ICICTE 2023

Lesvos, Greece – July 6-8, 2023

CONFERENCE PROGRAMME
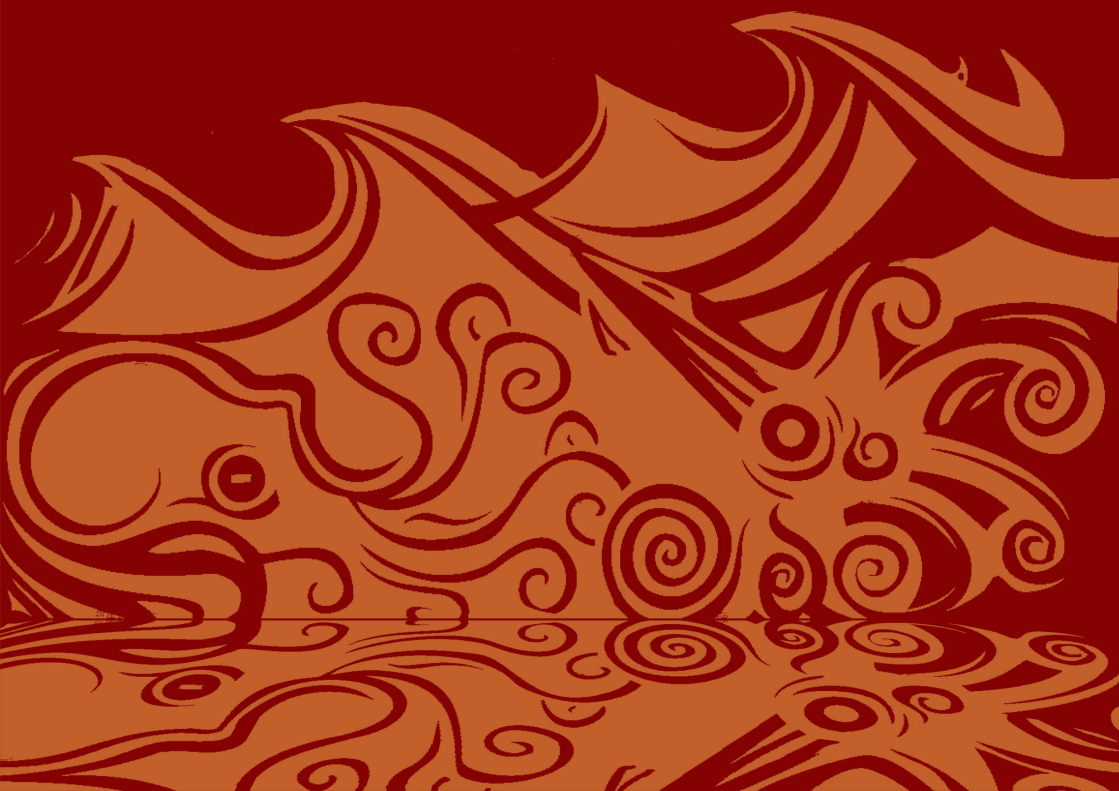
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Founder and Director of ICICTE, Greece

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Chair of the Scientific Committee and Communications Coordinator, Malta

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Dr Costas Tsolakidis
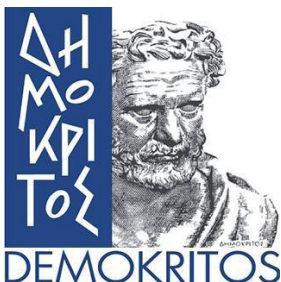*Professor Emeritus, University of the Aegean, Greece*

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Thursday, July 6, 2023

Hall Terpsichore

09:30 – 10:00 – Registration

10:00 – 11:30 – Welcome and Keynotes

WELCOME
Professor Ġorġ Mallia
ICICTE Chair of the Scientific Committee
Head of the Media and Communications Department, Faculty of Media and Knowledge Sciences, University of Malta, Malta

INTRODUCTION OF THE KEYNOTE SPEAKERS
Professor Emeritus Costas Tsolakidis
Climatopia Scientific Responsible, University of the Aegean, Greece

Keynote Address
SMART PEDAGOGY FOR TECHNOLOGY ENHANCED LEARNING
Professor Linda Daniela
CLIMATOPIA Coordinator
Dean of Faculty of Education, Psychology, and Art
Chair of the PhD Defense Board in Educational Sciences of the University of Latvia, Latvia

Keynote Address 2
THE BASIC SCIENCE OF CLIMATE CHANGE
Dr Diamando Vlachogiannis and Dr Athanasios Sfetsos
National Center for Scientific Research "Demokritos", Greece

11:30 – 12:00 – Coffee Break

12:00 – 14:00 – Concurrent Sessions

Hall Terpsichore

WORKSHOP: VISUAL NARRATIVE AND COMICS CREATION FOR PEDAGOGICAL PURPOSES
Facilitator: Ġorġ Mallia, University of Malta, Malta

The unique blend of dynamic illustration and descriptive text within a format that has a history of over two centuries behind it, makes the comics format ideal in which to tell stories that communicate and persist in memory. This is one of the reasons why comics are often utilised as both entertainment and educational vehicles.

"Comics can relate information in ways that are distinct from the paradigms of authority, authority and literacy that commonly characterized the mode of delivery used in lectures and textbooks." (Humphrey, 2020, p. 397) It is in this very informality and the association to entertainment that makes comics such valuable instruments for teaching and learning. But they can also be rich literary resources (Nixon, 2012); they can be a source of multiculturalism (Marrall, 2013), and really, everything else, though, "ultimately, comics are about telling stories" (Weiner & Syma, 2013, p.8)

Comics scholarship has abounded over the last decades. Scholars like Groenstein (1999) have looked at comics with a critical, semiotic eye. Others, like the omni-present McCloud (1993), have dissected the narrative process inherent in the genre. The list is almost endless. However, the pedagogical capabilities of the genre have not been thoroughly examined. Mallia's paper about how comics can help cognitive retention was quite pioneering and remains often quoted in the literature about the genre (Mallia, 2007). More experimental research followed this paper, including quite a lot about using comics to teach science (Spiegel, et al, 2013; Hosler and Boomer, 2011); business (Short, et al, 2013); and even medicine (Katz, et al, 2014).

This workshop proposes a presentation of comics language and narrative techniques through the evaluation of existing comics and graphic novel sequences, followed by audience tasks, in which topics are suggested to groups that are then translated into scripts for comics (including basic breakdowns) in order to convey entertainment, information and instruction.

After the group work, it is proposed that a plenary session present the results followed by peer and workshop-leader evaluation.

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Spiegel, A. N., McQuillan, J., Halpin, P., Matuk, C., & Diamond, J.

(2013). Engaging Teenagers with Science Through Comics. In *Research in science education 43(6):*10.1007/s11165-11013-19358-x.

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WORKSHOP: THE CLIMATOPIA SIMULATION AND DECISION-MAKING GAME

Facilitators: Guillermo Sanz Ruiz-Esteller, and Nuria de Pablo Sánchez, Fundación Siglo22, Spain

Objectives

- Learning to know: Engage pupils and the public with valid scientific knowledge as well as with social and political issues.
- Learning to be: Learn to make sound choices now and in the future, to foster climate resilience and reduce risks and costs for future generations and ourselves.
- Learning to live together: Build capacity for empathy, group-based decision making, crisis management, tolerance, flexibility, and understanding of change as well as to raise awareness of diversity, equality, and inclusion in the learning processes.
- Learning to Do: Have an important influence on both adaptation and mitigation actions.
- Learning to transform oneself and society: Integrate the values inherent in sustainable development into all aspects of learning in order to empower people to assume responsibility for creating and enjoying a sustainable future.

Outline

1. First, we will introduce the game and its theoretical and scientific framework and then participants will have the opportunity to play and give feedback to the development team to improve it.
2. Players will act to revitalize the fictional land

"Climatopia" (inspired by Plato's "outopia") to make it greener. There will be predefined action options. If the player makes the "wrong" decision regarding sustainable development principles, four elves—representing earth, water, air and fire—will support players by offering feedback and encouraging them to reconsider the original choice.

Hall Electra

SESSION 1: THE BRAVE NEW WORLD OF DIGITAL EDUCATION: PEDAGOGICAL PERSPECTIVES ON ONLINE LEARNING, DIGITAL COMPETENCE, CHATBOTS, AND LEADERSHIP

Moderator: Professor Emerita Marcie Boucouvalas, Virginia Tech, United States of America

A BIBLIOMETRIC ANALYSIS OF ONLINE LEARNING IN HIGHER EDUCATION: A COMPARISON OF RESEARCH TRENDS BEFORE AND DURING THE COVID-19 PANDEMIC

Aristovnik Aleksander, Umek Lan, and Ravšelj Dejan, University of Ljubljana, Faculty of Public Administration, Slovenia; Karampelas Konstantinos, University of the Aegean, Department of Primary Level Education, Greece

Online learning has a considerable history in higher education, implying that it is not a novel concept. However, with its primary purpose of providing education for those otherwise unable to participate in a traditional learning setting, online learning became an emergency and mandatory mode of learning during the Covid-19 pandemic. Therefore, the paper aims to explore research trends of online learning in higher education before and during the pandemic by applying several established and innovative bibliometric approaches. The results of the bibliometric analysis reveal differences in research trends before and during the pandemic and provide evidence-based guidelines for supporting higher education in the future.

TEACHER EDUCATORS' DIGITAL COMPETENCE: FIRST RESULTS OF A SYSTEMATIC LITERATURE REVIEW

Clarissa Lachmann and Michael T. Rücker, Humboldt-Universität zu Berlin, Germany

What defines a digitally competent teacher educator? This systematic literature review was set out to answer that specific question. Eight national and international frameworks for the digital competence of teacher educators were selected and are being analyzed, and compared through a qualitative content analysis. This paper gives an overview of the theoretical background and the method of this research. Furthermore, first findings of the systematic literature review are presented and discussed in terms of what they imply for further research and for teacher education in Germany.

CHALLENGES AND OPPORTUNITIES PRESENTED BY GENERATIVE AI-CHATBOTS: EFFECTS ON AN UNDERGRADUATE COURSE ON DATABASES

Patricia Brockmann, Nuremberg Institute of Technology, Germany

The recent revolution in chatbot technology based on artificial intelligence poses new problems in education. These machine learning systems have the ability to convincingly mimic human intelligence to an extent which makes it difficult to differentiate between answers generated by the chatbot versus answers written by a human expert. Not only news articles and essays, but also answers to homework assignments and even computer code, can be generated with relatively little effort by using a generative AI chatbot. For instructors at institutions of higher education, ignoring these possibilities is not a realistic option. This paper presents an overview of the available relevant literature. Critical questions for instructors of computer science are raised. Experiences in an undergraduate course on databases are described. Initial lessons learned and resulting possibilities on how to integrate chatbot technology into teaching methods are presented.

DESIGNING AUTHENTIC ASSESSMENTS TO ADDRESS THE USE OF CHAT-GPT IN HIGHER EDUCATION

Tiffany Winchester, Loretta Garvey and ChatGPT, Federation University, Australia

Since its official launch, there has been much discussion in academic circles around the use of artificial intelligence, specifically natural language processing models such as ChatGPT, with many seeming to focus on the distrust issues of student cheating and academic misconduct. Explicitly drawing on ChatGPT for assistance, this paper critically analyses authentic assessments created by ChatGPT for business and nursing programs and highlights the limitations of relying on technology as the sole source for assessment in these areas. Implications for practice and further research concludes this paper, including the integration of artificial intelligence into higher education with consideration of ethical and legal implications surrounding its use.

THE CRITICAL ROLE OF SCHOOL LEADERS IN AMBITIOUS PEDAGOGICAL STRATEGIES

Maria Spante, University West, Sweden

Leadership plays a critical role in implementing thematic pedagogy and digitalization in schools. Thematic pedagogy involves organizing teaching and learning around meaningful and relevant themes or topics, while digitalization refers to the use of technology to support and enhance learning. To effectively lead thematic pedagogy, school leaders should first ensure that teachers are equipped with the necessary skills and knowledge to design and implement thematic units. This can be achieved through professional development programs and coaching. School leaders can also facilitate collaboration among teachers to develop cross-curricular themes that are aligned with the school's goals and objectives.

Digitalization also requires strong leadership to ensure that technology is integrated effectively into teaching and learning. School leaders should work with teachers to identify digital

tools and resources that are relevant and appropriate for their students' needs. They should also establish clear guidelines and protocols for the use of technology in the classroom to ensure that it is used in a safe and responsible manner.

In a situation where these perspectives are combined, the challenges increase as well as the demands on the teachers. This study will report on a 3-year project where the combination is developed and evaluated together with teachers and school leaders. The result suggests that it is a daunting task to achieve. Furthermore, the interpretation of thematic pedagogy and effective integration of technology in such work varies. These variations are seen as one problematic issue for the further development of student learning as well as professional practice. Therefore, the role of the school leader becomes crucial to facilitate supporting circumstances for innovative perspective integration.

14:00 – 16:00 – Lunch, Callirhoe Restaurant

16:00 – 17:30 – Concurrent Workshops

Hall Terpsichore

WORKSHOP: ACTIVITY THEORY AS A TOOL FOR REIMAGINING WIL: CONDUCTING CONTRADICTION ANALYSIS
Maria Spante, School of Business, Economics, and IT, Division of Informatics, University West, Sweden

Objectives
The aim of the workshop is to assist participants in better understanding tensions and contradictions in the application of work integrated learning (WIL), and so to facilitate the co-creation of new WIL models and practices towards the improvement of students' learning in both university and workplace environments.

Outline

The workshop is designed as an interactive session with the use of pre-prepared materials of the activity theory tool, the activity system of work-integrated learning programmes. The activity system is composed of mutually dependant elements. In short, the elements refer to what the participants understand they are working on making happen within the university (the object or raw material); what they are using to do this work (tools); who else is involved with working on the object (community); how the work of the participants (the subjects) is governed by the rules/culture they operate in; and how the roles are divided up and who holds the most authority (division of labour or DoL). Participants are expected and encouraged to actively bring forward examples from their lived experience of work-integrated learning models and to conduct contradiction analyses using the activity theory tool. The main function of the contradiction analysis is to enable participants to transition from narrative, discursive manifestations of difficulties to understanding them as systemic contradictions within and between the above elements (and also between different systems).

Hall Electra

WORKSHOP: PYTHON: THE RIGHT CODING LANGUAGE FOR THE JOBS OF TODAY AND TOMORROW

Daniel Bird, Firia Labs, United States of America

Objectives

In today's high-tech world it is becoming more important that students of all ages are provided opportunities to learn a coding language. In industry the number one language is Python, followed by either Java or C++. Starting students on a coding/computer science pathway as early as age nine where they are taught a real-world language can help build the workforce of tomorrow.

Per Code.org data, 67% of all new jobs in STEM are in computing. In 10 years' time, 50% of jobs will be changed by automation - but only 5% eliminated. Nine out of 10 jobs will require digital skills, and young, low-skilled, and vulnerable people - all need help with upskilling. In Europe alone, the impending skills gap will lead to 1.67 million unfilled jobs. In the US, the number is almost equal to the US.

The other startling statistics are that only 17% of the European ICT workforce is comprised of women, and that young people make up 40% of the global unemployment numbers.

Now is the time to refocus efforts to bring in high quality coding education to all students.

Attendees will gain insight on why students should learn Python through real world coding experiences to better prepare for higher education and careers. During this session we will explore the current unfilled job data points, the lack of women in the coding and computer science industry, and the future for individuals that have the right skills.

Outline

In this highly interactive session we will use current data to support the reason that all students should be provided opportunities to learn coding, and more specifically Python. Even in today's world where tech companies are laying off people there will still be millions of jobs that will be unfilled. Attendees will leave with valuable insight on what can be done to upskill students.

20:30 – Welcome Reception, Pool Bar

ICICTE 2022 Opening Reception

Friday, July 7, 2023

Hall Terpsichore

09:30 – 11:30 – **Synergy workshop of the Erasmus+ Climatopia, EU-Heart, CALMD, and ECO-CENT projects with UDHR Scholars and Advocates**

Celebrating the 75th Anniversary of the Universal Declaration of Human Rights:
Looking Backward, Looking Forward: A call to awareness, action, advocacy, and INQUIRY
Facilitators: Professor Emerita Marcie Boucouvalas, Virginia Tech/ National Capital Region, U.S., Stacie Boucouvalas-Gianourakos, U.S., and Nancy Pyrini, University of the Aegean, Greece

Objectives
From facilitator and participant contributions, to:
- Raise and deepen awareness of the meaning of the UN 75th Anniversary celebration of the Universal Declaration of Human Rights (UDHR), strategies for one's own home context, and to "celebrate" at ICICTE.
- Generate areas of needed inquiry in research and practice
- Explore areas and means for action and advocacy
- Receive follow-up material and resources for continuing pursuit
- View each other as resources for learning and catalyze potential networking

December 10, 2023 is an important date designated by the United Nations to honor and celebrate the 75th Anniversary of the 1948 signing of the Universal Declaration of Human Rights (UDHR)! The most translated document in the world, the UDHR is recognized as launching the birth of the modern human rights movement. What does this event mean for each of us in our own contextual worlds, for ICT, and collectively for us as a human

species? Much depends upon what it means to be human, recognizing that we sport two complementary developmental trajectories: autonomy (maturation of the individual self-sense and identity) and homonomy (the meaning and identity derived from being part of a greater collective (e.g., identity as a member of a family or professional group, ethnicity, nationality, etc., and as a member of the human species). Each of these trajectories, which offer different perspectives on human rights, work smoothly when engaged in tandem. A close inspection of the UDHR history and the resulting instrument, as discussed in this workshop, reveals and suggests such a hope may have been the intent of the creators. What if the human rights movement were framed by such an understanding of what it means to be a fully developing human in both autonomous (individual self-identity) and homonomous (collective Self-identities)?

Based on a quadripartite framework of addressing awareness, action, advocacy, and inquiry, this active and interactive workshop (including a "living" lecturette and video) invites reflection and dialogue, given consideration of what it means to be a developing human as an integral part of discussions. Participants are encouraged to share their own stories of experiences or engagement with human rights or what they would like to do or see done, including concerns, caveats, or roadblocks (internal or external) with regard to the UDHR and human rights in general.

Resources for continuing inquiry are offered, including materials for those interested in developing their own curricula and events, whether institutionally or community based.

THE FIVE WORKSHOP SEGMENTS

1. INTRODUCTION TO THE 75TH ANNIVERSARY OF THE UNIVERSAL DECLARATION OF HUMAN RIGHTS (UDHR) – INCLUDING A MESSAGE FROM THE UN HIGH COMMISSIONER FOR HUMAN RIGHTS
Professor Emerita Marcie Boucouvalas, Virginia Tech/National

Capital Region, U.S.
Stacie Boucouvalas-Gianourakos, U.S.

2. EU-HEART: NEEDS AND STRATEGIES – TOOLKIT ON BASIC HUMAN NEEDS AND STRATEGIES TO FULFILL THEM

Susanne Linde and Klaus Linde-Leimer, Blickpunkt Identität, Austria

We assume that all people have the same basic needs. Therefore, at the level of needs, it is quite easy to understand each other. It becomes more difficult when we try to fulfil these needs, because everyone has different ideas on how to do this. Therefore, in the next step we want to take a closer look and encourage you to think: How can we meet our own needs as well as possible, while also taking into account the needs of others? Finally, because we think it is important to learn from history, we want to look at how different people in past times have tried to fulfil their basic needs and whether they have done so in a way that has been good for everyone else.

3. CLIMATOPIA: SELF-DIRECTED LEARNING TO IMPROVE QUALITY OF LIFE

Nancy Pyrini and Christos Ioannides, University of the Aegean, Greece

This segment presents the theoretical framework developed to create a community of self-directed learners and to enhance their homonomy, the meaning derived in life by being and feeling part of a greater whole (Angyal, 1941, as credited by Boucouvalas). The idea lies in the introduction of the homonomous (connected) Self. As constructed by Boucouvalas, self with a lower case "s" refers to one's separate individual self, characterized by autonomy, while Self with a capital "S" refers to the expanded connected sense of Self, characterized by homonomy. Together, they constitute the complementary

dimensions of selfhood, suggesting a conceptualization of s/Self that includes both autonomous and homonomous dimensions (Boucouvalas, 1988, 1999, 2009).

4. ECO-CENT: INNOVATION ECOSYSTEMS FOR CIRCULAR ECONOMY ENTREPRENEURS

Nancy Pyrini and George Sarrigeorgiou, University of the Aegean, Greece

ECO-CENT aims at addressing the needs of iVET and cVET providers, as well as the business community, by offering targeted training on circular business models. By providing comprehensive training to businesses and continuous professional development to VET trainers, we strive to support sustainable practices and foster a circular economy.

ECO-CENT aligns with the principles of the Universal Declaration of Human Rights (UDHR) in several ways. Firstly, by equipping businesses with knowledge on circular business models, we contribute to the right to work (Article 23) by creating employment opportunities that align with sustainable practices.

Additionally, by providing continuous professional development for VET trainers, we promote the right to education (Article 26) by enhancing the quality of vocational education and ensuring trainers are equipped with up-to-date knowledge in the domain of circular business models.

Moreover, the project supports the right to a healthy environment (Article 25) by encouraging businesses to adopt practices that minimize environmental impact and promote sustainability. Lastly, by fostering sustainable economic development, the project connects to the right to economic development (Article 22), promoting environmentally responsible practices that create new business opportunities and contribute to long-term economic growth.

Through ECO-CENT, we aim to empower both businesses and VET trainers, ultimately fostering a more sustainable,

inclusive, and rights-oriented society in line with the principles outlined in the UDHR.

5. CALMD: A COMPREHENSIVE KIT FOR SOCIAL INCLUSION OF PEOPLE WITH MENTAL DISABILITIES

Nancy Pyrini and Konstantinos Karampelas, University of the Aegean, Greece

CALMD introduces a transformative initiative centered around social inclusion and the promotion of independent living for individuals with mental disabilities. Anchored in the Universal Declaration of Human Rights (UDHR), CALMD aims to establish mental disabilities as a human rights issue, ensuring that every individual, regardless of mental ability, can fully enjoy their rights.

By fostering a deeper understanding of mental disabilities and challenging societal stigma, we pave the way for a more inclusive and empathetic society. Drawing inspiration from the UDHR, we highlight key articles that support our cause, including the recognition of inherent dignity and equal rights (Article 1), freedom from cruel treatment (Article 5), the right to expression and participation in society (Article 19), and access to adequate living standards and social support (Article 25). Through our efforts, we strive to create a society that upholds the rights of individuals with mental disabilities, enabling them to live with dignity, respect, and equal opportunities.

11:30 – 12:00 – Coffee Break

12:00 – 14:00 – Concurrent Session and Workshops

Hall Terpsichore

SESSION 2: ELEVATING THE LEARNER EXPERIENCE THROUGH AUTHENTIC ACTIVITIES
Moderator: Ġorġ Mallia, University of Malta, Malta

COMBINING PROJECT-BASED LEARNING AND SCIENTIFIC WORK

Heidi Schuhbauer and Sebastian Schötteler, Computer Science Department, Nuremberg Institute of Technology, Germany

Working scientifically and writing a conference paper is usually part of PhD programs, but not part of a regular study program for an undergraduate or master's degree. In a master's degree class for computer science, a concept to combine scientific work with project-based learning was developed and has been carried out twice. The students had to learn the professional skills of the subject social network analysis and gained methodical skills. They had to conduct a research project and to write a conference paper. In the course evaluation, the students state their high learning outcomes, but also they find that the projects are a lot of work and they describe their difficulties with this kind of work. They are used to writing project reports and bachelor's theses, but not to write conference papers. Therefore, this concept was professionally and methodically a new and beneficial experience for them.

HRM STUDENTS' PERCEPTIONS OF AN ASSESSMENT FOR LEARNING IN A FULLY ONLINE UNIVERSITY COURSE IN SWEDEN AT THE DEPARTMENT OF EDUCATION IN UMEÅ

Monica Liljeström and Hanna Paulin, Department of Education, Umeå University, Sweden

The study is built on 75 Human Resource Management [HRM] students' reflections on their learning when conducting an Assessment for Learning [AFL], implemented in a fully online course with strictly text-based communication in spring 2021, aimed to enhance the students' learning experience and development of vocational skills. This study focuses on students' perceptions of the peer review task, incorporated in the AFL, and carried out in asynchronous online discussions [AOD]. The results show that the AOD were perceived meaningful for learning and the development of vocational skills. In conclusion,

the AOD in this form can strengthen students' engagement in solving the AFL.

UPPER SECONDARY SCHOOL TEACHERS' COLLABORATIVE LEARNING ABOUT DIGITAL TECHNOLOGIES: THE CASE OF A RESEARCH CIRCLE

Marcia Håkansson Lindqvist and Åsa Bång, Mid Sweden Univsersity Division of research and educational support (FUS), Sweden

For many teachers, possibilities to collaboratively deepen knowledge in the understanding and use of digital technologies are limited. This paper reports on upper secondary school teachers' work in a research circle for professional development in digital technologies. A research circle provides teachers with the opportunity to meet and discuss an area of joint interest based on research literature together with researchers, i.e. research meets practice. The research circle involves monthly meetings over a period of one term. The choice of literature, reading assignments, and tasks are planned collaboratively by the teachers and researchers. At the end of the research circle a final product is completed. This product may include a final report or presentation which represents the work conducted within the research circle. In this paper, reflective journals, documentation of meetings, evaluations and the final product from the research circle in digital technologies is studied and analyzed. The teachers in this research circle reported new knowledge in the area of digital technologies, which involved insights into policy documents, theories, and models related to the use of digital technologies in schools and concrete examples of how to support the use of digital technologies in practice in their schools. The final product was seen and important as both a documentation of the progress of the work in the research circle as well as a product that could be used in practice to support colleagues' understanding of and work with digital technologies. From the teacher perspective, challenges were reported in the time for reading and preparation for the research circle meetings. From

the perspective of the researchers, the work in the research circle appeared to deepen the discussions and knowledge of the teachers. Continued work in research circles could involve increased support of teachers' responsibility for and ownership of the work in the research circle. Further development could also be a research circle on digital technologies with an action-based research design.

ATTENTION UNDER PRESSURE: THE IMPACT OF TECHNOLOGY-ENHANCED LEARNING ENVIRONMENT ON TEACHER PRESENCE

Tiffany Winchester, Emma Price, and Anthea Groessler, Federation University, Australia

This paper evaluates the use of a blended synchronous learning (BSL) approach in a university setting by specifically focusing on its impact on academics. Through qualitative interviews and reflexive thematic analysis, our findings suggest the increased number of activities teachers are asked to simultaneously perform in this environment places more pressure on their attention system, which negatively impacts their ability to be present. We suggest that this learning approach alone, even when supported with extensive professional development and pedagogy, may not be the most effective solution for improving teacher presence and student engagement in a classroom.

FILM MAKING SKILLS FOR A PERSONAL BRANDING: FMID PROJECT

Alicia de Pablo Sánchez, FUNDACIÓN SIGLO22, Spain

It is clear that audiovisual culture is present in personal and professional development as well as in access to the labour market. Developing the skills to create audiovisual products is almost an obligation if we want to make our way in the professional world.

Film Making for Youth Inclusion and Development is an Erasmus+ project that aims to create an environment for the creation of audiovisual resources for those students who are

disengaged from the learning process, at risk of dropping out of school and therefore not having the same opportunities as others to develop a professional career. It is therefore important to encourage young people's commitment to their education and to equip them with skills that will increase their employability potential. This project aims to promote digital literacy among young people and teachers. In short, to have the desire to learn and to generate a future project through the creation of videos.

Hall Electra

THE EUROPEAN HEART PROJECT - STRENGTHENING DEMOCRATIC VALUES ON THE BASIS OF BASIC HUMAN NEEDS

Facilitators: Susanne Linde and Klaus Linde-Leimer, Blickpunkt Identität, Austria
George Sarrigeorgiou, Directory of Secondary Education of East Attica, Greece
Nancy Pyrini, PARAGON-eduTech, Greece

12:00 – 12:30 – **The EU-HEART Online Platform and Mobile Application**

The HEART Online Platform serves as a virtual learning environment where young users as well as teachers, headmaster, and representatives of out-of-school youth facilities are able to find all materials developed in this project. Teachers can familiarise themselves with the concept step-by-step and search for suitable teaching materials.

The HEART Mobile Application is developed for Android mobile devices. The users (pupils) are able to download and have direct access to selected parts of the material hosted by the Online Platform.

To make it more fun, the online platform is based on the principles of gamification by applying typical game elements in a non-game context. These game-typical elements include experience points, high scores, progress bars, rankings, and virtual goods or awards.

Learn more about the European Heart Project here: https://training.european-heart.eu/

12:30 – 13:00 – **Hands-on or experiential learning with the eLearning Platform**

13:00 – 13:30 – **Let's Play the ACT-Game**

13:30 – 14:00 – **Completion of the evaluation questionnaire by the participants**

14:00 – 16:00 – Lunch, Callirhoe Restaurant

16:00 – 18:00

Hall Terpsichore

SESSION 3: ENERGIZING TEACHERS AND LEARNERS TO MAXIMIZE SKILLS AND SUSTAINABLE CONSUMER PRACTICES
Moderator: Professor Mariano Sanz Prieto, Universidad Autónoma de Madrid, Spain

POST-COVID-19 TEACHING: REFLECTIONS ON EXPERIENCES AND LESSONS LEARNT
Marcia Håkansson Lindqvist, Mid Sweden University, Department of Education, Sweden
On December 31, 2019, the first case of Covid-19 was reported in Wuhan, China. Covid-19 quickly spread worldwide. For many countries, this involved a shift to online learning for educational institutions on many levels. As things more or less have moved back to a new-normal state, it is of interest to reflect upon the changes which have been experienced and the lessons learnt as teachers within the ICICTE community. This presentation reports on the results of a collaborative workshop based on written reflections as a way to capture and explore

post-Covid-19 innovative digital trends in teaching during the ICICTE22 conference. The contributions showed challenges in being locked into Zoom, more distance to students and difficulties for students who worked and studied at the same time. Possibilities involved more efficient use of time, redesign of teaching and increased knowledge of technology. Here, hopes were expressed that post-Covid-19 teaching would shift the focus from technology toward technology to support quality in higher education. As this presentation reports on a very small sample, future work should involve a larger sample of teachers' deeper reflections through interviews. Further, this work should more clearly identifying challenges and possibilities. This work is of importance for not missing opportunities for educational change in post-Covid-19 teaching in higher education.

TEACHING KIDS THE BASIS OF CODING: MAKE IT FUN!

Nuria de Pablo, Jaitek Tecnologia Y Formacion, Spain

Digital skills are becoming increasingly important in today's society. In order to prepare young people for their future, schools should pay more attention to the ability to write in programming language for e.g. a website or a programme.

In a computer-centred society, primary school pupils should - in addition to mathematics, language and geography - also learn a computer programming language. In the future it will probably be as important to know how to program as to speak English correctly. The knowledge required for this will help to understand the "background" of the devices we use every day. Programming teaches children to create rather than consume. By programming, they learn skills such as

- Creative and logical thinking
- Spatial insight
- Problem solving skills
- To structure things/situations
- Collaboration

Learning to code does not necessarily aim to train children to

become computer programmers, but to teach them skills that will be very useful for any choice of studies or work in the future.

The CODING4KIDS project, co-funded by the Erasmus+ programme, aims to do just that, to encourage logical thinking in primary school pupils. It does this through the most important thing: teacher training. Through an online platform with digital resources, the aim is to provide primary school teachers with the necessary tools to integrate computational thinking into their lessons and to teach children these topics in a fun, gamified, and playful way, in the form of lesson plans.

RoboAquaria: ROBOTS IN AQUATIC ENVIRONMENTS TO PROMOTE STEM AND ENVIRONMENTAL AWARENESS.

Nancy Pyrini, Konstantinos Karampelas, George Sarrigeorgiou, University of the Aegean, Greece

Our comparative analysis study, conducted as part of the RoboAquaria project, collected valuable insights from five European countries—Croatia, Cyprus, Greece, Ireland, and Italy—regarding good practices, tips, and guidelines for STEAM education, educational robotics, and environmental education. The primary objective of the RoboAquaria project is to explore the fundamental scientific aspects of climate change, specifically within the marine environment. In addition, the project aims to develop pedagogical approaches and tools that empower teachers to effectively address the climate crisis and promote environmental sustainability within their classrooms.

To integrate students' understanding of the climate crisis into classroom activities, the project involves the creation of a robotics aquarium. This innovative approach encourages students to think critically about climate-related issues while engaging in hands-on activities with educational robotics.

Furthermore, the study aimed to enhance teachers' competence and confidence in utilizing educational robotics as a valuable tool in their teaching practices. By collecting

and analyzing best practices and guidelines from the selected countries, the study provides valuable insights into effective strategies for implementing STEAM education, educational robotics, and environmental education.

Ultimately, the goal of this comparative analysis study is to contribute to the wider adoption and uptake of education practices that address climate change, environmental sustainability, and the integration of educational robotics within classrooms.

GAMIFYING ENERGY EFFICIENCY TO IMPROVE ENVIRONMENTAL EDUCATION: BENEFY PROJECT

Guillermo Sanz Ruiz-Esteller and Alicia Corral Marugan, FUNDACIÓN SIGLO22, Spain

It has long been recognised that traditional energy resources are limited and that CO_2 emissions from their current use threaten our climate. However, in addition to being a fundamental pillar of human progress, there is a high demand for energy for sustainable development. Moderation of energy demand is one of the five dimensions of the Union's strategy and the objective is to reduce consumption by at least 32.5% by 2030 (Regulation revised on 21/11/2018 on 2012/27/EU).

Currently, companies are starting to emphasise energy efficiency, mainly to improve costs and consequently competitiveness, but without sufficient awareness among members of the organisations.

On the other hand, at the individual level, there is always an interest due to the cost of energy consumption for some individuals and families. In both cases, in addition to this awareness, there is also a lack of knowledge about what we can do and what habits to follow.

BENEFY is an Erasmus+ project with the challenge of developing a variety of gamified resources, tools and e-learning to promote not only awareness, but also to create habits so that energy efficiency is always in the decision-making process. In this way, there will be an improvement of energy efficiency in

households and at the personal level on the one hand, but also in industry, offices, and businesses as learners enter the labour market.

MIRACLE: COMICS AND ILLUSTRATIONS AUGMENTED TO TACKLE CLIMATE CHANGE IN PRIMARY EDUCATION

Nancy Pyrini and Darya Yegorina, CleverBooks, Ireland
Evangeline Marlos Varonis and George Sarrigeorgiou, PARAGON-eduTech, Greece
Ġorġ Mallia, University of Malta, Malta
Mariano Sanz-Prieto and Gema de Pablo González, Jaitek Tecnologia Y Formacion, Spain

MIRACLE develops a robust learning environment including AR to upgrade teachers' and pupils' digital and sustainability skills by engaging them in the co-creation of digital comics about Climate Change. Active comic creation challenges pupils to increase digital literacy as they identify arguments that deny CC, spurring their engagement, inspiring their creativity, and increasing their agency as they identify concrete behaviours they and others can implement to address this global problem. The project will implement:

- a Teacher Training Framework to address Climate Change through the co-creation of AR Comics;
- an inclusive DLE in which pupils raise their awareness about environmental and climate change challenges and achieve behavioural changes as regards individual preferences, consumption habits, and lifestyles;
- validation of all results with the participation of the participants and stakeholders;
- measurement of the impact of the project for the European Green Deal.

DIGITAL TEACHERS: CLASSROOMS WITHOUT BORDERS CREATED WITH DIGITAL TECHNOLOGIES

George Sarrigeorgiou, PARAGON-eduTech, Greece

The Digital Teachers project aims to enhance teachers' digital skills and promote the integration of a STEAM (Science, Technology, Engineering, Arts, and Mathematics) approach in school education. Digital Teachers aims to achieve this by creating interactive learning environments based on artificial intelligence, developing digital content and educational materials, and introducing innovative methodologies in education. Our ultimate goal is to contribute to the digital transformation in education, supporting the teaching profession and expanding the capacity of schools and institutions in the field of school education.

ICICTE 2022 Keynote session

Saturday, July 8, 2023

Hall Terpsichore

10:00 – 11:00 – Keynote

INTRODUCTION OF THE KEYNOTE SPEAKER
Professor Emeritus Costas Tsolakidis
Climatopia Scientific Responsible, University of the Aegean, Greece

Keynote Address
THE ROLE OF MOOCS FOR EMPOWERING PEOPLE TO THINK CRITICALLY ABOUT GLOBAL WARMING
Professor António Moreira Teixeira
Associate Professor at Universidade Aberta (UAb), Portugal

11:00 – 12:00 – Philosophers' Cafe (coffee included)
Moderator: Ġorġ *Mallia, University of Malta, Malta*

12:00 – 13:30 – Concurrent Sessions

Hall Terpsichore

WORKSHOP: DIGGING IN THE DIGITAL COMPETENCES OF FUTURE EDUCATORS
Facilitators: Mariano Sanz-Prieto and Gema de Pablo González,
Jaitek Tecnologia Y Formacion, Spain

Objectives:
The workshop aims to
- create awareness among educators about the importance of digital competences in the field of education;
- promote the adoption and implementation of DigCompEdu as a standard framework for assessing and developing digital competences among educators;
- provide insights and strategies to bridge this gap and

enhance the digital skills of educators;
- facilitate an anonymized comparison of the development of digital skills among education students at the European Union (EU) level;
- provide a platform for educators, researchers, and policymakers to collaborate, exchange knowledge, and share best practices in enhancing digital competences.

DIGGING encourages networking and the sharing of experiences, initiatives, and innovative approaches to digital skills development in education.

Outline

The digital competences of educators is a priority at European level, and DigCompEdu, the European Framework for the Digital Competence of Educators, would be the main reference for positioning and measuring these digital competences, following a model similar to the one we are used to using to measure language competences. The OECD report "Skills for a Digital World" (2016) states that the increased use of digital technologies generates a clear shift in the demand for skills, which poses two major challenges to skills development systems, including formal education, training, and the recognition of skills acquired through non-formal learning.

The DIGGING project, co-funded by the Erasmus+ programme, addresses the skills of university teachers working in faculties of education and the digital competences of future primary school teachers together with the measurement of the evolution of the acquisition of these competences. The overall objective of DIGGING is to improve the digital skills of future teachers, and to this end the project, among other outcomes, will create the technical environment to develop a Statistical Analysis System that will allow education students to measure the evolution of their digital skills throughout their studies, their teachers to see the evolution of their students, and the EU to make an anonymised comparison of how these digital skills are developing in education students.

Hall Electra

Session 4 (online): INNOVATIONS IN LEARNING DESIGN AND IMPLEMENTATION
Moderator: Evangeline Marlos Varonis, PARAGON-eduTech, Greece

APPLYING THE QUALITY MATTERS RUBRIC TO ASSESS ACCESSIBILITY
Kimera Moodley and Mari van Wyk, University of Pretoria, South Africa

The exponential growth of online learning in recent years highlights the importance of making e-learning material accessible to all students. Therefore, accessibility is a critical component of online learning, and ensuring that courses stay accessible to all students is essential. The Quality Matters (QM) rubric is a widely recognised tool for evaluating the quality of online courses.

The study used a qualitative approach to assess the accessibility of a short course using the QM rubric. Although the QM rubric is designed to evaluate course design and content, we only used it to assess the overall accessibility of the course. The study found that the QM rubric was an effective tool for evaluating the accessibility of the course highlighting both the strengths and the weaknesses of course design. Although a high score on the QM rubric indicated that it was accessible to a wide range of students, the fact that one of the essential standards (8.3) was not met resulted in the course being seen as not accessible to students with disabilities. The study identified areas where the course could be improved to make it even more accessible, such as providing heading styles in tables and documents and ensuring that all images had appropriate alt text. Overall, the study highlights the importance of instructors and learning designers using tools to ensure that their courses are accessible to all students, regardless of their abilities.

PLAYING AN INDIGENOUS SOUTH AFRICAN GAME AS AN INDICATOR OF SUCCESS FOR LEARNING PROGRAMMING IN HIGHER EDUCATION INSTITUTIONS

Tendesai J.W. Chinamasa and Nola Payne, The Independent Institute of Education, South Africa

This paper explores morabaraba, a strategy-based indigenous game, to develop problem-solving skills in computer programming students enrolled in South African courses. This paper will not test any hypothesis or analyse data collected, but rather explore the morabaraba game play required to successfully solve programming problems. Morabaraba is a traditional South African game that has been passed down through generations of Africans requiring strategic and analytical thinking to win the game. The result of the research identifies the critical thinking skills and abstract thoughts required for successful problem solving and correlates these to the skills that morabaraba develops in players.

VRTEACHER PROJECT: A REVOLUTIONARY APPROACH TO TEACHER EDUCATION USING VIRTUAL REALITY

Kalliopi Evangelia Stavroulia and Andreas Lanitis, Cyprus University of Technology and CYENS Centre of Excellence, Cyprus; Anastasia Pyrini, University of the Aegean, Greece; Mariano Sanz Prieto and Isabel Álvarez Testillano, Fundación Siglo22, Spain; Sarah Keegan and Martin Debattista, Commonwealth Centre for Connected Learning, Malta; Paloma Díaz Pérez and Telmo Zarraonandia Ayo, Universidad Carlos III de Madrid, Spain; Christos Roussias, Cyprus Pedagogical Institute, Cyprus

Virtual Reality (VR) has gained significant attention in the field of teacher education, offering unique opportunities for immersive and experiential training. This paper presents the VRTEACHER project, which explores the use of VR as a transformative tool in enhancing teacher practical training. The project aims to investigate the potential impact of VR on teachers' personal and

professional development through experiential learning in real-life based scenarios. The investigation adopts a comprehensive approach, employing a combination of pre, post, and follow-up questionnaires along data obtained during the use of the VR application in real-time. The initial findings demonstrate significant changes in participants' empathic concern, perspective taking, and attitudes after the VR intervention towards distance education, inclusive education, and cultural intelligence. The VR experience facilitated an increase in participants' perspective-taking skills, indicating the potential of VR to enhance teachers' understanding of their students' perspectives and emotional states. Furthermore, preliminary results indicate a long-term impact of the VR intervention, showing a sustained increase in participants' attitudes even four weeks after the VR implementation. These outcomes highlight the potential of VR to positively influence teachers' perceptions and readiness to embrace innovative teaching methodologies.

TOWARDS AI-POWERED LEARNING MANAGEMENT SYSTEMS: AN EXPLORATION OF OPPORTUNITIES AND CHALLENGES FOR HIGHER EDUCATION IN SOUTH AFRICA

Siyanda Simelane, The Independent Institute of Education - Faculty of ICT, South Africa

Emerging technologies have continuously changed the face of online teaching and learning. In the past, aspects of online learning platforms remained focused on the interface and the provisions of coursework and formative grades of activities in a learning environment. The shift in this approach has been evidenced by the rise of disruptive technologies, including Artificial Intelligence (AI). AI has been earmarked as an enabler of smart solutions in different industries, including education. The newly developed Software as a Service (SaaS) Learning Management Systems (LMS) have capabilities to render on-demand effective and efficient information services for students and educators ready to be used to effectively manage teaching

and learning. The inclusion of AI provides the disruption that allows students to customize and personalise learning where learning happens anytime, anywhere using any digital device. This study aims to explore the disruption, opportunities, and challenges AI brings to teaching and learning in online platforms in higher education. The study is an exploration of literature and practices to determine how AI can shape education.

A review of selected AI-powered LMS implementations, plans, and ongoing research reveals that opportunities can be explored to foster the development of AI-powered LMS globally. The selection included both private and public higher institutions of education in South Africa implementations and its opportunities and challenges. Data from students and educators in South African higher education institutions were analysed based on constructs important in the subject matter. The study makes recommendations on innovative strategies to build AI-powered teaching and learning spaces to leverage teaching and student learning, success, experiences, and lifelong capabilities using efficient LMS technologies. The study answers the questions of teaching and learning disruptive innovations, online instruction, and the future of higher education in the disruptive technologies era. The findings open opportunities for further research to provide needed solutions for the research, educator, policymakers, and educational material developers.

BLOCK CHAIN-BASED COMPANIES' USE OF SOCIAL MEDIA TO RAISE CLIMATE CRISIS AWARENESS: CONTENT ANALYSIS OF THE SINGLE EARTH TWITTER ACCOUNT

Hazal Koray Alay, Batman University, Management and Organization, and Şeyma Esin Erben, İstanbul Gelişim University, Turkey

Blockchain technology is commonly defined as a technology that allows for digital transactions to be publicly accessible and secure through a peer-to-peer (P2P) distributed ledger, without the need for approval or permission from a central

authority. While the use of blockchain technology in fintech has gained prominence over the past decade, there is a growing interest in utilizing blockchain to combat the climate crisis. While sustainability remains a notable concern and constraint for blockchain technology due to its decentralized nature and significant energy consumption in transaction processing (Hassani et al., 2019, pp. 30-34), it is also a technology that enables various steps to be taken, such as increasing the accountability of companies, creating networks that involve all social stakeholders, and tracking and reporting real-time ecological footprint data along supply chains (European Commission, 2022).

This study aims to explore how blockchain-based companies leverage social media to raise awareness about the climate crisis and combat its effects. Specifically, the study examines the type of content (educational, promotional, case studies, free resources, etc.), the calls to action and solutions highlighted, the target audience, the type of interaction provided, and how interaction is maintained, as well as changes in content over time.

Additionally, the study seeks to investigate whether blockchain technology is mentioned in relation to sustainability. To answer these questions, the blockchain-based company Single Earth in the study uses a business model by tokenizing the ecological value of how lands protect biodiversity against the deterioration of the ecological balance of the planet. While the company actively uses social media as a marketing tool, it also shares content to increase ecological awareness. For this reason, Twitter content, which is one of the social media tools used by Single Earth, where ecology and political content are used more frequently in setting the agenda (Erben, 2019), is chosen as a sample in this study. The research is limited to an analysis of the content shared by Single Earth within the last year.

13:30 – 14:00 – Closing Ceremonies

CLOSING REMARKS
Professor Ġorġ Mallia
ICICTE Chair of the Scientific Committee,
Head of the Media and Communications Department, Faculty of
Media and Knowledge Sciences, University of Malta, Malta

FRIEND OF THE CONFERENCE AWARD 2023
Nancy Pyrini
ICICTE Founder and Director, Greece

ANNOUNCEMENT OF ICICTE 2024
Professor Emeritus Costas Tsolakidis
University of the Aegean, Greece

14:00 – 16:00 – Lunch

20:00 – Greek Night
Pick up from the Heliotrope Hotel to
Kalamies Restaurant,
Aerodromio Neapoli, 81100 Mytilene
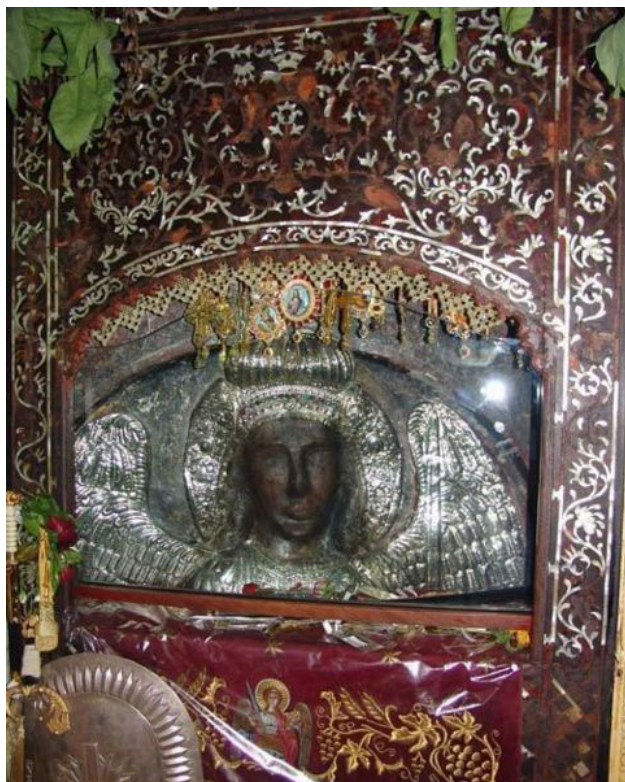
After Conference Activity● ● ● ● ● ● ● ●

Sunday, July 9
A Day Trip to Mithymna/Molyvos
(this will include both walking and swimming – dress and pack accordingly!)

Programme
10:00 – Pick up – Heliotrope Hotel

11:00 – 12:00 – Holy Pilgrimage Church of Taxiarches Mantamados of Lesvos

Icon of Archangel Michael the "Mantamados".

Source: Orthodox Wiki. Archangel Michael of Mantamados, https:// orthodoxwiki. org/Archangel_ Michael_of_ Mantamados

On the island of Lesvos, one can visit the miraculous icon at the Byzantine Monastery of the Taxiarchis (Archangel) Michael in the district of Mantamados. This monastery is situated in the northeast part of Lesvos, 36 km from Mytilini. The history of this monastery and the icon are closely connected to the history of the island of Lesvos.

This is a famous monastery, made of stone. The monastery was most probably abandoned in 1462, the year of the island's occupation by the Ottoman Turks. In the past, the monastery functioned as a men's convent and is first mentioned in a 1661 ecclesiastical document. The small church within the monastery originally dates from the 17th century but was replaced by a larger church in the 18th century. The present church (cathedral) was constructed in 1879 and follows a three-aisled basilica architectural type. The monastery is structured para-metrically around this church.

Note: A dress code applies to enter the Monastery. We suggest you wear something that is comfortable and shows less skin.

Outside view of the Castle of Mithymna

© Ministry of Culture and Sports. Source: Ministry of Culture and Sports. Odysseus. Castle of Mithymna/Molyvos. http://odysseus.culture.gr/h/2/gh251.jsp?obj_id=15685

12:00 – 14:00 – Castle of Mithymna/Molyvos

The castle sits proudly on the hill overlooking the harbour and protecting the town. The castle of Molyvos is the second largest and most important castle on Lesvos. In its present form, it is largely a work of the Gatelouzian rulers with many later additions and repairs during the Ottoman rule and with modern repairs that are hardly distinguishable as they have been made with the same material and with the same grouting. *Ticket*: 3 euros, not included in the trip ticket

14:00 – 17:00 – Petra Village

Petra Village is a beautiful traditional village in the Northwest part of Lesvos Island, with a long sandy beach. Its biggest attraction is the imposing rock – a volcanic neck – of 40 meters located in the center of the settlement. The church of Virgin Mary dominates the cliff top. Built in 1724, it has 114 carved steps that will lead you to the top. Petra has a fully organized beach where you can do water sports and scuba diving. There

Lesvos Petra
Photos, Map, See & Do. https://www.greeka.com/eastern-aegean/lesvos/villages/petra/

are restaurants and bars, most of which are right next to the sea. Walking through the settlement you will come across many remarkable neoclassical buildings from the 19th and 20th Century. The Mansion of Vareltzidena with tapestries from the 1800's is a site you shouldn't miss. Petra's new Schengen Gate operating from April till September attracts cruise ships and sailing boats from all over Greece and Turkey and facilitates a day trip to Turkey.

Skalla Kallonis Beach
Photo: Trip Advisor: https://www.tripadvisor.com/

17:00 – 19:00 – Skalla Kallonis Beach

Lesvos is famous for its many bird species. Surrounding Skala Kallonis you will find several salt marches where you can spot flamingos, pelicans, and black storks for example. Birdwatchers from all over the world have visited the island.

There we will see the picturesque harbour, long sandy beaches and a beautiful calm bay!

The Heliotrope Hotel, Lesvos, ICICTE 2023 venue

www.icicte.org