and ***innovative practice*** in order to facilitate

Co-funded by the Erasmus+ Programme of the European Union

new learning environments for all students and teachers, free of any kind of barriers, following at the same time the 4 main pylons in education: learning to know, learning to do, learning to be and become, learning to live together (Delors, 1996; UNECE, 2012, UNESCO, 2021).

Mission and objectives

In the context of the contemporary world in which we confront unprecedented problems and threats, our mission is to prepare our students for the great challenges of the future, across different disciplines, know-how and cultures. In this light, EUt+ ambition is to go beyond disciplinarity, multidisciplinarity and interdisciplinarity and to create the proper conditions for transdisciplinary to appear. In this context the ELaRA global objectives are:

- Build cultural resilience by promoting a continuous process of change and transformation. By cultural resilience we understand ”the ability of cultural systems to absorb adversity deal with change and continue to develop (Holtorf, 2018)” .

- In the context of EUt+ we must create an open, inclusive and equitable learning environment by participatory learning approach (UNESCO, 2020, p. 49) in which students are getting a new insight of future skills like: multicultural, intercultural, transnational and transcultural competences (Jurcova, 2021); understanding and communication within, between, and beyond disciplines, and other important abilities which will support cultural resilience, along with promoting the diversity of knowledge systems (UNESCO, 2020)

- Transformative learning approaches and teaching practice

- Creation of a culture of teaching practice signature of EUt+.

Co-funded by the Erasmus+ Programme of the European Union

- Designing and testing new learning models, teaching methodologies, innovative teaching devices, and inspiring teaching tools, at a European scale with shared methodologies and continuous exchanges.

- Empowering students by putting them at the center of the carried-out research, by taking into consideration and emphasizing the value of students' initiatives, and by reflecting on the best ways to fulfil the students' needs and on the best ways for them to develop their knowledge and skills.

- Sharing practices and knowledge to consolidate transformative and innovative methods of teaching, to broaden our horizons and to improve the teaching skills and professional development of all teachers, so they can adapt their practice to the increasingly fast changes in the contemporary world.

- Ensuring a better circulation and visibility of scientific knowledge.

- As a side effect, we expect this work could help achieve parity of esteem between teaching practice and research across our universities.

Based on our present efforts, we put the first stone of a future European Institute of Research in Technological Education. It will be a place in which different partners will question critically different approaches, solutions and answers to a fundamental research question: "Which are the best evidence-based practices in the field of technological education"? Given the nature of EUt+ partners, the contents of our teachings, the ever-evolving technological environment our students are part of, and last but not least the contemporary grand societal challenges like climate change or health crisis, this question appears absolutely essential and is at the core of the institute. ELaRA is being reflected on in line with EUt+ Mission Statement "We want to impulse a specific view on technology so that our graduated students will be well-qualified to play a fruitful role in society, aware

Co-funded by the Erasmus+ Programme of the European Union

of the broader implications of technological development and of their responsibilities towards global challenges."

To tackle this fundamental question our aspiration is to open the research to multiple disciplines and working paradigms, that will enrich the reflection by crossing the views of several researchers. We believe that the real tough questions related to global challenges will not be solved within single disciplines. Complex challenges such as fostering sustainable development and the energy transition require a transdisciplinary approach comprising science, technology and social systems. Addressing these challenges requires that engineers operate with a socio-technical conception of the profession, articulated in terms of their knowledge, skills, methods and values, which leads to a "new dialogue of science and humanities". This is precisely this experimentation of new methods and innovative approaches that we aim at developing at ELaRA to address unprecedented technological questions and global societal challenges.

This report aims to describe the framework, the key ideas that govern the creation of ELaRA. In this report we will not try to define very precisely the specific scientific questions that will be addressed by the research team but more broadly the playground of this research team, its objectives and the main guidelines that will structure the type of questions and the way they will be investigated and organized within this new team.

Research aims and strategy

This section reminds ELaRA goals and proposes a strategy to reach these goals in 2 steps. The first step (short-run strategy) covers the 2 coming years with intermediate goals and the second step is about the period that follows (long-run strategy).

The ELaRA **aims**, structured in the bid as axes, are the following:

- Axis 1 (A1): Design innovative student-centered pedagogies to promote self-directed, lifelong learning in technology education that develop the learner as a person by promoting intellectual development, creativity, problem solving and cultural awareness.

Co-funded by the Erasmus+ Programme of the European Union

- Axis 2 (A2): Change in higher education, changing epistemologies and teaching practice, teacher development and methods to facilitate evolution.

- Axis 3 (A3): Educating students about the role of technology in society including ethics and professional development.

- Axis 4 (A4): Broadening participation in technology education by increasing female participation and recruiting from a broader spectrum of society including refugees.

Short-run strategy

For short-term period (2021-2023) we are going to create the proper conditions for:

- Building and running the institute structure.
- Establishing thematic research and/or working groups.
- Co-authoring joint publications around commonly identified research themes
- Facilitating research and support projects for students.
- Facilitating research and support projects for teachers.
- Create and animate a network of members from all EUt+ associated partner organizations.
- Setting up workshops, round tables or conferences for scientific dissemination and scaling up.

Long-run strategy

To develop ELaRA institute, we want to bring together researchers from different disciplinary fields to ensure multidisciplinary and interdisciplinarity: technical and non-technical disciplines such as pedagogy, sociology, psychology, educational science, disciplinary didactics, social work, engineering sciences, arts and humanities, IT. This diversity aims to create interactions that facilitate transdisciplinary actions in long time terms. In order to build a common research framework among the ELaRA members, the following phases will be followed:

Co-funded by the Erasmus+ Programme of the European Union

- Phase 1 – identify the relevant key concepts of working/ future research from the context-relevant state-of-the-art, together with an empirical analysis, in order to identify how students, learn and feel best and to support all teachers' staff in the teaching process.

- Phase 2 – based on key concepts from the literature review and the identification of needs, working teams composed of members from different universities will build a theoretical framework and make a mapping of the practices among EUt+ partners to identify the common elements and analyse the differences.

- Phase 3 – based on the insights of the 2 previous phases, different research projects and experiments will be implemented in each university.

- Phase 4 – teams from all partner universities will collect and analyse the data (both qualitative and quantitative, in line with the mixed methods approach) from experiments to make comparisons in between universities and situations. This rigorous empirical analysis phase will allow to collegially analyse the tested practices and methods (what work best in terms of learning and teaching within EUt+…), with respect to the gathered data.

- Phase 5 – the result will be based material to develop and assess conceptual framework and to disseminate through joint publications and in different conferences and workshops. Carefully planned and targeted, we believe that the knowledge gained may be of interest to different types of audiences: EUt+ teachers, students, and researchers, National advisory bodies; Incubators; Junior enterprise; Student union; Association; Alliance; Employers Union; Chambers of commerce and industry.

- Phase 6 – transfer the results into teaching and learning practice, analyse the outcomes and redesign new research projects and experiments fed by the knowledge gained from previous

Co-funded by the Erasmus+ Programme of the European Union

phases. This new knowledge will help to identify new challenges and new ideas to overcome limits of previous research actions.

This process should generate and increase the number of projects, research calls, and action dedicated to dissemination of the results in the context of EUt+ community but also outside of EUt+ community. All these facts shall be used an indicator of our common effort to reach EUt+ ambitions.

Voluntary, these phases define methodological guidelines for the dynamic of the research process leaving a large academic freedom to the members to decide the addressed scientific issues. At ELaRA scale, coherence of research is expected to grow as theoretical framework develops and enriches itself from projects and experiments.

Methodological framework

Based on specific data from literature and on latest directions in educational research field, this research institute will be an ***open research space*** in which all types of research will find a specific space, due to the fact that the main orientation will focus on ***how can we contribute to the transformation of the present situation in friendly learning and living environments*** (Blessinger & Bliss, 2016; Lopez & Olan, 2018; Bourn & Soysal, 2021; Mertens, 2021) having in mind the complexity of different contexts (Cohen, Manion & Morrison, 2018) and with respect for transdisciplinary approach and philosophy (Nicolescu, 2010).

In the context of EUt+ but also in the context of present global concerns, ***transdisciplinary approach*** appears to be the only option feasible to the framework of ELaRA, with strong ***consideration for all traditional or emergent paradigms*** in educational field (Khun, 1970, Creswell, 2014).

According to OECD (2020, p 12.) transdisciplinary approach should be addressed to social challenges at the level of University and Public Research Institutions by:

Co-funded by the Erasmus+ Programme of the European Union

"1. introduction of challenge-based approaches in research strategies and organisational structures

2. development of sustainable institutional structures and mechanisms (e.g., cross-department committees and meetings, shared infrastructure, flexible schedules, pump-priming funds) to foster cooperation across disciplines and to support transdisciplinarity (TDR)

3. establishment of structures and mechanisms to build long-term trusted relations with external stakeholder communities, including creation of formal, high-profile interfaces with civil society and private and public sector entities

4. allocation of core resources, including personnel, to build long-term expertise in TDR methodologies and practice

5. introduction of TDR learning modules into science education and postgraduate training courses;

6. support for early career researchers to engage in TDR projects, e.g., jointly supervised PhDs, and development of more flexible career paths

7. changes to evaluation and promotion criteria for individuals who engage in TDR, so that they are judged not only on scientific publications and citations but also on their contribution to collective research outputs that are of value to stakeholders outside of science

8. establishment of local, national and international networks of institutions that cooperate and exchange best practices in relation to TDR. These might be focused on local challenges, selected domains, such as sustainability research or global health, or more generic aspects of TDR)"

Co-funded by the Erasmus+ Programme of the European Union

As has been said earlier, in the context of EUt+ but also in the context of stringent global concerns it ***is essential to follow an open approach because inclusiveness is not only putting together student from different countries, it is being aware of the fact that people have different perspectives and perceptions of reality and those different perspectives are complementary, not contradictory to each other, and must be valued.*** Based on this consideration and on the fact that transdisciplinary worldview is based on three axioms of the methodology of transdisciplinarity:

> *"1. The ontological axiom: There are, in Nature and society and in our knowledge of Nature and society, different levels of Reality of the Object and, correspondingly, different levels of Reality of the Subject.*
>
> *2. The logical axiom: The passage from one level of Reality to another is ensured by the logic of the included middle.*
>
> *3. The complexity axiom: The structure of the totality of levels of Reality or perception is a complex structure: every level is what it is because all the levels exist at the same time (Nicolescu, 2010)".*

In this regard, we need to specify that fact "transdisciplinary *in not concerned with simple transfer to a model to one branch of knowledge to another, but rather with the study of isomorphism between the different domains of knowledge. To put it other way, transdisciplinarity takes into account the consequences of a flow of information circulating between the various branches of knowledge, permitting the emergence of units amidst the diversity and diversity to the unit. Its objective is to lay bare the nature and characteristic of this flow of information and its principal task is the elaboration of a new language, a new logic, and new concept to permit the emergence of a real dialog between the specialist in the different domains of knowledge (Nicolescu, 1996)".*

In the light described above, the transdisciplinary approach is an ***open worldview***, which allows all methodological frameworks present in Educational Sciences Field (Cohen, Manion, Morrison, 2018) to be ***valuable and welcome to contribute to a better understanding of our world,***

Co-funded by the Erasmus+ Programme of the European Union

life, and a smarter future. For this to happen in the long-time run, we start with a set of research projects and educational projects to support teachers and students described below.

Classification of ELaRA projects

In order to understand better our realities and respond optimum to future challenges and to create learning environments free of any kind of barriers for all, students and teachers, the following educational and research project will be design:

Table 1. Research projects and educational support projects for students and teacher

ELaRA project classification framework	
Project type	Objects of research
Research Projects Students	ELaRA objectives: A1, A3, A4 - Cognitive level (e.g.: integration and application of knowledge; best moments of learning, Intellectual expectations vs. pure education for the future job …) - Emotional level (e.g.: well-being and mental health, coping with stress and building up resilience …) - Attitudinal level (e.g.: student engagement; learning and achievement motivation of students, taking risks - students are encouraged to take initiatives with respect to their projects and try non-standard solutions) - Contextual level (e.g.: social learning through collaboration, creation of peer networks, design for facilitation adaptation of creative environment; academic integrity ….) â - Outcomes level (e.g.: Knowledge and understanding, applying knowledge and understanding, making judgments, communication, lifelong learning skills …)
Research projects for teachers	ELaRA objectives: A1, A3, A4 - Teaching, learning and assessment - Innovative learning design in Higher Education in order to increase student motivation, choice and independence - The use of innovative pedagogies in an effective learning environment - How to evaluate students' projects? - Teaching and assessing through digitalization - Technologies and tools - Innovative tools for teaching technologies - Digital technologies for active and collaborative learning - Learning output/input of online teaching and learning - Impact of the Covid-19 pandemic - Gather and analyze the experiences of students and teachers - Analyze the impacts of the COVID pandemic on: ▪ Teaching methodologies, Learning (students), tools and use of technology. ▪ Analyze the efficiency of pedagogical devices put in place ▪ Lessons learned to inform the next steps
Educational projects for teachers support.	ELaRA objectives: A2 - Teaching practice as signature of EUT+ curricula - Promote and value of academic career - Teachers' skills in terms of flexibility and adaptability to a new and more complex student profile - Comparative multicultural pedagogies
Educational projects for students support	ELaRA objectives: A1, A3, A4 - Projects directed towards students: webinars/virtual classes program around learning tools and techniques, student mentoring (practices in different universities and uniformization) - Projects directed towards teachers: mentoring between peers, training program, analysis and sharing of teaching practices

Co-funded by the Erasmus+ Programme of the European Union

- Student projects in groups supervised by one or more teachers, around a technological question and allowing reflection on complex situations
- The first actions to carry out are these:

Training of teachers and students
Creating community of practices on a European scale
Creating virtual space for exchange
Creating virtual exchange projects

This subject presented in the table above are not exhaustive, new topics will be approach based on different interests and background of our present and future members.

SWOT analysis

Considering our different background and trying to capture a big picture of our present situations in terms of opportunities, threats, straight, weakness, in order to develop a proper plan for building this future European Institute of Research, we collected and analyzed all the date regarding to each partner, presented in the table below.

Co-funded by the Erasmus+ Programme of the European Union

Table 2. SWOT analysis

Opportunities	Threats
O1: Create a laboratory which is unique (UTT, TUD) Belong to a European-scale laboratory, Share projects and do research at European scale (many fields) (UTT), Create an attitude of taking problems of teaching seriously from European to local level (HAD), The university is seen as a source of thought and a cohesive and dynamic element of society (UPCT) **O2: Improve Funding:** Successful research proposals (CUT) **O3: Improve teaching:** Involvement in the creation of new programs (CUT), Increasing students' activity with reference to their involvement in working on joint projects (TUS), Achieve a shift from viewing the student as a problem to viewing the learning method as a problem; Working on common simple tools of analyzing the teaching and intensifying the feedback from students (HDA) Provide a template for all education, growing ability to use eLearning & Blended Learning (TYD) Students' expectations (UPCT) **O4: Improve relations and external projection** Participation in events/ conferences for promotional purposes, Student mobility and exposure, and Staff mobility, Publications (CUT) Increasing the research activity and the relevant academic and scientific output; (TUS) Employers are requesting profiles that are better achieved with new pedagogical approaches. **O5: Improve internal engagement (CUT)** Collaboration of staff for the preparation of proposals at a small-scale level, An existing pool of well-educated and experienced workforce ready to be on board (CUT) Diversity within EUT+ (TUCN)	**T1: Lack of institutional support and interest:** Administrative reluctance to contribute, Lack of workforce (in numbers and qualifications, Local skilled scientists, and practitioners not willing to engage in ELARA due to lack of employment opportunities (CUT). Minimizing the number and scope of research projects involving student participation; Lack of projects involving Doctoral student participation; Low percentage of research initiative and project involvement of expert teaching staff (TUS). **T2: Lack of funding:** **T3: Complexity** How we can in parallel "think big" and find concrete small steps. (HAD), Limited (if any) good examples of teaching & learning / Limited commitment to teaching in a Research I university (CUT) TUCN: How to do some kind of" hard sciences" and "soft sciences" at the same time/research projects/ educational projects ? **T4: Lack of external/institutional recognition** CUT: Pedagogical training not connected to law/requirements for faculty members UPCT: Lack of external recognition of teaching innovation in the teacher's professional career, **T5: External competitors, incompatible approaches.** CUT: Top pedagogy courses offered by coursera/other MOOCs can compete with anything that a local university/EUt can offer in terms of pedagogy **T6: The greater the delay to start carrying out projects and delivering results the greater the chances of failure.**
Strengths	**Weaknesses**
S1: Suitable Spaces and resources: Availability of suitable spaces, resources and infrastructure for pedagogical experiments in many of the partner premises (CUT, TUS, UPCT, HDA ...). **S2: Previous experience in pedagogical research:** Previous experiences. Professors willing to experiment with new methodologies and capable of setting up case studies. Well qualified staff Experience in advanced methodologies: Universal Learning, Action-Driven, Transformative-Mixed-Methods. **S3: Expertise in different areas:** Applied linguistics and Statistics (HAD), pedagogy & technology (CUT), life long learning programs (Cluj) Interdisciplinarity **S4: Experience with proposals and getting funds**: Experience in responding to calls for proposals for projects (UTT) and relevant Erasmus+ projects (past or current) aimed at improving teaching and learning across disciplines (UPCT). **S5: Relations to stakeholders.** Possibilities for obtaining support from technical and engineering specialists (TUS), recent IXN (UCL industry program, by Keti Mavri) aimed to promote good teaching linked to industry projects.	**W1: Lack of time (UTT, UPCT, CUT, TUD, TUCN):** Participants who are not on permanent contracts (UTT), Overwhelmed faculty (CUD), Time poor, Difficulty in meeting in person, Requirements of existing work pressure (TUD). **W2: Lack of personnel:** High average age of teaching staff (TUS), Lack of institutional culture: rely on specific persons (UPCT) **W3: Lack of structures, resources or funding:** Insufficient specialized technical equipment (TUS), no dedicated funding , no existence of graduate school, difficulties turning networking connections and collaborations into research proposals and outcomes (CUT). **W4: Lack of internal support and recognition:** No Didactic Center, Research is validated higher than teaching, Professors have no support to analyze their own teaching (HAD), lack of understanding/ appreciation of pedagogical training. Knowledge/Attitudes/Behaviors not addressed (CUT), Lack of internal support to put in practise innovative approaches: Teachers feel that they do not have enough institutional support to implement innovative approaches that usually require a lot of effort (UPCT). **W5: Lack of shared approaches and methodologies.** No all the ELARA members are used to advanced pedagogical methodologies. Lack of agreement about the best approaches. **W6: Lack of common organization to form teams and start working.** Lack of organization to start and coordinate the ELARA works. **W7: Lack of methods to deal with diversity and put everything together.**

Co-funded by the Erasmus+ Programme of the European Union

Based on the information collection on SWOT analysis we establish the responsibilities within this task and future actions presented in the next part of the document.

2. Layout and installation dimension

The ELaRA mission and objectives as well the SWOT analysis reveal that the ELaRA layout must face with many challenges. These challenges can be classified into three dimensions:

Research dimension that concerns all scientific challenges related to the first three objectives described in the bid:

- A1 Design innovative student-centered pedagogies.
- A2 Change in epistemologies and teaching practice, teacher development and methods to facilitate change.
- A3 Educating students about the role of technology in society including ethics and professional development.

Engagement and external projection dimension that concerns the fourth objective described in the bid:

- A4: Broadening participation in technology education.

Set up and governance dimension which gathers the steps to be taken to establish ELaRA, and the definition of ELaRA organisation.

Though these dimensions and axes are not independent by any means, for clarity sake it was chosen to present them separately and to mention interdependences in the sections when it is the most appropriate.

Co-funded by the Erasmus+ Programme of the European Union

Research dimension

The Research Dimension of ELaRA is the core dimension of the layout since it is directly related with the very objectives of ELaRA. The other dimensions are intended to disseminate the research outcomes, to get the engagements of the actors and to provide the governing and functioning structures of the institute.

This dimension should be developed in a way that:

- Local experiences are designed to serve as components of the larger framework offered by the EUt+ consortium taking advantage of the diversity of the partners' contexts. More advanced, well founded and original research results are expected by doing so. In return, these results should enable to design more specific, more efficient, more focused experiments at local level (implementing a virtuous circle between local and global scales).

- Local nodes (partners) are supported to initiate local experiences that can spread organically by replication or extension to other nodes (Threaten (T6) - lack of common organisation to form teams and start working).

- Ensure transdisciplinary and interdisciplinary projects with strong collaboration with local communities and social context (Mission and global objectives). We understand by multidisciplinary, interdisciplinary and transdisciplinary the following aspects according to Nicolescu (2010):
  - *"**Multidisciplinarity** concerns itself with studying a research topic in not just one discipline but in several simultaneously. From this perspective, any topic will ultimately be enriched by incorporating the perspectives of several disciplines. Multidisciplinarity brings a plus to the discipline in question, but this plus is always in the exclusive service*

Co-funded by the Erasmus+ Programme of the European Union

of the home discipline. In other words, the multidisciplinary approach overflows disciplinary boundaries while its goal remains limited to the framework of disciplinary research.

- ***Interdisciplinarity*** *has a different goal than multidisciplinarity. It concerns the transfer of methods from one discipline to another. Like multidisciplinarity, interdisciplinarity overflows the disciplines, but its goal still remains within the framework of disciplinary research. Interdisciplinarity even has the capacity of generating new disciplines, such as quantum cosmology and chaos theory.*

- ***Transdisciplinarity*** *concerns that which is at once between the disciplines, across the different disciplines, and beyond all disciplines. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge".*

- Allow us to start very soon, fully respecting the autonomy of all members, strongly encouraging mutual collaboration, but not forcing it (Threatens T3 and T6, Weaknesses W5, W6 and W7)

- Allow information to flow smoothly between partners, so common projects can emerge, as well as interchange of people and experiences.

- Allow a joint use of the resources and knowledge of the different partners, so the weaknesses of ones can be compensated with the strengths of others (strengths S1 to S3, Weaknesses W3 and W5).

Co-funded by the Erasmus+ Programme of the European Union

- Allow developing simultaneously the short run and long-run strategies defined in sections 4.2 and 4.3.

- Reduce complexity and allow organic growth (Threaten T3).

Figure 1 shows the general approach ELaRA will implement to address all these challenges. Local partners are encouraged to define and run their own projects based on their local concerns. They must inform the other partners about their initiatives so they can bring in people, ideas, complementary research projects or replicate some experiments in their own local environments (right part of the figure). These interchanges of people, ideas and experiences are crucial to create the ELaRA-community of researchers, to form the working teams. It is also crucial to feed the long-run research of ELaRA driven according to the strategic phases presented in the previous section (left part of the figure). All this process will be supported by a global virtual space that will host the ELaRA researchers' community.

The chosen approach is both bottom up (from local nodes to global space, from particular experiences to global experiments) and top down (ELaRA global structures will define the foundations and methodologies of further local experiences). The approach is also coherent with the iterative-incremental nature of ELaRA's works and promote the interdisciplinary and multidisciplinary, but also kip in mind transdisciplinarity, since the experiences should rise from the actual problems of local context that in turn as connected to global problems. The engagement of local actors in the experiments is considered extremely useful and convenient, but not mandatory for not constraining the type of the experiences that can be designed.

Co-funded by the Erasmus+ Programme of the European Union

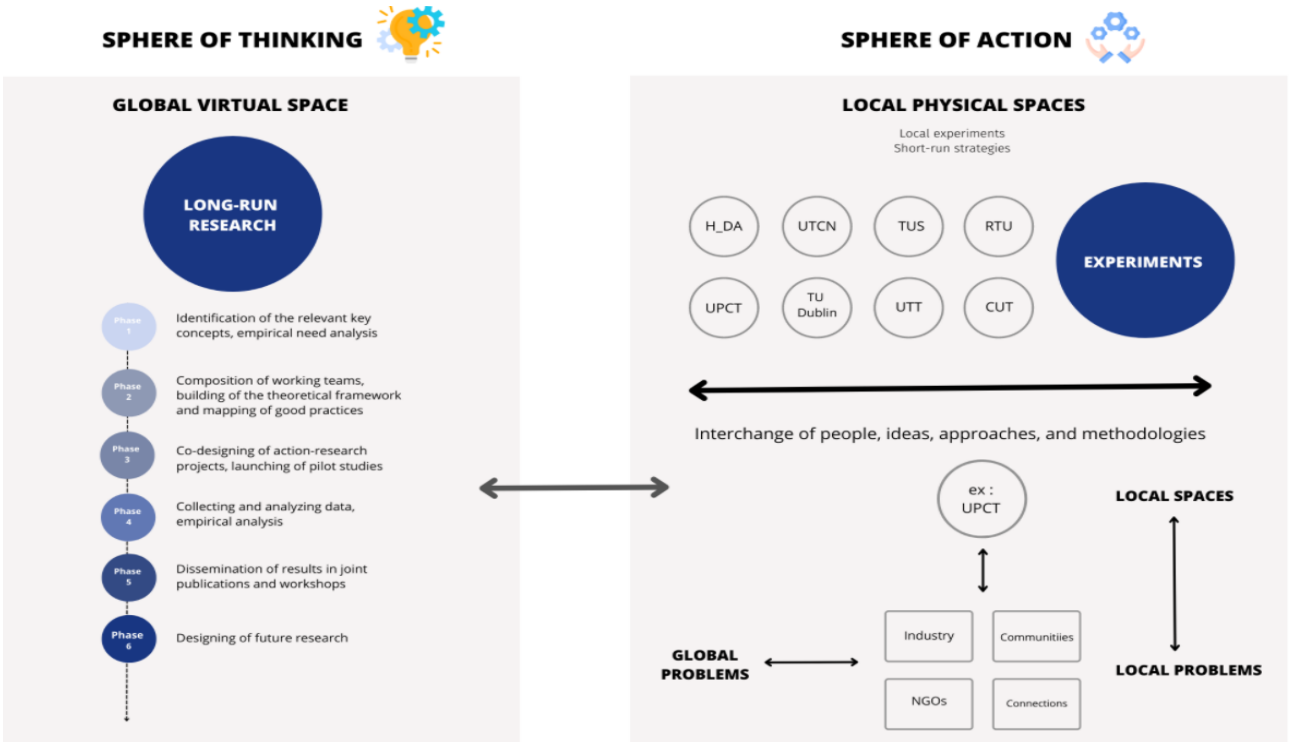


Figure 1: A possible example of a framework for research project in context of technological educational process within ELaRA

Engagement and projection dimension

This dimension revolves around the fourth objective described in the bid: A4 – Broadening participation in technology education.

This dimension concerns the engagement of internal and external stakeholders and how ELaRA manages to project their achievements to the external world (professors, students of EUt+ universities, researchers from other teams, other universities…). The main action axes that take place in this dimension are:

- Involvement of students, encouraging them to present their own initiatives.

- Involvement of professors, encouraging them to participate in the ELaRA research.

Co-funded by the Erasmus+ Programme of the European Union

- Involvement of external actors, encouraging them to participate in the ELaRA projects: ELaRA must be strongly both to local communities and global problems.
- Dissemination through events and publications.

- Participation in projects.

- Deployment of the new methods in the current practices for teaching technology.

- Involvement of professors, encouraging them to participate in the existing projects and to present their own research. As a part of this axis is the endeavour to find the ways to recognize the work of the professors so they can contribute to ELaRA in a context that benefit their professional careers.

- Involvement of external actors, encouraging them to participate in the ELaRA projects: ELaRA must be strongly involved in both local communities and global problems. This axis is strongly connected with A3, since ELaRA considers technology in relation to the problems of local communities as well as to ethics and global problems that every community has to face (climate change, attention to diversity, equity, etc.). In this context external actors can propose research questions and participate actively to their study.

Set up and governance dimension

Since this institute is thought to be a thinking place, at the level of governance we will focus on offering a framework that gives opportunities to researchers, teachers, students, and representatives from key entities, to collaborate.

Co-funded by the Erasmus+ Programme of the European Union

By ”opportunity”, in this context, we understand ”an occasion or situation that makes it possible to do something that you want to do or have to do or the possibility of doing something (https://dictionary.cambridge.org/dictionary/english/opportunity)” in the context of le ELaRA objectives. That's why until 2023, the institute will be run collegially by the core members who are representatives from each campus. The challenges to be faced will be articulated based on the results of the objective, key actions, and KPIs detailed in the next section.

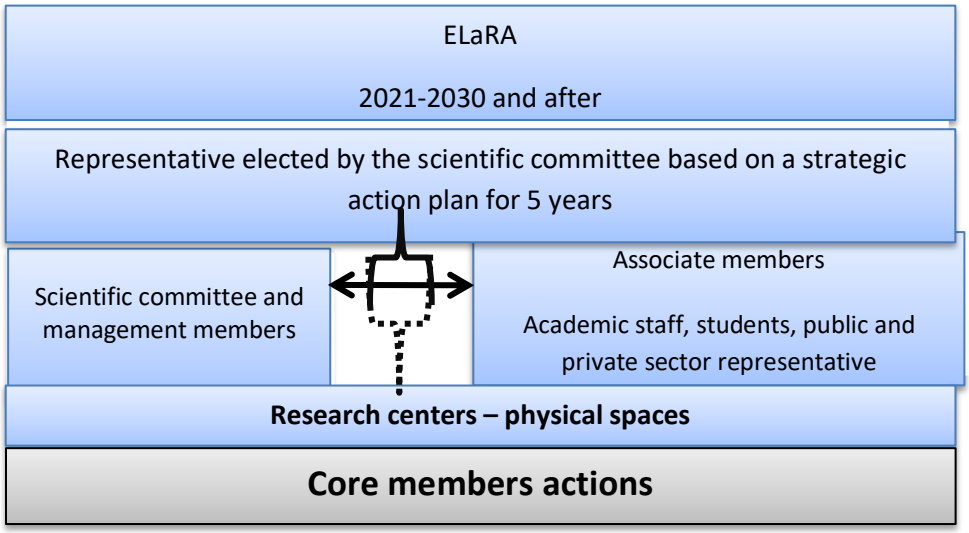


Figure 2. ELaRA Governance

It is important to specify the fact that this new research entity will be an open thinking space which values each background and perspective. This is the main reason why we will create 8 different laboratories, one in each campus, similar but autonomic. All this 8 laboratories or research centers will be directly connected to each other and will form the structure of the future European Research Institute.

Today, ELaRA is conducted by a light governance structure composed of the ELaRA core members ELaRA. This will also enable to collect new ideas, to identify properly new scientific issues that are specific to technological pedagogy and to broaden the audience of ELaRA. The follow-up of this year will be performed based on chosen KPIs (details about the considered KPIs are given in the next section).

Co-funded by the Erasmus+ Programme of the European Union

In 5-year term, a more complex governing structure will be defined, comprising a management committee and a scientific committee. The activities and governance structure for the next 5 years are presented in section 8. During this time the core members' committee will organize an event with 2 objectives:

Defining a strategic action plan for the next period of time - at this point, everyone who is interested in developing the ELaRA must contribute to the definition of this strategic action plan. This plan will be based on all the lessons and contributions collected during the ELaRA layout and will establish the foundation for the future ELaRA activities, as well as both the basis for the renewed ELaRA governance structures and the election of their members.
Establishing a scientific committee with at least one representative per campus and recognized Scientifics from other universities working on relevant topics for the institute.

The 2023 strategic plan will be designed for the current core members and all EUT+ members who manifest an interest in ELaRA activities based on the disseminated the actions. The strategic plan must offer the most coherent and feasible solutions to challenges raised until then, based on impact evaluations.

Once the new governing structures had been defined, the new core members/management committee will be elected by secret ballot, they will represent the institute as a whole, not the university of provenience, for a mandate of min 3 years, but not more than 5 years. The options for the mandate will be established based on data within the strategic action plan.

Any ELaRA strategic plan, both short and long term should respect the following CORE VALUES and orientations:

- Equality, Diversity, Inclusion
- Transdisciplinarity, Smart development, Contemporaneity
- Innovative, Effective methodology, Individual learning approach
- Sharing experience, practices and student engagement

Co-funded by the Erasmus+ Programme of the European Union

To drive the development of the institute and to cope with our initial bid and our objectives we need to build a comprehensive picture of grassroots situations in each particular context (each campus with the public and the private context in which it operates) and also to correlate specific local issues with global objectives. To evaluate and guide this work, to make sure that our path stays clearly within the track of the ELaRA institute, a framework based on the definition of objectives, related key actions and corresponding KPIs is defined and described in next section

Objectives, key actions and KPIs

The following 3 tables (Table 3, 4, 5) summarize the key actions, calendar and KPIs for each dimension.

Dimension Research

The objectives of this dimension are:

- A1: Design innovative student-centered pedagogies to promote self-directed, lifelong learning in technology education that develop the learner as a person by promoting intellectual development, creativity, problem solving and cultural awareness

- A2: Change in higher education, changing epistemologies and teaching practice, teacher development and methods to facilitate change. Conduct reflection on rethinking technology in a transdisciplinary framework. Scale up research outcomes and the application of its conclusions, generalising good practices after pilot experimentations and feeding the solid base of common methods. Identify synergies and points that need to be consolidated as part of an iterative, incremental and participatory approach.

- A3: Educating students about the role of technology in society including ethics and professional development. Involve students in the life of the laboratory, and design

Co-funded by the Erasmus+ Programme of the European Union

research and projects centered around students. Improve the transversal competencies of students and the academic staff.

Table 3 . Objectives, key action for research dimension

Action: Description and reasoning	Deadline, observations	KPIs
Actions for Research and Support Projects		
✓ Designing and carrying out local projects.	First project definitions: July 2022. First Project realization: March 2023	○ At least one local small-scaled project per ELaRA member per semester. ○ Teams: At least one local team per node.
✓ Designing and carry out multi-partners projects	Project definitions: July 2022. Project realization: July 2023	○ At least two multi-partners projects per ELaRA member per year.
✓ Designing and carry out global projects.	Project definitions: September 2022. Project realization: September 2024	○ At least two global projects involving various ELaRA partners.
✓ Create a teaching network to share experiences between peers and build a community of practices: ✓ Interchange of researchers. ✓ Replication of experiences in different nodes. ✓ Mobility Ensure interchanges of people and ideas. ✓ Share of ideas: see dissemination dimension.		○ Virtual Mobility: Local teams should invite to participate at least one member of another local team. ○ Physical mobility: At least one person of a node participates in at least one activity of another member (conference, round table, congress)
Strategy for PhD students		
✓ PhD students, members of core member group will develop the strategy for the involvement of other PhD students within ELaRA framework	June 2022	○ Specific document of strategy and results of actions
○ Theoretical framework and European and other international documents (collection and analysis). Publications.		
✓ Create databases for future research and archives. ✓ Make an updated and context-relevant state-of-the-art in technological educational process	2023	○ 2 Rapports ○ Analysis
✓ Ensuring that ELaRA activities and results are published. ✓ Publications per local experiences ✓ Publications per multi-partner experiences. ✓ Co-authoring joint publications around commonly identified research themes	Throughout project 2022-2023	○ At least one high-impact publication per local experience. ○ At least one external author

Dimension Engagement and Projection

The objectives of this dimension are:

- Involvement of students, encouraging them to present their own initiatives.

Co-funded by the Erasmus+ Programme of the European Union

- Involvement of professors, encouraging them to participate in the ELaRA research.
- Involvement of external actors, encouraging them to participate in the ELaRA's projects: ELaRA must be strongly both to local communities and global problems.
- Dissemination through events and publications.
- Participation in projects.
- Deployment of the new methods in the current practices for teaching technology

Table 4 . Objectives, key action for Engagement and Projection

Action: Description and reasoning	Deadline, observations	KPIs
Fundraising, Proposal		
Provision of funding for ELaRA activities	Throughout project	○ At least two ERASMUS proposal for innovating teaching projects per year.
Organization and communication Events, workshops, conferences		
✓ Workshops and conferences ✓ Summer Schools. ✓ Round tables (realized by the joint efforts of teams of two of the universities, acting in collaboration) ✓ Out of four, two of the events should involve students' participation, and each event should also secure a special session for Doctoral students. ✓ Digital scientific journal that should present, publicize and disseminate research findings and results of the ELaRA members. ✓ Form an editorial board, consisting of one representative of each partner university. ✓ The journal will have a section for students' and Doctoral students' research work, thus pointing the focus. ✓ Establishing such activity will enable all partners to get to know each other better, will strengthen the bonds, and set up a harmonious and collaborative working model. ✓ Initially, this could be done in small groups (2-3 people), which will be the core of a real team containing members from all partner universities. ✓ Give all the events good publicity by ensuring extensive coverage on the Internet (the university websites), Internet media, and social networks, where regular information could be uploaded on a monthly basis (this is what we are currently doing in our in-house university newspaper "The New Technical Vanguard" -TUS).	Quarterly basis (four times a year), which would ensure regular publicizing of the scientific and research output of the ELaRA team.	○ At least one annual local event per partner. ○ At least one global conference per year. ○ 4 round tables/year (2 two in spring and two at the end of the year) ○ The articles could present either individual or team research work of the project participants. ○ Towards the students, which is among ELaRA's main priorities.
Strategy/link with social and economic environment		
✓ Each campus will have a representative which will be in charge of the development of the connection between EUt+ and public and private local sectors. The representant can be a core member or associate member	July, 2022	○ Specific agreement of collaboration ○ Common projects

Co-funded by the Erasmus+ Programme of the European Union

Dimension Governance

The objectives of this dimension are:

- Have an operative governance structure with representatives of all ELaRA members that suits with ELaRA objectives and worldview.
- Have a strategic plan for the research and for the evaluation and further implantation of the results.

Table 5 . Objectives, key action for Govenance

Action: Description and reasoning	Deadline, observations	KPIs
✓ Building and running the lab structure.	Until Jan 2022	○ 8 tasks established
✓ Define a minimal structure to start working, as well as the roles and responsibilities of its members	Jan 2022 - Sep 2023	○ 1 responsible per task
✓ Extend the minimal structure. ✓ By· establishing such activity will enable all partners to get to know each other better, will strengthen the bonds, and set up a harmonious and collaborative working model. Initially, this could be done in small groups (2-3 people), which will be the core of a real team containing members from all partner universities.	Sep 2023	○ 10 new members/campus

3. ELaRA Governing Structures

This dimension deals with the definition of ELaRA structure to provide the governing and functioning structures that do everything possible and manageable.

ELaRA Governing structure: Structure and Core Members

As shown in figure 2, in terms of governance, the organization of ELaRA already started as follows:

- From 2021 we joined forces to build of the laboratory, future institute by the core members. The core members of ELaRA are a group of active members, with at least one representative per partner university. Their mission will consist of creating the laboratory, recruit permanent and associated members, launch research projects

Co-funded by the Erasmus+ Programme of the European Union

and support projects, and apply for funding. Core members that will constitute the scientific committee of the lab have to:

- Represent the partner universities
- Involve and work with associated members
- Day-to-day organization of the lab (research, workshops…)
- Choose Scientific orientation
- Oversee research
- Oversee activities
- Establish collaboration
- Make the link between the different actors of the lab
- Inform on what is going on within the lab

Core members have to be identified within each university before the beginning of November, 2021 (Appendix 1).

- The plan for medium and long term is: the institute will be composed of 3 main entities: scientific committee which (academic staff with PhD diploma, attached to Institute) along with management committee (academic staff, students, other representative) and associated members (teachers, researchers, or staff working on specific projects), with a constant link with the local structures. Ex: Mainstream, ONGs, local structures dedicated to pedagogy, etc.

- Based on the strategic action plan, a representative of the institute will be elected as described in section 5.1 Governance.

ELaRA Circular Management Model

Based on the fact that we want to create a home place for different researchers in order to facilitate transdisciplinary we need to make space for all kinds of projects. In this light

Co-funded by the Erasmus+ Programme of the European Union

it is more than necessary to address our future actions to all types of research approaches and assumptions and not restrict to one research method.

As shown in figures 2 and 3, in terms of functioning, the organization of ELaRA will be based on a circular model that facilitates the development of local initiatives as well as transdisciplinary processes. The ELaRA functioning structure is thought to support all the dimensions defined in the previous sections and their corresponding axes, as well as to put together the physical spaces of every EUt+ member around a single virtual interface giving a common place for both ELaRA members and third parties (figure 3).

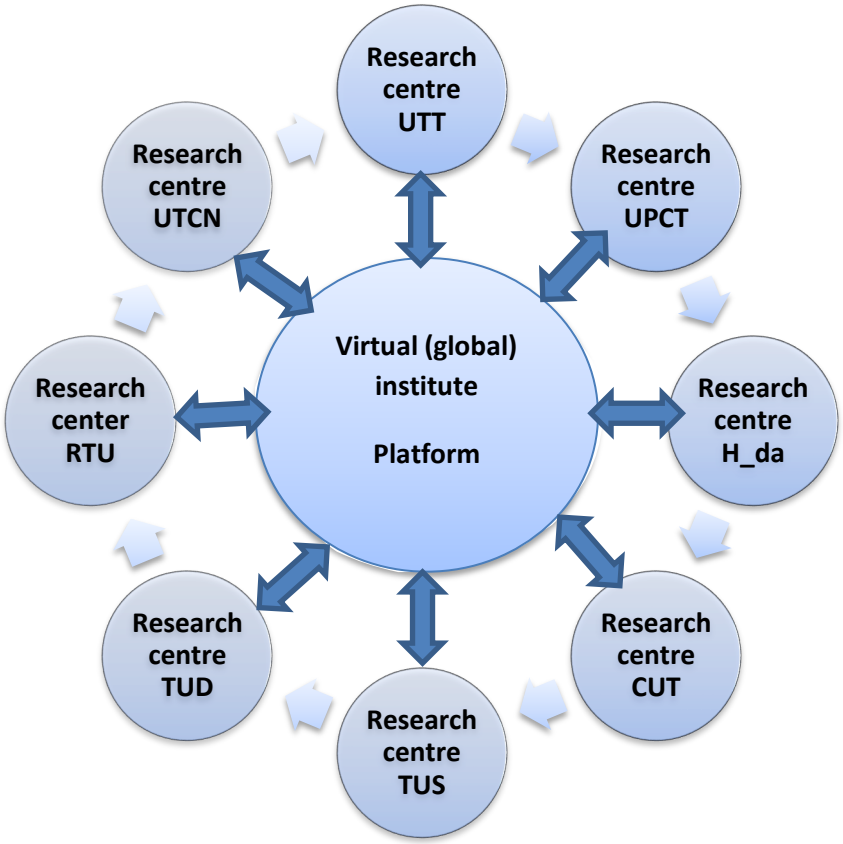


Figure 3: ELaRA functioning structure. Virtual (global) and Physical (local) spaces.

Co-funded by the Erasmus+ Programme of the European Union

In addition, this functioning structure, based on a Circular Management Model within this thinking and action space, will be promoted to favour decentralized and very autonomous initiatives that allows innovation to flourish with simple standards and connects everybody as soon as possible rather than to plan and control everything in advance. In this regard each Research centre will be free to design research project based on their own worldviews along with possibility on exchange and share experiences, disseminate results, collaboration with different colleagues or actors or public or/end private entities.

Governing Structure and Layout Dimensions

The functioning structure is also strongly related to both the Engagement Dimension of ELarRa's layout and the intended multidisciplinary and transdisciplinary:

- ELaRA structure will involve students, teachers as well as other EUt+ partners including representatives from National advisory, Incubators, Junior enterprises, Student unions, Associations and Alliances, as well as Employers Unions and Chambers of commerce and industry.

- ELaRA structure will ensure multidisciplinary and interdisciplinary. Researchers will come from several disciplinary fields: pedagogy, sociology, psychology, educational science, disciplinary didactics, social work, engineering sciences, arts and humanities, IT.. The idea is to define common goals and projects to motivate and promote this multidisciplinary by:

Providing the concrete opportunities for it to be experienced (e.g. organize Student challenges)

Developing co-creative teaching (project-based, challenge-based, interdisciplinary). Different worldviews should be used such as transformative approaches (Mertens , 2011) and transformative mixed methods (Creswell, 2016; Creswell 2014; Cohen, Marion, Marrison, 2018). It is important to have this perspectives in mind due to the fact that ***full inclusion and equity*** is mandatory in EUt+ ambitions.

Co-funded by the Erasmus+ Programme of the European Union

- ELaRA structure will ensure the students involvement in different manners by:
  - Giving them the opportunity to observe and take part in research projects in a very concrete and action-oriented way, and contribute to the research by bringing their subjective student perspective
  - Taking into account student initiatives and feedback to teaching teams, considering the student as an actor, i.e as a beneficiary who has an active role to play in his own training. The hypothesis that will be examined is student engagement and the link with intrinsic motivations
- Finally, ELaRA structure must serve to foster civic engagement around common values: European values, questions of sustainability (EQF, 2008; UNESCO, 2012; EQF, 2018; OECD, 2018; UNESCO, 2021)

Governing Structure and External Projection Dimension

Based on members' profile (see appendix 1) and the conclusion made as result of Autumn Symposium, November 2021 the core members decided to share the following roles and responsibilities within this initiative based on 8 subjects as follows:

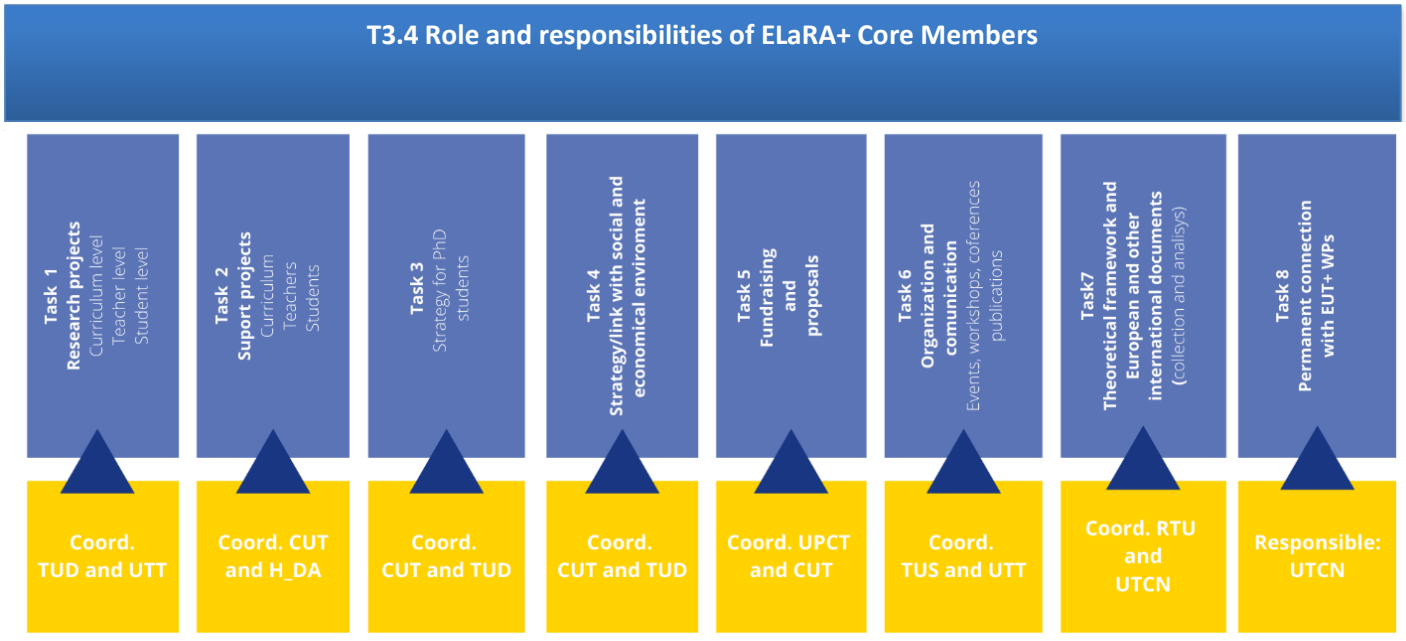


Figure 4. Role and responsibilities of ELaRA core members

Co-funded by the Erasmus+ Programme of the European Union

As we can observe in the figure above, the tasks are linked which means we all contribute to the development of the institute but on different operational issues, in order to value each perspective an initiative.

In coherence with the chosen circular model of management and in order to value different perspectives, each task leader will develop its own strategy of managing the task. But each task is led at least by 2 institutions to promote the development of common views and processes when ruling the institute.

In case of perspective divergence or other situations with potential negative impact the situation will be analyzed by all core members together in order to identify the best solution and to keep a strong cohesion and support of members within the T3.4 task.

At this point, all T3.4 members are aware of the SWOT analysis presented in the section above, in terms of weaknesses and threats but also in terms of strengths and opportunities. It helped us to adopt the following working principles:

- We value each other regardless the differences between us (background, culture, attitudes, preferences, etc.).
- We negotiate the perspectives/paradigms (core values and actions) based on pragmatic and/or scientific arguments.
- We respect and consider each point of view.
- We embrace problems or conflicts in a positive way and see them as preconditions for progress.
- We transform challenges into opportunities for evolution.
- We promote openness, sincerity, trust to build a team where members can feel free to develop their work and rely on each other.
- We acknowledge that only by joining forces and sharing diverse points of view we can identify or create new solutions for future challenges at global level.

Co-funded by the Erasmus+ Programme of the European Union

Based on those principles of working, people committed to tasks are presented as follows:

Task 1: Research projects:

This task will focus on designing and supporting specific research projects related to ELaRA" s axes.

- Responsible/ coordinators:
  - 1. TUD: Patrick Flynn
  - 2. UTT: Yann Verchier
- Task goals and description:
  - The objective of this task is to coordinate research initiatives around the four axes of research (A1; A2; A3; A4).
  - This task can also initiate structural projects that have been identified as critical to the European Research Institutes
- Planned actions:
  - 1.1. Survey on teaching practices in order to identify best practices
  - 1.2. Develop a framework for the emergence of research proposals
  - 1.3. Propose a framework for new projects
  - 1.4. Supporting research projects
  - 1.5. Create a community of practice around research questions
  - 1.6. Conducting research events in partnership with Task 6

Table 6 . Task 1. Research projects roadmap

Task	KPIs	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07- 08. 2023 and after
t1.1	Meet as a group to prepare structure and agree to share / online platforms									
t1.2	Two workshops to be held in this semester									
	Two workshops to be held in this semester									
t1.3	Prepare a collaborative cross-disciplinary project									

Co-funded by the Erasmus+ Programme of the European Union

	Run project over this semester with interested/available EUt+ partners	
t1.4	Present preliminary findings	
t1.5	Team meets to develop ideas further	
t1.6	Workshop to be held over the semester	
t1.7	Project meetings over semester	
t1.8	Seminar to capture ideas	
t1.9	Final feedback and gathering	
t1.10	Final version of student project	
t1.11	Conferences/ EUT+	
t1.12	1.12 Final Publication	

Task 2. Support projects for teachers and students

This task will focus on identifying the barriers in learning environments and offer support in this regard

- Responsible/ coordinators
  - CUT : Elis Kakoulli Constantinou
  - H_da: Inna Mikhailova
- Task goals and description: In order to meet the objectives of ELaRA, and to build up our 4 research Axes, we need to provide support to both the academic staff of EUt+ and the students. This can be achieved by implementing support actions in coherence with the research strategy of the institute. These actions can also be testbeds within research experiment context.

A. Supporting the academic staff

- Identifying the challenges they encounter (Survey, Open day(s) for focus group discussions)
- Taking action to provide support: specific actions dedicated to minimize all the barriers in learning process (https://www.european-agency.org/)

B. Supporting the students

- Identifying the challenges they encounter (Survey, Open day(s) for focus group discussions)

Co-funded by the Erasmus+ Programme of the European Union

- Taking action to provide support (Invitation for brainstorming to find solutions to problems, Webinars on how to become better learners, development of study skills/ research skills, Training on how to become Reflective learners, establishment of learning communities)

- Resources:
  - Material
  - Equipment

- Online communication platform
- Learning Management Systems (LMSs)
- Cloud technologies for storing material
- Platform to establish a CoP/ learning community
- Software for qualitative and quantitative data analysis
  - Human resources

Staff to:

- design surveys/ focus groups
- deliver webinars for teachers (teacher trainers)
- deliver webinars for students

Students to:

- establish/ maintain the learning communities
  - KPIs:

- Presentation of the study for the identification of challenges encountered by teachers at a Conference.
- Publication of the study.
- Presentation of the study for the identification of challenges encountered by students at a Conference.
- Publication of the study.

Co-funded by the Erasmus+ Programme of the European Union

- Design and delivery of a series of webinars for teachers.
- Design and delivery of a series of webinars for students.
- Mobility for teachers.
- Mobility for students.

  - Finances

Table 7. Task 2 Support projects for teachers and students roadmap

Task	Concrete action	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07- 08. 2023 and after
T2.	1.Administering a survey to EUt+ staff									
	2.Open day(s) for focus group discussions									
	3. Establishment of a mandatory teacher training programme for academic staff (running every semester)									
	4. Establishment of a CoP									
	5. Conference Presentation									
	6. Publication									
	7.Administering a survey to EUt+ students									
	8.Open day(s) for focus group discussions									
	9. Offer Webinars to students (running every semester)									
	10 Establishment of learning communities									
	8.Conference Presentation									
	9.Publication									
	10. Mobility for staff									
	11. Mobility for students									

Task 3. PhD Student Strategy in collaboration with doctoral schools.

This task is dedicated to build a strategy for PhD students and will be develop base on PhD Doctoral Schools requirements and on the needs identified by PhD students. The strategy will be designed by actual core members which are: one full professor and PhD Coordinator from RTU and 3 PhD Candidates from CUT and TUDublin. As a start point, we agree on the following steps:

- Responsible/ coordinators

Co-funded by the Erasmus+ Programme of the European Union

- CUT Maria Christoforou and Fotinii PhD student
- TUD Patrick Flynn - PhD student

- Task goals and description: Because the ELaRA aims to value the initiatives of the students at all learning levels, task 3 will be coordinated by PhD students. The argument is based on the fact that PhD students know better their needs and perspectives within ELaRA, so if we want to empower their perspectives, they must become key contributors to the institute's strategy. Within this lab, we have, actually, active PhD students from 2 campuses: CUT and TUD.
- Actions:

1. Collaboration – interaction with:
    - PhD students (in the centre)
    - PhD supervisors
2. Support/ empower PhD students (e.g. new pedagogies, new learning models, learning/writing strategies)
3. Organization of events (seminars, workshops, colloquium)
4. Deliverables- reports (e.g. needs analysis from partner universities)
5. Management of the e-space for PhD students:
    - Common space
    - Chats
    - Forum
    - Announcements
    - Critical self-reflection diaries
    - Round tables
    - Library (e.g. methods, strategies of research/writing etc)
    - Events (e.g. PhD meetings, colloquiums, workshops, seminars)
        - Special Interest Groups (criterion: PhD students' type of research). It formulates: experiences, needs, brainstorming, sharing of ideas, sharing of good/bad strategies, perceptions, perspectives, etc) - Group calendars

Co-funded by the Erasmus+ Programme of the European Union

- Research Groups (collaborative papers)
- Resources
  - Members of the PhD team (links, administrators, organisers)
  - PhD students (users + data providers)
  - PhD students' supervisors (users + data providers)
  - An expert to build and manage the e-space

Table 8. Task 3 PhD Students strategy

Task	KIPs	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07-08. 2023 and after
3	1.Research organisation									
	2. Data collection – partner universities (Needs Analysis)									
	3. Data analysis (critical discourse analysis, etc) – Report									
	4. Design & creation of the PhD e-Space									
	5. Meetings - workshops, seminars / *Mobility / Needs Analysis / Reports									
	6. Meetings - workshops, seminars / *Mobility / Reports									
	7. PhD colloquium – Reports									
	8. Collaborative papers Meetings - workshops, seminars /*Mobility /Reports									
	9. Needs Analysis (+…) Final report (07-08 2023)									

Task 4. Strategy/ link with public and private environments

This task will focus on creating a link between academic and public and private environments.

- Responsible/ coordinators

UTT, TUD, UPCT, RTU, CUT, h_da, TUS, TUCN

- Task goals and description: The goal of this task is to promote the institute to external partners and to seek collaborations. Due to contextual differences, the task will be

Co-funded by the Erasmus+ Programme of the European Union

organized by representatives from each campus at local scale in a first time. It should develop at larger scale when synergies can be established.

- Activities: identify partners and opportunities for collaborations. Develop a common approach and communication to promote institute identity.

Table 9. Strategy/ link with public and private environment roadmap

Task	KIPs	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07-08. 2023 and after
4	Report									

Task 5. Coordination for fundraising and research proposals

- Responsible/ coordinators

CUT : Victoria Maria Sole

UPCT: Juan Angel Pastor – build this project ….work in progress..

- Task goal and description: Based on campus strengths and members background this task will be managed by CUT and UPCT.
- Activities: within this task started with writing the first proposal focus on transformative pedagogies. A second proposal will be put on paper in the very next period and will focus on students' needs and transformative learning environments.

Table 10. Task 5 Fundraising, proposals and research project roadmap

Task	KIPs	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.- 05. 2023	05-06 2023	06- 07-08. 2023 and after
5	2 Proposal document									

Task 6. Events organization and communication, workshops, conferences, publications

Within this task in collaboration with all other tasks will focus on communication strategy and organize different events

- Responsible/ coordinators

TUS : Ivaylov Peev

UTT: Chloe Duvivier

Co-funded by the Erasmus+ Programme of the European Union

- Task goals and description: The task is about organising scientific and public events. Based on campus strengths and members background this task will be managed by TUS and UTT. The aim of these manifestations is to increase scientific exchanges, disseminate results, promote ELaRA involve new people in ELaRA projects.

- Activities: Organisation of an annual EUT+ summer School (July 2022, July 2023)
  - Invite students, teachers and members of academic staff
  - Define the themes according to our current research subjects and in the framework of the axes stated in the Bid.
  - Organise different types of sessions: lectures, round tables, collaborative workshops…

- Organise a European conference about technology teaching and learning
  - To be held in 2023 when ELaRA is established
  - This even should bring together teachers, researchers and students from European universities of technology to discuss teaching and learning issues. This will be and open even. The first edition is planned for 2023 and this conference will be replicated periodically as part of a long-term strategy.

- Workshops
  - Smaller collaborative events
  - Invite members of the EUT+ concrete consortium to think about subjects of pedagogy
  - Very interactive and
  - Can be held in the virtual space of ELaRA
  - Involve students and teachers
  - Another way of presenting the work and projects of ELaRA and recruit more people

  → 2 per semester

- Communication on our events:

Co-funded by the Erasmus+ Programme of the European Union

- EUT+ Website
- Whaller
- Social media (if relevant)

- Communication on our work:

- Whaller
- ELaRA Newsletter → 1 per trimester

- Network (for students and teachers)
  - Animation of the virtual space
  - Time slots to have discussions with members of ELaRA
  - Regular workshops and presentations (in physical space / relayed in virtual space) → 1 event per month
  - Regular informal events to discuss pedagogy (in physical space / relayed in virtual space) → 1 per month
  - Relaying on website / Newsletter / social media

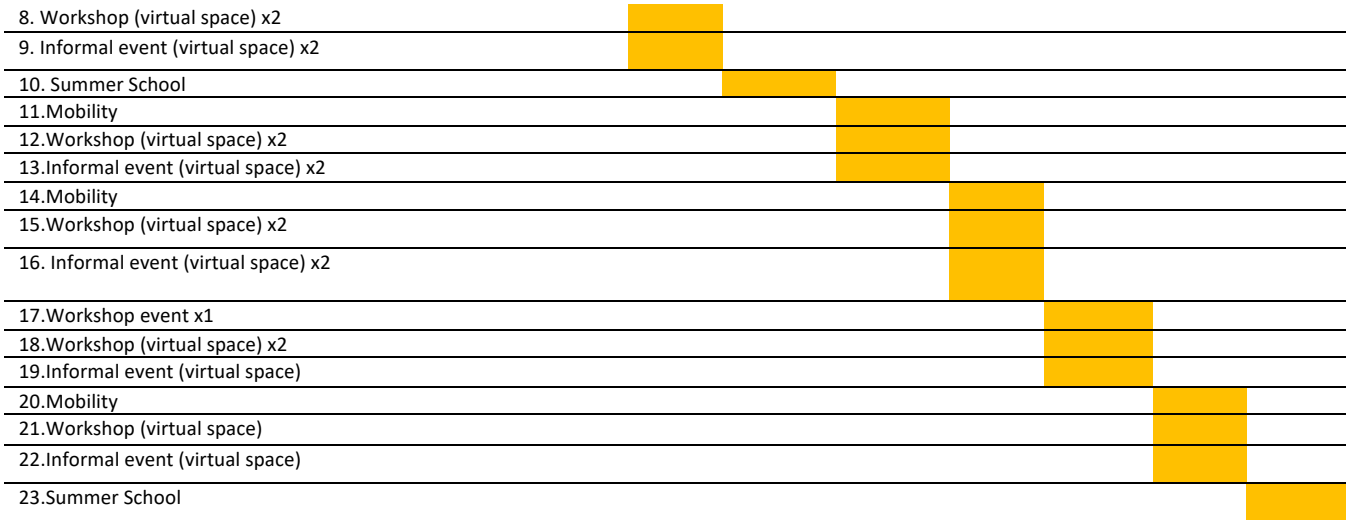
- Other actions

Share bibliographical work : gather our information, share our notes on interesting conferences, papers, ideas → have internal events and working space to share our knowledge.

Table 11. Organization and communication events, workshops, conferences roadmap

Task	KIPs / concrete actions	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07-08. 2023 and after
6	1.Workshop event x1									
	2. Workshop (virtual space) x2									
	3. Informal event (virtual space) x2									
	4. Mobility									
	5. Workshop (virtual space) x2									
	6. Informal event (virtual space) x2									
	7. Workshop event x1									

Co-funded by the Erasmus+ Programme of the European Union



Task 7. Creation of a common scientific space based on scientific literature

This task will focus on creating a common scientific space as result of debates on different concepts from scientific literature

- Responsible/ coordinators

RTU: Velta Ļubkina

TUCN: Lia Pop

- Task goals and description: It is a fact that large body of parallel scientific literature can be found in different domains, with similar notions but different terms. In addition, due to each researcher experience in ELaRA we have different understandings of similar working concepts. All these differences are rich but also might interfere with practical aspects. Within ELaRA our ambition is to develop multidisciplinary research and to do so we will develop a specific activity which will be focus on the definition of a shared scientific framework. This will be a base to develop a theoretical framework applied in the specific technological context of EUt+. Activities: Summer Schools (July 2022, July 2023)
- Activities:
  - 7.1. Collect relevant documents
  - 7.2. Compare and analyse documents
  - 7.3 Collect relevant theoretical sources

Co-funded by the Erasmus+ Programme of the European Union

- 7.4. Prepare materials (paper, article, ppt) for workshops and conferences in order to exchange information.
- 7.5. Prepare the D3.4.2.2. SSP 2

Table 12. Theoretical framework and European and other international documents (collection and analysis roadmap

Task	Concrete actions/ KPIs	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07-08. 2023 and after
7	1. Collect the relevant documents. min 5 relevant sources									
	2. Compare and analyse the documents. min 2 reports									
	3. Collect the relevant theoretical sources min 5 relevant sources									
	4. Prepare materials (paper, article, ppt) for workshops and conferences in order to exchange information. Min 2 main papers									
	5. Prepare the D3.4.2.b,c. SSP 2									

Task 8. Coordination with EUT+ WPs

This task will focus on transferring the information within other working packages

- Responsible/ coordinator

UTCN - Lia Pop

- Task goals and description: Due to the complexity of EUT+ project, a specific strategy needs to be designed in order to identify the tasks that interact with other WPs and tasks such as WP4 on research or WP2 and WP5 for instance. By doing so we want to make sure that ELaRA will be fully integrated in EUT+ design.
- Actions
  - 8.1 meetings with other EUT+ task managers
  - 8.2 meetings with t3.4 members in order to transfer the information

  - Table 13. Coordination with EUT+ WPs roadmap

Co-funded by the Erasmus+ Programme of the European Union

Task	Concrete actions/ KIPs	01-03. 2022	03 - 05 2022	05-06 2022	06- 07. 2022	09-12 2022	01-03 2023	03.-05. 2023	05-06 2023	06- 07- 08. 2023 ad after
8	1 Meetings with other EUT+ task managers									
	2. Meetings with t3.4 members in order to transfer the information									

4. Requirements

Based on our previous virtual and physical meetings and on the result from SWOT analysis we identify a lot of strengths which will allow us to build the future European Institute of Research in Technological Education for a Smart development and Transdisciplinarity (TEST) in which we will identify the proper conditions for a sustainable education of our students and with focus on how to be and become in order to create learning - friendly environments for all of us (UNESCO, 2015). For this we need to increase awareness regrading key variables linked to teaching practices and learning conditions for students as well as for teaches, according to the latest result of neuroplasticity and learning research (Tovar-Moll & Lent, 2017; Goodwill & Shen-Hsing, 2021; Tortella at all., 2021). Motivated by aspects described and in order to achieve our goals we will overcome the following critical aspects:

- Overloaded academic and research staff; High teaching load.
- Decrease in the interest in pedagogy-related issue research and development.
- Lack of funding; low budget; Lack of regular financial support to employ young talented people wishing to contribute;
- Insufficient level of technological infrastructure developed; Insufficient specialized technical equipment; Insufficient budget for technical equipment and specialized software

  Lack of networking established between the partners of the project; Limited human resources;

Co-funded by the Erasmus+ Programme of the European Union

5. Conclusion

The present document illustrates the ways of our future collaboration in terms of vision, mission, general objectives, governance, structure and strategy. In order to give a clear idea regarding the common activities, we put on paper the strategy designed for this ambitious initiative, along with themes of research, methodology, roadmap, and the team with representants from:

1. UTT
2. UTCN
3. UPCT
4. TUDublin
5. h_da
6. CUT
7. TUS
8. RTU

In the end, but not the last we establish the future direction in terms of concrete action and specific objectives for the next two years of the ongoing EUt+ project, in which we want to be one of the cornerstones in achieving all the objectives of this ambitions project. In spite of the fact that, at this particular moment we are a small group dedicated to ELaRA as core members, we are determinate to overcome all obstacles and build the future European Institute of Research for Technological Education, Smart development and transdisciplinarity in which we will create a new teaching signature specific to EUt+ alliance (but not only) along with inclusive, equitable and learning friendly environments for all students.

Co-funded by the Erasmus+ Programme of the European Union

Appendix. 1 Core member list

Campus	Name	Background & occupation	Contact	Discipline / Fields/ key words/research approach
UTT	Yann VERCHIER	PhD and Teacher in chemistry Researcher in pedagogy Head of the center for pedagogical innovation	yann.verchier@utt.fr	Pedagogy Assessment Active teaching methods Skills and soft skills Action research
UTT	Chloé DUVIVIER	Engineer for pedagogy Master of Research in History Former consultant in project management	chloe.duvivier@utt.fr	Discipline : pedagogy, management Fields of research : pedagogy (skills, assessments, use of technology) Action research
TU Dublin	Patrick FLYNN	PhD Candidate in Pedagogy MA in Education, BArch, MRIAI Research in Pedagogy, Feedback , Assessment Head of Learning Development: Engineering & Built Environment	patrick.flynn@tudublin.ie	Discipline: Architecture/ Quality Assurance in Pedagogy Field of Research: Feedback Assessment Student Centered Learning Innovation in Pedagogy
TU Dublin	Muireann O Keeffe	EdD Higher education, online learning communities. Head of Learning Development	muireann.okeeffe@tudublin.ie	Academic development, eLearning, online learning Assessment & Feedback, curriculum design Qualitative research: CAse study Action research
HDA	Inna MIKHAILOVA	PhD in Engineering Lecturer of Mathematics for Engineers	inna.mikhailova@h-da.de	Former Research: Robotics, Learning in artificial systems Pedagogical activities: PBL: Robotics-Projects for first-year Mathematics Activation Methods: Peer-Instruction, Just in Time Teaching Analysis of Misconceptions, Decoding the Disciplines
CUT	Elis KAKOULLI CONSTANTINOU	PhD in ESP Teacher Education English Language Instructor and Teacher Trainer (Teaching in the MA in CALL programme) at the CUT Teacher Trainer for the Cyprus Ministry of Education	elis.constantinou@cut.ac.cy eliskakoulliconstantinou@gmail.com	Fields of research: English for Specific Purposes (ESP), Teacher Education, Computer Assisted Language Learning (CALL), Technology Enhanced Learning (TEL), Curriculum Development, Language Teaching Methodology Research methodologies: Action Research Mixed methods
CUT	María Victoria SOULÉ	PhD in Applied Linguistics Researcher and Special Scientist (Spanish Language) at CUT Language Centre	mariavictoria.soule@cut.ac.cy maria.victoria.soule@gmail.com	Field of research: Technology Enhanced Learning, International student mobility, Plurilingualism, Second Language Acquisition Pedagogical approaches: Social Constructionism Collaborative Learning Research Methodologies: Action Research DBR Mix-methods

Co-funded by the Erasmus+ Programme of the European Union

CUT	Maria CHRISTOFOROU	PhD student in the Department of Education Special Teaching Staff (English language) at the CUT Language Centre	maria.christoforou@cut.ac.cy	Technology Enhanced Learning, VR-assisted language learning, Multimodality, Social/Digital Semiotics, English for Specific Purposes, Critical Digital Literacy
RTU	Velta LUBKINA	Dr.paed. MA sc.ing. Professor in Social Pedagogy Senior expert in didactics of HE	velta.lubkina@rtu.lv	Transformative digital learning Assessment of academic staff competences
RTU	Marina Platonova	PhD in Contrastive and Comparative Linguistics, MSocSc in International Business Relations	Marina.Platonova@rtu.lv	Digital Humanities Student Centred Learning Technology Enhanced Learning Pursuing excellence in Transdisciplinary Research and Studies Technical Translation Terminology and Terminography LSP Teaching: Methods, Challenges, Approaches
TUS	Todor TODOROV	MA in English and Russian Philology; Senior lecturer in English and Russian; Member of the Department of Foreign Language Teaching and Applied Linguistics - TUS	todobg@tu-sofia.bg todobg_bbilc@abv.bg todobg@yahoo.co.uk	Discipline: Teaching Foreign Languages (English, Russian) for Specific Purposes Fields of interest and scientific research: • 21st-century learning skills. • Innovative pedagogical practices. • Learner autonomy. • ICT in education. • Methodology of foreign language teaching for specific purposes
TUS	Ivaylo PEEV	PhD in Philology, Associate Professor in Pedagogy, Head of the Department of Foreign Languages and Applied Linguistics - TUS	l_peev@tu-sofia.bg i.peev.tu@gmail.com	Discipline: Bulgarian language for foreign learners • Pedagogy of foreign language teaching. • Applied linguistics. • Teaching methodology in higher education Fields of interest and scientific research: • Non-verbal communication and foreign language teaching. • Art, literature, language. • Innovative pedagogical approaches in higher education
UPCT	Patricia REUS	PhD in Architecture Associated Professor in Architectural design	patricia.reus@upct.es tel: +34 655 618 708	Discipline: Architectural Design Fields of interest and scientific research: • 21st-century learning skills. • Innovative pedagogical practices. • phenomenological methods • Critical pedagogy

Co-funded by the Erasmus+ Programme of the European Union

UPCT	Juan Angel PASTOR	PhD in Computer Engineering. Vice rector of Studies and International Relations	Juanangel.pastor@upct.es vicord@upct.es japf0666@gmail.com	Computer Sciences in the fields of robotics, real-time systems programming, the Internet of Things and Machine Learning. Project-based learning and hybrid teaching.
UTCN	Claudia MARIAN	PhD in Sociology Associated Professor in Teacher Training Department (psychopedagogcal profile) UTCN	dia70marian@yahoo.com	Psychology and Educational Sciences - school aggression - social context of learning - learning autonomy - social emotion involved in learning Research approach - environmental psychology
UTCN	Lorena PECULEA	PhD in Educational Sciences Lecturer at Specialized Department with Psychopedagogical Profile (Cluj-Napoca)	lorena.peculea@dppd.utcluj.ro	Educational Sciences/ Pedagogy Learning to learn competence E-learning Pre-service and in-service teacher training Inclusion Ethics and academic integrity
UTCN	Lia POP	PhD in Educational Sciences Assistant professor Member of Department with psychopedagical profile UTCN	lia.pop@dspp.utcluj.ro liamariasabau@yahoo.com liamariapop82@gmail.com	Psychology and Educational Sciences; Inclusive and equitable education; Barrier-free learning environment; Universal design for learning; Best moments of learning; Gratitude as pedagogy; Assistive technology Global politics and local contexts Research approach Transformative mixed methods

Co-funded by the Erasmus+ Programme of the European Union

Bibliography

BLESSINGER, P., BLISS, T.J., (2016). *Open Education: International Perspectives in Higher Education*. Cambridge, UK: Open Book Publishers. http://dx.doi.org/10.11647/OBP.0103

BOURN, D.; SOYSAL, N. (2021). *Transformative Learning and Pedagogical Approaches in Education for Sustainable Development: Are Initial Teacher Education Programmes in England and Turkey Ready for Creating Agents of Change for Sustainability?* Sustainability, 13, 8973. https://doi.org/10.3390/ su13168973

COHEN, L., MANION, M., MORRISON. K., (2018). *Research Methods in Education. Eighth edition*. New York: Routledge.

CRESWELL, J. (2016). Reflections on the MMIRA The Future of Mixed Methods Task Force Report. *Journal of Mixed Methods Research*, Vol. 10(3) 215219

CRESWELL, J. (2014). Research design: qualitative, quantitative and mixt methods approaches. London: Sage Publication Ltd.

DELORS, J. (1996). *Learning: the treasure within; report to UNESCO of the International Commission on Education for the Twenty-first Century.* Retrieved from the UNESCO website *(highlights).* https://unesdoc.unesco.org/ark:/48223/pf0000109590.

EUROPEAN COMMISION (2018). *The European Qualifications Framework: supporting learning, work and cross-border mobility*. Retrieved from: http//ec.europa.eu

EUROPEAN COMMISION (2008). *Explaining the European Qualifications Framework for Lifelong Learning.* Retievd from: https://europa.eu/europass/system/files/2020-05/EQF-Archives-EN.pdf

GOODWILL, A. and SHEN-HSING, C. A. (2021). *The science of lifelong learning.* Retrieved from UNESCO website: https://uil.unesco.org/lifelong-learning/science-lifelong-learning

HOLTORF, C. (2018). *Embracing change: how cultural resilience is increased through cultural heritage*. World Archaeology, 50:4, 639-650, DOI: 10.1080/00438243.2018.1510340

JURKOVA, S. (2021). Transcultural Competence Model: An Inclusive Path for Communication and Interaction. *J Transcultural Comm*: 1(1): 102–119. Retrieved from: https://www.degruyter.com/document/doi/10.1515/jtc-2021-2008/html

Co-funded by the Erasmus+ Programme of the European Union

KHUN, T. (1970). *The Structure of Scientific Revolutions*. Chicago: The University of Chicago Press.

LOPEZ, A., OLAN, E. (2018). *Transformative Pedagogies for Teacher Education: Moving Towards Critical Praxis in an Era of Change*. A Volume in Transformative Pedagogies in Teacher Education. USA: Information Age Publishing Inc.

MERTENS, D. (2021). Transformative Research Methods to Increase Social Impact for Vulnerable Groups and Cultural Minorities. *International Journal of Qualitative Methods,* Volume 20: 1–9 DOI: 10.1177/16094069211051563.

NICOLESCU, B. (2010). Methodology of Transdisciplinarity–Levels of Reality, Logic of the Included Middle and Complexity. *Transdisciplinary Journal of Engineering & Science*. Vol. 1, pp. 17-32; International Center for Transdisciplinary Research and Studies (CIRET), France.

NICOLESCU, B., (1996). *La transdisciplinarite (manifeste*). Editions du Rocher, Monaco (trad. Rom. Trasdisciplinaritatea(Manifest), 1999, Iași: Polirom. OECD (2018). *Conceptual learning framework. Transformative Competencies For 2030*. Retrieved from The Organisation for Economic Co-operation and Development website: https://www.oecd.org/education/2030-project/teaching-andlearning/learning/transformativecompetencies/Transformative_Competencies_for_2030_concept_note.pdf

OECD (2020). *Addressing societal challenges using transdisciplinary research*. OECD Global Science Forum, Directorate For Science, Technology And Innovation Committee For Scientific And Technological Policy. Retrieved from the site of OECD: https://www.oecd.org/science/addressing-societal-challenges-using-transdisciplinary-research-0ca0ca45-en.htm 9388-7.

TORTELLA, G.R.; SEABRA, A.B.; PADRÃO, J.; DÍAZ-SAN JUAN, R. (2021). *Mindfulness and Other Simple Neuroscience-Based Proposals to Promote the Learning Performance and Mental Health of Students during the COVID-19 Pandemic*. Brain Sci. 11, 552. https://doi.org/10.3390/brainsci11050552

TOVAR-MOLL, F., LENT, R. (2017). *The various forms of neuroplasticity: Biological bases of learning and teaching.* Springer: DOI 10.1007/s11125-017- Retrieved from: https://innt.org.br/wp-

Co-funded by the Erasmus+ Programme of the European Union

content/uploads/2017/07/The-various-forms-of-neuroplasticity-Biological-bases-of-learning- and-teaching.pdf

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE STRATEGY FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT (2012). *Learning for the future. Competencies in Education for Sustainable Developmen*t. Retrieved from the UNECE website: https://unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf

UNESCO (2021). *UNESCO Science Report: the Race Against Time for Smarter Development*. S. Schneegans, T. Straza and J. Lewis (eds). UNESCO Publishing: Paris. Retrieved from the United Nations Educational, Scientific, and Cultural Organization website https://www.unesco.org/reports/science/2021/en/download-report

UNESCO (2021). *Reimagining our futures together a new social contact for education*. Retrieved from UNESCO website: https://en.unesco.org/futuresofeducation/

UNESCO (2020). Humanistic futures of learning: perspectives from UNESCO Chairs and UNITWIN Networks. Retrieved from the United Nations Educational, Scientific, and Cultural Organization website: http://unesdoc.unesco.org/ark:/48223/pf0000372577

UNESCO (2020). *Global Education Monitoring Report 2020: Inclusion and education: All means all*. Paris: UNESCO

UNESCO (2012). Learning for the future. Competencies in Education for Sustainable Development. Retrieved from the UNECE website: https://unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf

UNESCO (2015). *Embrace diversity: toolkit for creative, inclusive learning-friendly environments*. Retrieved from UNESCO website: https://unesdoc.unesco.org/ark:/48223/pf0000137522

UNESCO (2020). *Education for sustainable development. A roadmap*. Retrieved from the United Nations Educational, Scientific, and Cultural Organization website: https://en.unesco.org/open-access/terms-use-ccbysa-en.

Webgraphy:

https://www.european-agency.org/

Co-funded by the Erasmus+ Programme of the European Union

EUROPEAN UNIVERSITY OF TECHNOLOGY

EUt+ Initiative

WORK PACKAGE 3:

Deliverable 3.4.2a

Summer School Package

Co-funded by the Erasmus+ Programme of the European Union

Contents

Co-funded by the Erasmus+ Programme of the European Union

1. Agenda

1.1 Themes and progression

The subject “Post-pandemic pedagogies” emerged naturally from exchanges between the partners. While discussing and presenting the background and actions of each university in terms of pedagogy, the issues of Covid-19 and its consequences were central. The pandemic represented a real shift in teaching and learning habits: the setting of “emergency” solutions for online pedagogies forced us to adapt and brought deep transformations to our pedagogies. Therefore, questions emerged:

- How did the pandemic context express itself within partner universities in terms of pedagogies?
- How did we ensure pedagogical continuity within our universities?
- What was the impact of online teaching and learning on teachers and students?
- What are the long-term consequences of the Covid pandemic on our pedagogies?

Deriving from these questions, we can draw more general issues. The question of online pedagogy is shared by all 8 partner universities who went through the same crisis and the same search for pedagogical continuity during the year 2020: “Post-pandemic pedagogies” appeared as the most relevant subject for our first Symposium. Moreover, creating a thinking space dedicated to online teaching and learning appeared essential to the construction of a common European pedagogy dedicated to the teaching of technology. The subject of online pedagogies is also essential to the student-centered approach of our laboratory: students have been deeply touched by the pandemic, and if the hybrid model is to stay, it will have to take into account the student’s point of view. If we need to focus on student learning in an online context, it is also important to discuss, analyze, and

Co-funded by the Erasmus+ Programme of the European Union

reflect on our pedagogical practices: how are teachers prepared for this environment? What teaching methods are they using? What devices can we imagine improving teaching practices? Teaching online involves using specific tools and developing digital skills, and the usage of new technologies for teaching made a boom during the Covid crisis. Now that we have more distance, we have to think of the impacts, the efficiency, and the improvements to be made in our use of these tools. Finally, we must make the hybrid model sustainable. It must be built with students, teachers and staff and take into account several issues. It must therefore be tackled by ELaRA as one of the laboratory's founding subjects.

2. Planning

The agenda of the Autumn Symposium has been built in a collaborative manner by the management committee (core members) of ELaRA.

- Several types of sessions have been proposed :
- Lectures
- Round tables
- Presentations
- Workshops

Two sessions were also dedicated to work sessions for the management committee of ELaRA in order to work on the subjects at stake and to have a feedback session on the Symposium.

The agenda followed the following progression:

- Day 1: Looking towards the past. The objective of the first day was to share experience with online pedagogies throughout the partner universities and present research and educational projects and used devices during the time of the pandemic (especially during confinement periods).
- Day 2: Looking to the future. The second day was dedicated to reflection on the future of

Co-funded by the Erasmus+ Programme of the European Union

online pedagogies: what should we keep from the experience of the Covid crisis? During this second day, discussions involved students as well as teachers and academic staff.

The detailed agenda was built as follows in a collaborative way, involvement of all members of the management committee:

Day	Time	Subject	Speaker
Day 1	9:00 - 9:30	General introduction Presentation of ELaRA	Timothée Toury Lia Pop, task manager of Task 3.4.
	9:40 - 10:30	Presentation The student experience of Higher Education during Covid	TU Dublin – Rebecca GORMAN (former president of TU Dublin Students' Union)
	10:40 - 11:30	Lecture Student feelings and online courses	UCTN – Lia POP (Assistant Professor), Lorena PECULEA (Lecturer), Claudia MARIAN (Associate Professor)
	11 :40 – 12 :30	Round table Sharing learning and teaching experiences in a pandemic context	RTU – Velta LUBKINA UPCT – Juan Angel PASTOR TUS – Todor TODOROV
	14 00 – 14 :50	Presentation Sharing learning and teaching experiences in a pandemic context	TU Dublin – Mueirann O'KEEFE DCU - Monica WARD RCSI - Michelle FLOOD
	15 :00 – 15 :50	Round table Designing online courses and assessments	TU Dublin – Patrick FLYNN CUT – Elis KAKOULI CONSTANTINOU, Androulla ANTHANASIOU UTT – Yann VERCHIER, Chloé DUVIVIER
	16 :00 – 17 :00	Workshop for the management committee of ELaRA	Members of the management committee
Day 2	9 :40 – 10 :30	Presentation Online exams and guarantee of academic integrity	CUT – Maria CHRISTOFOROU, Fotini EFTHIMIOU
	10 :40 – 11 :30	Presentation Increasing participation of students in online courses	TU Dublin – Patrick FLYNN
	11 :40 – 12 :30	Round table Perception of online courses and exams: what do students wish and request?	H_DA - Diana CHIAMPI OHLY (Moderation) Students from H_DA, RTU, UPCT, TUS, CUT, UTCN
	14 :40 – 15 :30	Participative Workshop How to improve online pedagogies	UTT – Yann VERCHIER, Chloé DUVIVIER

Co-funded by the Erasmus+ Programme of the European Union

15 :40 – 16 :30	Workshop for the management committee of ELaRA	Members of the management committee

3. Detail of interventions

The Autumn Symposium gathered 97 participants on the first day and 79 participants of the second day. Information on the event was shared by the members of the management committee within partner universities, and a communication was made on the EUT+ website and on Whaller.

3.1 Introduction

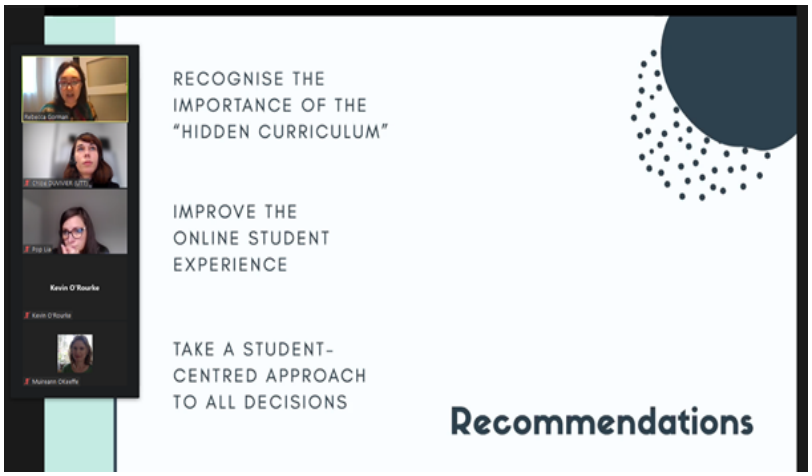
Timothée TOURY (UTT) gave the introduction to the Autumn Symposium. He presented why the work of ELaRA for sharing pedagogical practices and merging people around pedagogy issues is of primary importance. In a university, the main question we have to answer is: what should we teach and how? The mission of ELaRA is to address the subjects of pedagogy and didactics for technology, as well as transversal and soft skills, it spans all the aspects of this core question.

Lia POP (UCTN) then presented the orientations of ELaRA that can be considered as a thinking space around a new way of teaching and learning technology. She presented the actions, the long run strategy, the paradigm and scientific framework as well of the organization of ELaRA.

Co-funded by the Erasmus+ Programme of the European Union

3.2 Student experience of higher education during Covid 19

Rebecca GORMAN, former president of the student's Union of TU Dublin gave a presentation about the experience of students in higher education during the Covid crisis. She shared insights from different studies and reports that underline the issues of accessibility, mental health or self-learning. The presentation was concluded with a case study and recommendations such as the importance of recognizing the "hidden curriculum", of improving the online student experience, and of taking a student-centered approach are what make an education".

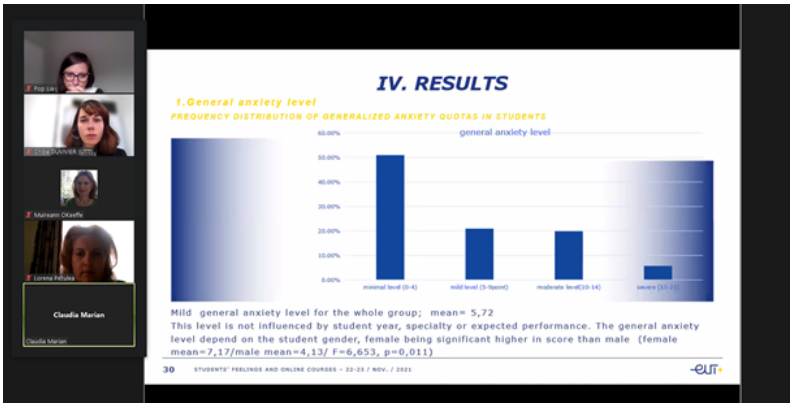


3.3 Students' feelings and online courses

Lorena PECULEA, Lia POP and **Claudia MARIAN** from **UTCN** gave a lecture on students' feelings and online courses, presenting their studies on the subject. The impacts of the Covid crisis on learning quality, student's well-being, socialization, attention and behavior as well as learning strategy are analyzed through the prism of emotions. As an illustration, statistical data from research carried around the subject of achievement emotion was presented. The idea was to evaluate general anxiety level, self-efficacy for learning and performance, student loneliness and

Co-funded by the Erasmus+ Programme of the European Union

perceived stress during the pandemic period. Post-Covid measures were also recommended, such as intensifying emotional presence, counselling and guidance, and student organizations.



3.4 Sharing learning and teaching experiences in a pandemic context

A round table took place between **Velta LUBKINA** from **RTU, Todor TODOROV** from **TUS** and **Juan Angel PASTOR from UPCT**. The three speakers shared experience around the subject of learning and teaching in a pandemic context.

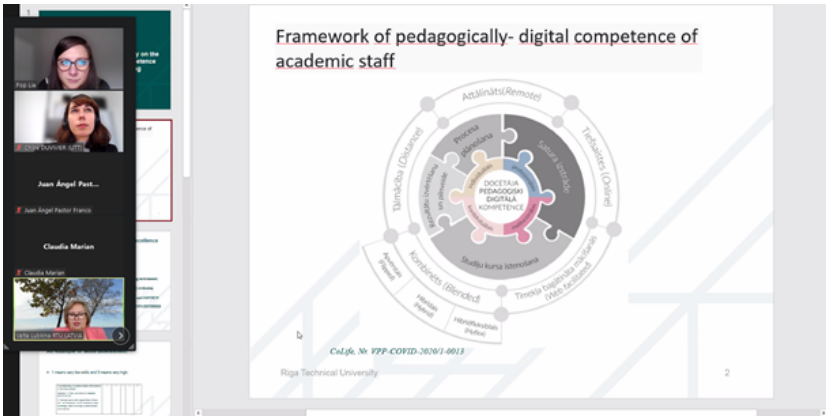
RTU emphasized the subject of the development of digital competence of teachers, through the presentation of a survey. The results underline the need for support in the development of didactic competences for the academic staff: improvement of pedagogical and didactic skills, technological skills, pedagogical psychology, psychologist support…

TUS presented survey results on the challenges and opportunities of online learning. The advantages can be summarized as such: flexibility, adaptation of learning styles. However, technical problems, limited interactions and lack of feedback and communication were clear disadvantages. Blended learning would be preferred by the students, with improvements such as optimization of technical equipment and support or varied illustrative and visual material.

UPCT shared its experience with setting up of emergencies online pedagogies. If the university managed to adapt fast in technical terms, it was not ready in terms of teaching guides.

Co-funded by the Erasmus+ Programme of the European Union

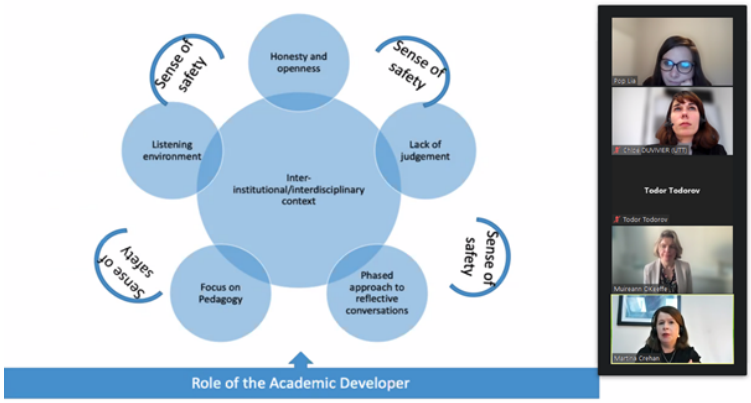
Improvements have to be made for the development of digital pedagogical skills, and there must be a reflection around the role of technology in teaching practices.



3.5 Peer observation of teaching in a pan-university context to establish reflection and feedback on teaching practice

Mueirann O'KEEFE TUD gave a presentation on the subject of peer observation, giving a chance to some of her colleagues who experienced this pedagogical research project to share their points of view (Monica WARD, Michelle FLOOD). The project involved 3 universities, 10 participants and several disciplines, following this structure: orientation workshop, pre-observation meeting, observation, post-observation meeting and feedback. Focus groups were also organized to discuss the framework of peer observation, the building of relationships, guidance... The feedback given on this project was very positive, and the teachers emphasized the interest of observing practices of peers from different disciplines.

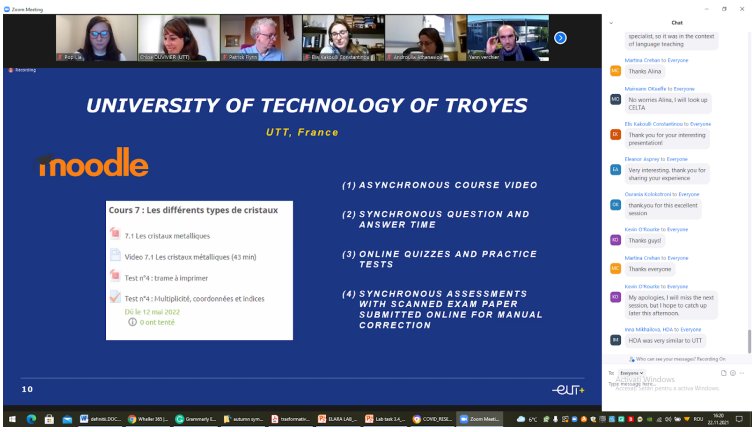
Co-funded by the Erasmus+ Programme of the European Union



Crehan, Munro & O'Keeffe (2020)

3.6 Designing online courses and assessments

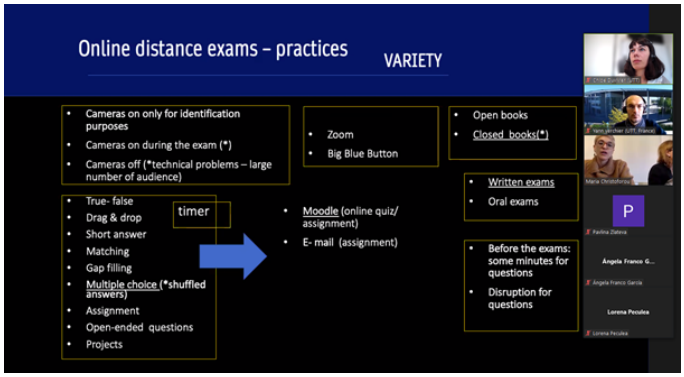
A round table discussion was organized between **Patrick FLYNN** from **TU Dublin**, **Elis KAKOULLI CONSTANTINOU** and **Androulla ANTHANASIOU** from **CUT** and **Yann VERCHIER** and **Chloé DUVIVIER** from *UTT*. During this session, the speakers answered four questions: how were online courses and assessments put in place? Can you give an example of an online course or assessment? What were the students' feelings towards online courses and assessments? What are the advantages and the limits and what do we keep? As examples, TU Dublin presented virtual assessments put in place using bright space, CUT shared experience with online tools such as Moodle and formative and summative assessment, and UTT presented a class designed in "flipped classroom". Students also got a chance to share their experience and impressions.



Co-funded by the Erasmus+ Programme of the European Union

3.7 Online exams and guarantee of academic integrity

Maria CHRISTOFOROU and **Fothini EFTHIMIOU** from **CUT** gave a presentation on the subject of online exams and academic integrity, presenting an exploratory case study carried on the issue of cheating behaviours among students. The aim of the research was to investigate students and instructors' perception of online exams during the pandemic (practices and strategies, effects on performance and cheating). One of the results shown is that 53% of the students think that online exams have a negative effect on their performance, and further research with a more global scale is needed to show limitations and make proposals.



3.8 Increasing participation of students in online courses

Patrick FLYNN from **TU Dublin** gave a presentation on the subject of increasing participation of students in online courses. Three perspectives have to be taken into account on this matter: the student, staff and university levels. In the case of students, pre-knowledge is essential, as well as the access to support. In the case of staff, curriculum development is one of the main challenges.

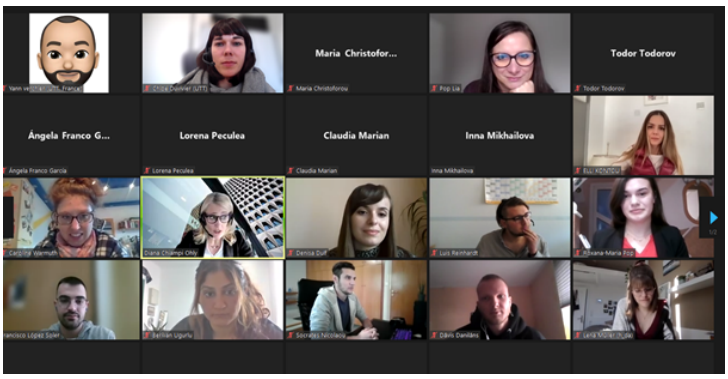
As an illustration, a project developed within the Architectural department for online interactive feedback was presented: using the tool Miro, a visual setting was developed with a possibility of instant feedback via chat.

Co-funded by the Erasmus+ Programme of the European Union

ırch Roundtable Review, 2021

3.9 Perception of online courses and exams: what do students wish and request?

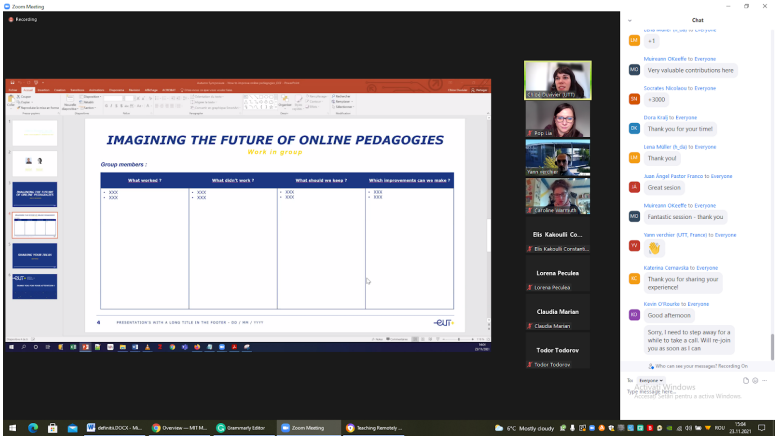
H_DA organized a round table moderated by **Diana CHIAMPI OHLY**, and involving students from HDA, RTU, UPCT, TUS, CUT, UCTN and TUD. The idea was to discuss their experience with online courses and their point of view regarding the future of hybrid and online learning. Students underline some challenges: the online teaching of scientific disciplines, the issue of space and equipment or the problem of motivation and limited interactions. They also gave some recommendations: more proactivity from teachers and more opportunities for contact and communication with them, and more guidance. The main ideas are to develop student-centered approaches of teaching, and facilitate interactions between students and teachers.



Co-funded by the Erasmus+ Programme of the European Union

3.10 How to improve online pedagogies?

During the participative workshop organized and moderated by **Yann VERCHIER and Chloé DUVIVIER from UTT,** the participants worked in subgroups on the subject of the improvement of online pedagogies. They were asked to answer several questions, “What worked during the pandemic situation?”, “What did not work?”, “What should we keep”?”. A lot of insights were given: time management, content production, recorded lectures or online tools were examples of successes. However, lack of interactions, difficulties of motivation or the “black screen phenomenon” were examples of issues. Tools, teaching materials or some evaluation processes could be kept, and, on the other hand, engagement with students, particular skills such as management or inclusive practices have to improve.



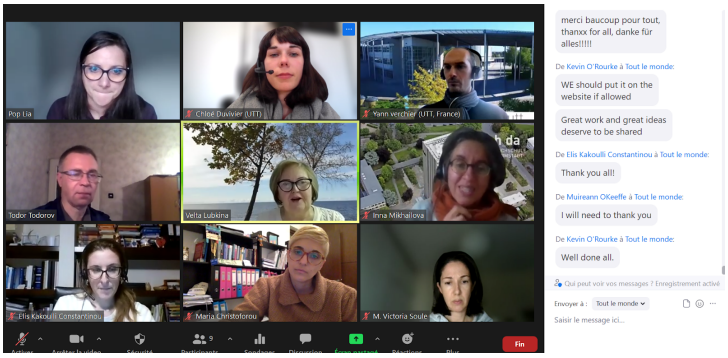
3.11 Workshops for ELaRA’s management committee

Two sessions were dedicated to workshops for the members of the management committee of ELaRA. During those times, the following subjects were discussed:

- Advancement of the deliverables (General Installation Layout and Summer School Package)
- Research projects

Co-funded by the Erasmus+ Programme of the European Union

- Organization of the hybrid meeting in Sofia (December 2021)
- Feedback on the Autumn Symposium: what worked, what should be improved, what should we put in place for the next Summer School.



2. Outcomes for ELaRA and perspectives for the next Summer School

These two days of the symposium allowed both formal and informal exchange and many reactions to the presentations and to the pedagogical strategies implemented during the periods of confinement. The large number of participants demonstrated the interest of the partner universities in pedagogical issues. Many participants also came forward to get more information about the pedagogical schemes presented by the different partners.

The large number of participants demonstrated the interest of the partner universities in pedagogical issues. Many participants also came forward to get more information about the pedagogical schemes presented by the different partners.

Moreover, the presence of students at a roundtable discussion and their pertinent remarks about their feelings during periods of distance learning reinforces the need for the laboratory's research to focus on the learning experience.

Among the themes discussed during these two days, some have caught our attention and will lead to research common work between several universities of the consortium:

Co-funded by the Erasmus+ Programme of the European Union

- Distance learning assessment methods
- Students' feelings during online evaluations
- Active learning in online courses
- Teacher training and peer reviewing

It should be noted that at the end of the symposium, actors of the European educational system expressed their interest in the laboratory. This event has also served to make our project known and thus increase the number of people involved.

We hope that next summer school will take place in physical in order to facilitate exchanges, meetings and to participate in creating a team spirit within the European partners. The next meeting has the ambition to put around the table all the actors involved in the training within EUT+ in order to share research and actions at all levels:

- Feedback from practitioners
- Testimony and analysis of students
- Presentation of research works
- State of the art and orientation of the laboratory
- We aim to make this next Summer School an important event for pedagogy at the European level, based on the research and work carried within ELaRA.

3. Conclusion

The Autumn Symposium, replacing the Summer School of year 2021, was the first event organized by ELaRA, reuniting its members and members of EUT+ interested in the subjects of pedagogy. Gathering more than 90 participants throughout the consortium, the theme "Post-pandemic pedagogies" was dealt with through lectures, workshops and presentations by members of the 8 partner universities of EUT+:

1. 1. UTT
2. 2. UTCN
3. 3. UPCT
4. 4. TUDublin

Co-funded by the Erasmus+ Programme of the European Union

5. 5. HAD
6. 6. CUT
7. 7. TUS
8. 8. RTU

All members of ELaRA are looking forward to the next events to be organized in 2022, like the Summer School to be held in July 2022.

Co-funded by the Erasmus+ Programme of the European Union

Annex 1 - Profile of the participants

Core members/campus	Personal Strengths	Areas of interest	Future actions / research projects
UTT Yann Verchier	Background: ▪ PhD and Teacher in chemistry ▪ Researcher in pedagogy ▪ Head of the center for pedagogical innovation ▪ Main field of research: ▪ Pedagogy ▪ Assessment ▪ Active teaching methods ▪ Skills and soft skills ▪ Action research	Pedagogy Assessment Active teaching methods Skills and soft skills Action research	Use of technology for teaching and training • Assessments practices • Engagement of students in courses, fostering motivation
UTT Chloe Duvivier	Background : former consultant in project management	Student implication and motivation Assessments Skills Link with the professional world	Use of technology for teaching and training Assessments practices Engagement of students in courses, fostering motivation Research methodology : Gathering data using surveys and interviews Action-research, experimentations on small scales
Juan Ángel Pastor Franco UPCT	Background: ▪ Telecommunication Engineer. ▪ PhD in Computer Engineering ▪ Professor of Programming Fundamentals (1st courses), Advance Programming (3rd course of engineering), and Software Projects Development (Master). ▪ Research: ▪ Robotics, Real Time Systems, and Internet of Things.	Project Based Learning. Learning communities. Hybrid and on-line courses.	Setting up “pedagogical experiments” concerning my areas of interest (PBL, on-line courses, learning communities) Connection between university and local community. How to assess students fairly and precisely without causing them unnecessary stress. Contribute to the experiences of other partners, both by participating in their initiatives and replicating their experiences in the UPCT.

Co-funded by the Erasmus+ Programme of the European Union

Patricia Reus Martínez UPCT	Background: ▪ Architect ▪ PhD in sustainable architecture and urbanism ▪ Professor of architectural design ▪ Research: ▪ The contemporary habitat. ▪ Project processes and technical development from the architectural concept to the built reality ▪ Participatory processes in the construction of the city ▪ Eco-efficiency and sustainability in architecture. ▪ Innovation in the teaching of the architectural project	Project Based Learning. Student motivation and implication Critical pedagogies	Setting up “pedagogical experiments” concerning critical pedagogies and space affairs. Connection between university and local community. Contribute to the experiences of other partners, both by participating in their initiatives and replicating their experiences in the UPCT.

Co-funded by the Erasmus+ Programme of the European Union

Ivaylo Peev TUS	Background: ▪ Philology; ▪ Pedagogy; ▪ Bulgarian as a Foreign Language ▪ MA in Philology ▪ Subject : Theory of Literature ▪ PhD in Philology ▪ Theory of Literature; Non-verbal Communication ▪ Habilitation: ▪ Non-Verbal Aspects of Language and Foreign Language Teaching ▪ Main field of research: ▪ Non-Verbal Aspects of Language and Foreign Language Teaching; ▪ Linguistics, Literature and Fine Arts; ▪ Research approach – Innovative Research Approaches in Teaching; ▪ Teaching and Learning in a Digital Environment	Applied Linguistics; Non-Verbal Communication and Language; Innovative Methodological Approaches in FLT; Teaching in a Digital Environment	Formation of teams with members from the other universities (3 people), who would be working on a common topic; Conducting experiments with students and lecturers in the different universities; Preparing and publishing joint papers on the grounds of the integrated research findings; Establishing a periodical scientific e-edition ; Research approach: Digitally-enhanced innovative methods of teaching in the higher education Resources: Human: 2 teams, each containing 3 colleagues Financial: ? Time: January – July
Todor Todorov TUS	Background: ▪ MA in English Philology. Focus: Comparative Linguistics ▪ MA in Russian Philology. Focus: Translation Theory ▪ FLT Methodology ▪ Pedagogy ▪ Main field of research: ▪ EFL and ESP teaching methodology; ▪ 21st Century Skills in education ▪ ICT in education	Applied Linguistics; Incorporating 21-st century skills into teaching-learning process; Learner autonomy, motivation and engagement; ICT in Education	Participation in teams (3 or 4 members from different universities , addressing a common topic of research); Conducting experiments with students and lecturers in the different universities; Preparing and publishing joint papers on the grounds of the integrated research findings; Resources: Human: several teams, each containing 3-4 colleagues Financial: ? Time: January – July

Co-funded by the Erasmus+ Programme of the European Union

Bistra Vasileva TUS	Background ▪ MA in British and American studies; ▪ Philology ▪ Pedagogy ▪ Translation and Interpretation ▪ Main Field of research ▪ ESP and EAP – methods of teaching, approaches to learning and assessment of student progress; ▪ Scientific and technical discourse; ▪ Innovative methods of teaching and learning in digital environment.	Areas of interest Post- pandemic pedagogies; The use of ICT to promote quality education, vocational training and care for everyone; Learner autonomy in the digital era; Educational equity – equitable and accessible online learning for everyone.	Research project idea Participation in teams with other members from different universities; Carrying out experiments with students and lecturers from different universities; Publishing papers announcing the results of the joint findings. Research approach: Innovative methods in higher education in digital environment Working in teams; Time: January-July
TUDublin Patrick Flynn	Background: ▪ BArch in Architecture ▪ MA in Education ▪ PhD Candidate Pedagogy ▪ Research: ▪ Feedback ▪ Authentic Assessment ▪ Peer Learning ▪ Team Teaching ▪ Action Research	Cross Disciplinary Teaching and Learning Student Centred Learning Blended Learning Methods Engaging Learners	Developing a method to engage students and staff from across different disciplines and countries to study common 'real world' problems. Use Project and Problem-based learning for students Replace traditional assessment with authentic assessment Use blended learning to engage the students in peer-to-peer learning Community-Based Learning

Co-funded by the Erasmus+ Programme of the European Union

CUT
Maria Victoria SOLE

Background:
BA:

- Classical Studies
- Spanish Language and Literature
- MA:
- Teaching Spanish as a Foreign Language.
- MPhil:
- Spanish Linguistics/ Second Language Acquisition
- PhD:
- Applied Linguistics

- Field of research:
- Technology Enhanced Learning,
- International student mobility,
- Plurilingualism,
- Second Language Acquisition

- Pedagogical approaches:
- Social Constructionism
- Collaborative Learning

Research Methodologies:

- Action Research
- Classroom research
- DBR
- Mix-methods (QUAL/QUAN)

Field of research:
Technology Enhanced Learning,
International student mobility (SA)
Plurilingualism,
Second Language Acquisition

More recently
Social inequalities in access to and during international student mobility (ISM). The influence of pedagogies increasing ISM-related social inequalities. The role of higher education institutions to further inclusive internationalisation at home (IaH), and the role of technology in IaH.

Over the past decades, international student mobility (ISM) has been a key component in higher education (HE) programmes. The arrival of the ongoing global pandemic of Covid-19 generated one of the most severe worldwide education disruption in history. This also impacted study abroad programmes which were restructured or cancelled leaving students with less international higher education opportunities. Internationalisation at home (IaH) emerged in this context as an alternative to physical mobility. A research project based on this topic could be carried out.

Co-funded by the Erasmus+ Programme of the European Union

CUT Elis Constantinou	Background: ▪ First Degree in English Language and Literature ▪ MA in Applied Linguistics ▪ PhD focusing on English for Specific Purposes Teacher Education ▪ PhD Thesis Title: *English for Specific Purposes Teacher Education: An Innovative Online Approach* ▪ Work experience: ▪ English language instructor at the CUT ▪ Teaching in the MA in Computer Assisted Language Learning (CALL) programme ▪ Teacher Trainer at the Cyprus Ministry of Education and Culture ▪ Reviewer for the Elsevier's *English for Specific Purposes* journal. ▪ Reviewer for the IATEFL ESP SIG Journal *Professional and Academic English*. ▪ Principal Investigator of DC4LT Erasmus+ KA2 research programme ▪ Researcher in DETEL Erasmus+ KA2 research programme. See personal Website here: https://sites.google.com/site/eliskakoulliconstantinou/home?authuser=0	English for Specific Purposes (ESP), Teacher Education, Curriculum Development, Language Teaching Methodology, Technology Enhanced Language Learning (TELL), Action Research, Sustainability in education	The design of a needs analysis study to determine the profiles of teachers and students and record their needs and expectations. The investigation of the use of cloud technologies in the teaching and learning processes; the case of the Google Workspace for Education. The implementation of Action Research for the solution of problems in Higher Education classes. The creation of online communities of practice (CoPs) among teachers for continuous professional development (CPD) The creation of online communities of practice (CoPs) among students for the development of their English language skills;

Co-funded by the Erasmus+ Programme of the European Union

CUT
Maria
CHRISTOFOROU

Background:

- BA in English language and Literature
- MA in Professional Development in Education
- PhD student in the Department of Education

I am interested in digital semiotics as to how students use technology to communicate their meanings, and the transformation of the role of students from passive learners to active designers of content based on the resources they have in their disposal. I'm also interested in Virtual Reality as a tool which transcends multimodality and enables students to realise multiple meanings simultaneously.

1) Conduct a Survey to describe the profile of participants in the Eut+ community (academics & students) as an initial step to be able to move forward with more research.

Research approach: Mixed methods
Questionnaire / Open-ended questionnaires

2) Based on the mission of Eut+ (Think human first) and in their effort to create technologically literate students, I believe we could conduct a need analysis (what do you expect to learn with the aid of technology? / Why do you need technology in your field of study?) and adapt the answers of students from all fields of studies to design short courses or online activities to enable them to respond critically and use technology meaningfully.
Research approach: mixed methods

3) (long-term idea)
Design and evaluate the future Virtual Laboratory through Virtual Reality (Case Study). If we design it ourselves, we need help from IT. If we get funding, we can collaborate with IT experts to design the platform for us (the way it would suit our pedagogical goals)
Qualitative approach: observations & interviews

Co-funded by the Erasmus+ Programme of the European Union

Fotini Efthimiou
CUT

Background:

- Bachelor's degree (Greek Palynology)
- Greek Philology
- Linguistics
- Master's degree (Sciences of Language and Communication in the New Economic Environment)
- Educational Needs Analysis
- Language Pedagogy
- Sociolinguistics
- (Thesis: The attitudes of foreign language students toward the host society and their performance in the official language of the host society: The Case of the Secondary Schools in Paphos, Cyprus)

PhD (c) (Language and Education)
Sociolinguistics
Ethnography
Critical Literacy
Academic discourse

Experience- Qualifications
Teachers' trainer (for the Ministry of Education)

Main fields of research:

Students' needs Analysis
Teaching, learning & evaluative practices in multicultural audience
Sociolinguistics
Ethnography

Research approach –mix-methods

Pedagogy to multicultural and multi-level students (Primary – Higher Education)

The aim of the proposed project: To increase students' critical reading, thinking, researching, designing, presenting, and writing knowledge & skills, within the EUT+.
Why? > Is crucial for: a) all the fields of studies in Tertiary Education, b) Societies, c) Professions
How? > 1) Students' Needs Analysis (mother tongue/foreign language courses- partner universities), through a diagnostic test. 2) Intervention > Workshops/seminars by experts from the partner universities (e.g. how to effectively research, how to critically analyse the available sources, how to make a self-reflection e.t.c.). 3) "measurement" of the intervention (this will lead to collaborations, good practices, Improvements)
Research approaches
Exploratory & Explanatory research
Inductive research (bottom-up)
Applied research
Resources:
a) Students & Instructors from all the partner Universities (questionnaires/semi- structured interviews)
b) Experts in specific Professions (questionnaires/semi-structured interviews)
c) Students' texts, Work Market's texts
d) A person from every partner university to collect the data
e) A person from every partner universities to analyse the data
f) A colleague specialised in English language to edit the final product, which will be in English.

Outputs :
A dynamic network of practices (continuous improvements, database) > A laboratory consists of workshops, seminars, research.
Publications

Synergy to other research initiatives: An individual project or a part of other wider projects

Co-funded by the Erasmus+ Programme of the European Union

Eftychia Xerou CUT	Background: ▪ *Bachelor's Degree:* ▪ Teaching Italian Language and Culture to Foreigners ▪ *Master's Degrees:* ▪ New Technologies for Communication and Learning ▪ Didactics of Italian Language Teaching ▪ *PhD (c):* Educational Technology (Robotics, Programming, Computational Thinking)	My research interests are: The implementation of digital tools for educational purposes (Robotics, Programming, AR, VR, online resources, etc.), creating online interactive environments, Computational Thinking, Digital Skills, Artificial Intelligence and Language Learning.	Use of Technology to implement the collaboration or autonomous learning in a different time and space with different teams of educators or students. Use of different technological tools and exchange of experiences for promoting knowledge. Through experimental research observe the contribution of technological tools to knowledge gain.
H_da Inna Mikhailova	Background: ▪ Mathematics, Electrical Engineering and Computer Science. ▪ PhD in Robotics (Internal control for autonomous open-ended acquisition of new behaviours) ▪ Teacher of Mathematics for first-year Engineers ▪ Research: ▪ Misconceptions and bottlenecks in mathematical education ▪ Research approach – (rather method than approach): Decoding the disciplines	Student-centered learning, E-learning, PBL	Revealing students bottlenecks and misconceptions in technological education. - How similar are the bottlenecks across EUT+? Survey with Minimum of Concept-Questions in STEM-disciplines - Which pedagogical methods are especially effective in dealing with misconceptions? Outcomes: - Catalogue of common misconceptions and quizzes-questions that can reveal them. - Efficient learning methods especially tuned to focus on misconceptions (PBL, JITT) Resources: I need support to get in touch with other science-teachers and one student for accumulating the data and supporting the implementation of e-courses. Our Evaluation System is only for internal purposes, if we want to use Date from surveys for research I need money for a new license.
UTCN Lorena Peculea	Background: ▪ Pedagogy ▪ Socio-psycho-pedagogy profile ▪ (Bachelor's degrees) ▪ MA in Educational Management ▪ PhD in Educational Sciences ▪ Learning to learn competence ▪ Learning difficulties ▪ Main field of research: ▪ Learning to learn competence; ▪ E-learning; ▪ Pre-service and in-service teacher training; ▪ Inclusive education; ▪ Ethics and academic integrity ▪ Research approach – mixed-methods research	Student-centered learning Teaching methodologies Authentic assessment	Stimulating innovative learning and teaching practices (for e.g., innovative teaching and learning methods and tools in the digital age for pre-university and university education; active and effective learning; reflective learning and teaching; educational technology; digital learning environments and online education); Authentic assessment of student learning and student experience (for e.g., consequences of different grading and assessment practices on student learning; standardised versus individualised practices of assessment; student surveys and qualitative methods to investigate student learning and experience) Research approach – mixed-methods research Resources: Human: min. 1 colleague from all campuses in order to collect and analyse the data; students and instructors from all the partner universities Financial: ??? Time: January – July Outputs: Database that can be used for different future research projects Papers

Co-funded by the Erasmus+ Programme of the European Union

UTCN Marian Claudia	Background: ▪ *Bachelor's Degree:* ▪ Psychology ▪ (specialization in clinical psychology and educational psychology ▪ *Master's Degrees:* ▪ Integrated education ▪ *PhD (c):* Sociology (with a thesis in School aggressivity)	Social context of learning - interdisciplinary applications of educational psychology - interest in specialization in research methodologies	Evaluations of the cognitions/social emotions of the professors and students regarding the university information processes. analysis of personality dimensions that interfere with learning Formation of teams with members from the other universities who would be working on a common topic; Conducting experiments with students and lecturers in the different universities; Preparing and publishing joint papers on the grounds of the integrated research findings;
Lia Pop TUCN	Background: ▪ Economical sciences, ▪ Psychology ▪ Pedagogy ▪ (Bachelor's degrees) ▪ MA in Psychology ▪ Subject : Psychological Behaviour Control Techniques and Development of Human Potential ▪ PhD in Educational Sciences ▪ Subject : inclusive and equitable educational environments. ▪ Main field of research: ▪ Inclusive education (from global political directions to local contextual realities) • Research approach – mix-methods	Inclusive and equitable education applied at all level of learning, from early education to higher education.	Identifying the profile of teachers and students in terms of beliefs, expectations and needs within the EUT + project. The data obtained from such a research project can help design future research in order to minimize barriers in learning and facilitates learning opportunities for all students. Also, can contribute to the design of programs dedicated to teachers. Research approach – transformative mix-methods. Resources: Human: min. 1 colleague from all campuses in order to collect data 1.colleague to check my English, when the date will be on paper Financiar: 0 Time: January – July Outputs : Database that can be used for different future research projects Paper Session for SS2 Synergy to other research initiatives: this can be an individual project or, can be part of other research projects.

Co-funded by the Erasmus+ Programme of the European Union

Annex 2 –Summary of the presentations (Examples)

Example 1

Patrick Flynn:

Presentation 1: Increasing Student Engagement in Online Learning

Presentation 2: Principles for Online Learning

Patrick Flynn is the Head of Learning Development in the College of Engineering and Built Environment in TU Dublin. He studied architecture at UCD and holds a Master's in Education from DIT. His professional experience includes working in New York and Dublin. He has served on the Board of Architectural Education of the Royal Institute of Architects in Ireland (RIAI) which is the professional accrediting body for all Irish architectural programmes. He has chaired validation panels for RIAI reviews to UCD, UCC/MTU, SAUL in Ireland as well as serving on validation panels in the UK and Spain.

He has researched existing and new pedagogies and published on these in subsequent academic papers and presented at numerous conferences and is currently completing a PhD in pedagogy. He is a project co-ordinator of a consortium including UCD, SAUL and MTU which is engaged in a research project into feedback and assessment funded by the National Forum for the Enhancement in Teaching and Learning in Higher Education. He is on the council of the EAAE (European Association for Architectural Education) which has over 200 schools of architecture as members across Europe.

Presentation 1: Increasing Student Engagement in Online Learning

Case Study: Oral Feedback in Project Work

Traditionally for the students of architecture feedback on their project work is given when the students present their work to the tutors in a studio setting. With the pandemic it was no longer

Co-funded by the Erasmus+ Programme of the European Union

possible so it allowed us to not only reconsider how to do this online but it also allowed us to rethink how we give feedback.

We can see that this challenge exists within a larger discussion around how we give feedback to students. It can allow us to change feedback to a new dynamic of dialogue. *Dutton*[1] pointed out the main problem with the traditional teaching format is that it is not dialogical because of the structured asymmetrical relations of power. '*No dialogue leads to less learning opportunities.'* The online world can in contrast mitigate against Foucault's identifiable spatialisation of power[2]. The teaching and feedback has become online now not bound by a particular space and now is our chance to reimagine it as a discussion between all the staff, the students and other outside voices co-creating knowledge in a blended learning environment in the future post-COVID.

By using Miro and other shared platforms no one sits at the back as a student said to me in a recent online feedback session. Students can participate and give their voice as equal participants in our virtual online sessions and we can invite people from other disciplines and other countries and continents into the discussion.

Miro Roundtable

The change impacts not only on how we interact in a physical space. It also opens up the feedback sessions to wider range of experts from across different settings who can attend without the need to be there in person. We can also bend time with this new technology. It is possible to use the online platform to allow the students to upload work in advance, see the work up close, comment ahead of the review (and reflect and comment responding afterwards in a less stressful environment). This challenges the established roles we play and begins to ask questions of who we are as tutors. And what opposition exists to seeing feedback in a new way.

[1] Dutton, T., 1991. *Voices in Architectural Education, Cultural Politics and Pedagogy*, New York, Bergin & Garvey.

[2] Eldon, S. & Crampton, J.,2007. *Space, Knowledge and Power: Foucault and Geography.* Routledge: New York.

Co-funded by the Erasmus+ Programme of the European Union

Allow more voices

This has allowed us to bring more voices into the feedback process. Students and staff can actively participate with a breaking of traditional hierarchies – students and staff work together on the projects. Commentators are invited into the teaching space from international locations. In this example contributors came from Kenya in Africa, Boston in the United States and Bath in the UK.

Conclusion

From our study we saw that the online learning allowed us to reconsider the hierarchy that exists in the traditional form of feedback. It also allowed us to bring in additional voices into the feedback process.

Fig.1 Traditional Feedback

Co-funded by the Erasmus+ Programme of the European Union

Fig. 2 More interactive feedback

Fig 3 New Online Feedback

Presentation 2: **Principles for Online Learning**

The principles were considered from the perspectives of the students, staff and University.

Staff

Co-funded by the Erasmus+ Programme of the European Union

The programme is **student-centered and subject-led**, rather than technology-led, and the value of online learning in enabling participants to meet its intended learning outcomes is clearly demonstrated.

The programme's design has been informed by both **subject-specific and educational scholarship,** being based on close collaboration between academic subject specialists and those with expertise in educational technology, instructional design, and blended pedagogies.

Students

Learners will have **access to descriptions** of the online components/aspects of the programme's delivery. (Including learning outcomes, and teaching, learning & assessment methods)

Learners will be provided with a **clear and accessible schedule** for the delivery of their online learning study materials, for the submission and assessment of their work, and for learner support (local and remote). This schedule outlines learner responsibilities in this regard.

Learners are provided with clear information on **how their achievements will be judged**, and the relative weighting of online and other remote aspects of the programme *vis a vis* their assessment more generally.

University

There are procedures in place to routinely **monitor and evaluate** the infrastructural and resource requirements of each blended programme and to ensure appropriate investment.

All technologies and software platforms used for blended and online delivery are **regularly evaluated** and quality-assured for reliability, security, interoperability and privacy and are included on the approved software list.

Co-funded by the Erasmus+ Programme of the European Union

Conclusion

In order to be successful all stakeholders need buy in the methods.

Co-funded by the Erasmus+ Programme of the European Union

Example 2: Online Learning – Challenges and Opportunities (Sharing the TUS Experience)

Presenters:

Assoc. Prof, Dr Ivaylo Peev, Sen. lect. Bistra Vassileva, Sen. lect. Todor Todorov)

Assoc. Prof, Dr Ivaylo Peev **Ivaylo Peev** is an Associate Professor of Pedagogy, specialty "Bulgarian Language", a PhD in Philology. He teaches Bulgarian language to foreign students at the Technical university of Sofia and the National Academy of Art. His prior teaching experience also includes teaching Bulgarian language and Literature at the Professional High School of Computer Systems in Sofia.

Mr Peev's administrative experience involves the position as a Head of the section of Western and Slavic Languages at the Department of Foreign Languages and Applied Linguistics in TUS. Currently, he is holding the position of the Head of the Department of Foreign Languages and Applied Linguistics at the TU – Sofia. He is also an Editor-in-chief of the internal university newspaper "The New Technical Vanguard" and has published over 350 materials on topical issues related to the fields of science, education and culture.

Mr Peev is an author of three monographs: **"Non-verbal Aspects in Foreign Language Teaching. An Extralinguistic Approach to Language" (2018), "Expressing Chechov's Works Through Body Language" (2020)** and **"Digitalization of Foreign Language Teaching. On the Illustrative Component and the Contemporary Visual Culture of Learners" (2021)**, as well as of three university coursebooks: **"Bulgarian for Academic Purposes" (2016)**, **"Bulgarian and Academic Communication" (2017), "Bulgarian for the Preparatory Academic Year. 100 Steps in Bulgarian" (2019)**. Mr Peev has published over 50 scientific articles in the field of pedagogy, linguistics, theory of literature and theory of art. He is also a stylistic editor of a number of scientific editions and educational literature.

Co-funded by the Erasmus+ Programme of the European Union

Mr Peev has participated in numerous scientific and research projects dealing with linguistics and pedagogy, teaching in a digital environment and training of young scientists and doctoral students. He has presented scientific reports and has made presentations at a large number of scientific forums with international participation.

Mr Peev has extensive experience of organizing and promoting the media communication of over 40 events of various nature – exhibitions, book presentations, university anniversary celebrations, etc. His other activities also involve book illustrations and book design of scientific literature and fiction.

Bistra Vassileva is a Senior lecturer of English at the Department of Foreign Languages and Applied Linguistics at the Technical University of Sofia, Bulgaria. She has a Master's degree in British and American Studies from the University of Sofia "St. Kliment Ohridski". Before her experience at TU-Sofia, she taught English as a foreign language for general, specific and professional purposes to adult learners at the Department of International Students and Language Teaching at the University of Sofia, as well as at the Training Center of the Bulgarian Fulbright Commission.

In her academic pursuits, her major point of interest is ICT implementation in education, because it enables the use of innovative educational resources and renewal of learning methods, establishing a more active collaboration of students and the acquisition of technological knowledge. She is also enthusiastic about language research and instruction that focuses on the specific communicative competences and skills of technical students in academic and professional contexts. Recently she has been working on themes such as innovative post pandemic pedagogies, learner autonomy and life-long learning.

Co-funded by the Erasmus+ Programme of the European Union

Presentation: Online Learning – Challenges and Opportunities (Sharing the TUS Experience)

1. Aims

The presentation ***Online Learning – Challenges and Opportunities (Sharing the TUS Experience)*** aims to report the findings and conclusions resulting from a survey carried out among second and third-year bachelor students of engineering and economic specialties at the Technical University of Sofia who have gained a considerable amount of experience of learning and teaching in a digital environment over the academic year 2020-2021.

2. Method of survey:

Sixty respondents were asked to complete an online questionnaire consisting of 16 questions. The participation was anonymous and voluntary. All respondents were fully informed about the objectives of the survey.

3. Time of Conducting the Survey:

October-November 2021.

4. Parts of the survey

The survey consisted of four parts.

In Part 1, respondents were asked to provide some demographic information, such as age, gender, year of study, self-assessment of their IT skills, previous experience with online learning. The vast majority fell into the segment of 20 years old (41.4%), followed by 21 years old (32.8%). Over 70% of respondents rated their IT skills as "very **good".**

In Part 2, respondents were asked to point out the advantages of online learning. Among the most distinct ones they rated the ability to record a lecture, seminar or a lab session and view it multiple times (77.6%), followed by the ability to use online materials (72.4%). The next positions were occupied respectively by the ability to learn from home (62.1%), to feel comfortable and safe in their own environment (48.3%) and the ability to communicate with their teachers and peers (27.6%).

Co-funded by the Erasmus+ Programme of the European Union

In Part 3, respondents were asked to point out the disadvantages of online learning. In their opinion, the most important one turned out to be the persisting technical problems with IT equipment (72.2%), followed by the limited interaction with their peers (66.7%). The next positions were occupied respectively by the limited interaction with the lecturers (48.1%), insufficient motivation and discipline (46.3%), limited contact with friends and peers (46.3%) and unsuitable learning environment at home (20.4%).

In Part 4, respondents were asked to compare face-to-face learning and online learning in terms of the ability to expand their knowledge of specialized vocabulary and grammar necessary for their particular field of study, on the one hand, and communication skills, on the other hand. There was no substantial difference between face-to-face (***very effective*** – 42 %) and online learning (***very effective*** – 36.2 %) in terms of the opinions concerning the methods to expand knowledge of specialized vocabulary and grammar. The learning in a digital environment, however, was considered less effective than face-to-face learning with reference to increasing communication skills and social competences.

Students also assessed that they were less active during online classes (29.8%) as compared to traditional face-to-face classes (35.1%). In our opinion, these findings reinforce the underlying assumption, at least with reference to Bulgarian educational context, that the attendance-based student experience is inherently superior, and the face-to-face model sets the benchmark for the provision of education and training. 29.8 % of respondents state that they have found online learning extremely enjoyable, whereas for 8.8 %, it has been extremely unenjoyable. The rest of the respondents take almost equal proportions between these two extreme values.

In terms of assessment of their own involvement and engagement in the learning process in a digital environment, about 80 % of respondents described it as active, and about 20 % as passive. Almost the same ratio was exhibited when assessing students' involvement and engagement in the learning process in a face-to-face environment: 90% considered it active, whereas 10 % as passive.

Co-funded by the Erasmus+ Programme of the European Union

In case of future adoption of hybrid format of instruction, the vast majority of respondents have expressed the preference for the ratio 80% online – 20 % face-to-face teaching.

At the end of the survey, the respondents were asked to provide any recommendations and suggestions concerning the improvement of online teaching and learning. These could be summarized as follows: optimizing the technical equipment and support (using a single platform, improving the sound quality, preventing breakdowns in servers); using more varied illustrative and visual material; providing options for recording the lectures for a later viewing at a time convenient for students; reducing the students' workload; minimizing teacher talking time and focusing on the student-centered aspect of teaching.

5. Conclusion

This study has shown that in general online learning is considered a valuable method of teaching engineering students by providing effective and viable opportunities for increasing knowledge in the field of foreign language teaching. At the same time it has been clearly indicated that this form of instruction cannot fully replace and is by no means an equal counterpart to the traditional classroom-based instruction, especially in such a practically oriented domain as engineering. Nevertheless, it is our strong conviction that due to the rapid adoption of the hybrid format of course delivery, both students and academics need to embrace the online form of instruction, further improving it and successfully incorporating it in the contemporary educational context, adopting clearly defined objectives, relevant methodology and performance indicators.

Co-funded by the Erasmus+ Programme of the European Union

Exemple 3: Students' Feelings and Online Learning

Lecturer Lorena Peculea, Assoc. prof. Claudia Marian, Assist prof. Lia Pop

Lorena Peculea is lecturer at the Specialized Department with Psycho-pedagogical Profile from Technical University of Cluj-Napoca. From this position, she has carried out both teaching and research activities. She has a Bachelor Diploma in Pedagogy, a Master Diploma in Educational Management, a PhD Diploma in Education Sciences and many other continuous training courses and programs.

Her professional, academic and scientific career is focused on the issues of education and curriculum, school and university teaching, initial/pre-service and continuous/in-service teacher training, e-learning, educational management, psycho-pedagogical counselling. She has taught courses and seminars in the following disciplines: Fundamentals of Pedagogy, Curriculum Theory and Methodology, Instruction Theory and Methodology, Assessment Theory and Methodology, Classroom Management, Ethics and academic integrity at bachelor' degree and master's degree.

Her scientific contribution is materialized by participating in several national and international conferences and by publishing over 20 studies and articles in collective volumes and prestigious national and international journals with the following topics of interest: learning to learn competence, metacognitive reflection, learning strategies, learning difficulties, independent learning, reflective thinking, e-learning, formative e-assessment, cheating and plagiarism etc. She was a member in two research-development-innovation projects and trainer in continuous training programs for teachers in secondary education. Since 2021 she has been a member of the international organization ESERA (European Science Education Research Association).

Presentation: Students' Feelings and Online Learning

Education in COVID-19 pandemic and students' feelings in online learning

The COVID-19 pandemic has caused critical changes and has generated significant transformation in

Co-funded by the Erasmus+ Programme of the European Union

education activities. In higher education, an emergency remote teaching (ERT) model, where courses are carried online, has been adopted all over the world (Hodges et al., 2020). Moving the F2F courses to online environments urgently has been a stressful process for educators and students, some of them have not previously had any educational experience in these environments. Studies conducted around the world during the lockdown period found that there is a significant percentage of students who felt negatively affected and this is not only in relation to their academic activities, but also to their social activities (Means and Neisler, 2020; Quacquarelli, S., 2020; Killian, J., 2020). The influence of the affective dimension in the students' learning process is already discussed in many studies, concluding that the emotions play an important role in the whole teaching-learning-evaluation process. Studies on the effect of COVID-19 and lockdowns on university students in China, Spain, Malaysia, France, North America reported significant adverse effects on the students' psychological well-being and high levels of anxiety (Cao, W. et al., 2020; Odriozola-González et al., 2020; Sundarasen, S. et al., 2020; Husky, M. M. et al., 2020; Aiyer, A. et al., 2020). Psychological well-being is a factor that can affect persistence and early university dropout possibilities, and that the lockdown situation can cause stress. Teacher well-being has been severely impacted by this pandemic due to its devastating effect on the personal level, social distancing, and remote learning. One of the most accepted theoretical frameworks for understanding online learning processes is the Community of Inquiry framework (Garrison et al., 2000) with three elements (cognitive presence, teaching presence and social presence). Social presence is important in online learning because many students need to feel a connection with others if they can share ideas, exchange views, and work together. So, in this pandemic time, students in an online community can act to create or build social presence for themselves and others.

Co-funded by the Erasmus+ Programme of the European Union

Research topic

The aims of the research study were:

- Evaluation of the generalized anxiety level and of the anxiety level related to the testing situation of the students in the pandemic period
- Self-efficacy for learning and performance in pandemic period
- Assessment of student loneliness in pandemic period
- Evaluation of students perceived stress in pandemic period

The study lot included: 103 students from the Technical University of Cluj-Napoca, Romanian Bachelor Level, I, II, III years from specializations in the field of Sciences and Arts and Humanity, in online teaching mode, study was conducted between October and November 2021. For each variable proposed for analysis, differentiation was made according to the criteria: year of study, gender, type of student specialization, the level of performance expected at the fundamental specializations.

Mild general anxiety level for the whole group (Mean = 5,72) was not influenced by student year, specialty or expected performance. The general anxiety level depends on the student gender, female being significantly higher in score than male (Female Mean = 7,17/ Male Mean = 4,13/ F = 6,653, p = 0,011). At anxiety test the mean was 16,44 (moderate level) and the variation was not significantly influenced by the year of study, gender or by the specialization of the students (p> 0.05). Furthermore, more than 50% of students have had a high perception on self-efficacy in learning and performance. Regarding student loneliness (Mean = 5,05), it was not influenced significantly by student year, gender specialty or expected performance. Distribution of stress perceived level showed a mean of 18,3 (mild level). Girls have a significantly higher perception of the stress they feel compared to boys (F = 10,316, p = 0,002). Those with a lower level of performance expectations have a significantly higher level of perceived stress (F = 2,605, p = 0,04). The perceived stress level is not influenced significative by study year or specialty (p>0,05). Some

Co-funded by the Erasmus+ Programme of the European Union

future directions have been outlined: correlation of the emotions registered with the level of engagement in the learning activities; systematic evaluation of emotions related to results with those related to activities; evaluating the weight of these emotions in determining the educational performance; analysis of the emotional functioning of teachers in online teaching.

Post-COVID measures

To reduce fear and ensure emotional stability in remote learning/teaching among students during COVID-19 outbreak, higher education institutions should attempt to intensify emotional presence and should ensure effective, accessible, and user-friendly counselling and guidance for students. Student organizations should reach out to their members and contribute to strengthening social ties among colleagues. The lack of face-to-face meetings with the teacher should be compensated by an effective learning strategy based on e-learning activities. To foster positive emotions in the students, and therefore causing a positive impact in the learning process, the courses should be designed considering teaching strategies and instruction methodologies that contribute to control and regulate the students' affective dimensions evolved in the learning-teaching-evaluation process and foster students' favourable attitude.

One thing for certain, is that the education landscape has undergone a permanent transformation and the teaching-learning-evaluation process will never be the same again as it was in the pre COVID-19 period.

References :

1. Aiyer, A., Surani, S., Gill, Y., Iyer, R., Surani, Z. (2020). Mental health impact of Covid-19 on students in the USA: A cross-sectional web-based survey. *Journal of Depression and Anxiety*, 5, 1–9. doi: 10.35248/2167-1044.20.9.375
2. Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J. and Zheng, J. (2020). The psychological impact of the Covid -19 epidemic on college students in China. *Psychiatry Research*, vol. 287: 12934. Available at: https://doi.org/10.1016/j.psychres.2020.112934

Co-funded by the Erasmus+ Programme of the European Union

3. Garrison, D. R., Anderson, T., Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education model. *The Internet and Higher Education*, 2(2-3), 87-105.

4. Hodges, C. B., Moore, S., Lockee, B. B., Trust, T., Bond, M. A. (2020). The Difference Between Emergency Remote Teaching and Online Learning, *EDUCAUSE Review*, Available at: https://er.educause.edu/articles/2020/3/the-difference-betweenemergency-remote-teaching-and-online-learning

5. Husky, M.M., Kovess-Masfety, V., Swendsen, J.D. (2020). Stress and anxiety among university students in France during Covid-19 mandatory confinement. *Compr. Psychiatry*, 102, 152191.

6. Killian, J. (2020). College students, professors adjust to Covid -19 life. *NC Policy Watch*. Available at: http://www.ncpolicywatch.com/2020/04/01/college-students-professors-adjust-to-covid-19-life/

7. Means, B. & Neisler, J., with Langer Research Associates. (2020). *Suddenly Online: A National Survey of Undergraduates during the COVID-19 Pandemic*. San Mateo, CA: Digital Promise.

8. Odriozola-González, P., Planchuelo-Gómez, Á., Irurtia, M.J., de Luis-García, R. (2020). Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Research*, 290, 113108. Available at: https://doi.org/10.1016/j.psychres.2020.113108

9. Quacquarelli, S. (2020). *The Impact of the coronavirus on global higher education: exclusive QS survey data reveals how prospective international students and higher education institutions are responding to this global health emergency*. Available at: http://info.qs.com/rs/335-VIN-535/images/The-Impact-of-the-Coronavirus-on-Global-Higher-Education.pdf

10. Sundarasen, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G., Khoshaim, H., Hossain, S. and Sukayt, A. (2020). Psychological impact of Covid-19 and lockdown among university students in Malaysia: implications and policy recommendations. *International Journal of Environmental Research and Public Health*, 17(17), p.6206. Available at: https://doi.org/10.3390/ijerph17176206

Co-funded by the Erasmus+ Programme of the European Union

Annex 3 – Communication aspects

The main invitation can be accessed on the following link:

https://www.univ-tech.eu/elara-presents-an-online-symposium-post-pandemic-pedagogies

The European Laboratory For Pedagogical Action Research And Student-Centred Learning (ELaRA)
presents

Post-pandemic pedagogies

Agenda

Day 1 - November 22nd 2021

9:00
Introduction

9:40
Student experience of higher education during Covid
Lecture by TU Dublin

10:40
Students feelings and online courses
Lecture by TUCI

11:40
Sharing learning and teaching experiences in a pandemic context
Round table by UPCT, TUS and RTU

14:00
Peer observation of teaching in a pan-university context to establish reflection and feedback on teaching practice
Presentation by TU Dublin

15:00
Designing online courses and -assessments
Presentation by CUT, UTT and TU Dublin

17:30
Online social event

Day 2 - November 23rd 2021

9:40
Online exams and guarantee of academic integrity
Presentation by CUT

10:40
Increasing participation of students in online courses
Presentation by TU Dublin

11:40
Perception of online courses and exams: what do students wish and request ?
Round table by HDA

14:00
How to improve online pedagogies
Workshop by UTT

15:00
Conclusion

How to participate ?

Registration form : click here

Contact : chloe.duvivier@utt.fr

Co-funded by the Erasmus+ Programme of the European Union