



CNaPPES.22

8º Congresso Nacional de Práticas Pedagógicas
no Ensino Superior

E-book

CNaPPES 2022 **8º Congresso Nacional de** **Práticas Pedagógicas no** **Ensino Superior**

14 e 15 de julho de 2022



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Enfermagem de Coimbra

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Índice

Nota Introdutória	XI
Organização	XIII
Programa	XV
Artigos	1
 Inovação – Inovação e desenvolvimento curriculares; Inovação institucional	
Uso do smartphone e do tablet em Histologia prática	3
José Manuel Neves; Lígia Gomes	
Introdução à Docência Universitária - Um ciclo de formações da Universidade do Porto	9
Catarina Sousa; Maria Pinto; Rita Sinde	
One Health/ Saúde Única - Contributo da Educação em Enfermagem num mundo em Mudança Climática	17
Ana Paula Teixeira de Almeida Vieira Monteiro	
O impacto do líder de grupo nas aulas laboratoriais	24
Ana Luísa De Sousa-Coelho; Mónica T. Fernandes	
Design thinking method for cocreation process	31
Ana Pereira; Sandrina Moreira; Adrienn Tóth	
Inovar na Formação de Professores – a metodologia CienTE	37
Margarida Quinta e Costa; Isilda Monteiro; Vítor Ribeiro	
Este é o seu gabinete; boa sorte!	43
Ricardo Gonçalves	
Inovação no Desenvolvimento do Curso Online Acessível a Todos (MOOC) sobre “Redes Ultra-densas 5G e sua Evolução”	48
Fernando J. Velez; Manuel Lopez-Morales; David Alejandro Urquiza-Villalonga; Diego Gonzalez-Morin; Ana Armada	
 Tecnologias – na sala de aula, em projetos transversais	
Grafos de aprendizagem através de tecnologia digital	57
Helena Brás; Amélia Caldeira; Alzira Faria; Isabel Figueiredo; Alexandra Gavina; Isabel Pinto; Ana Júlia Viamonte	
Comunidade RED: Primeiros passos de uma comunidade de prática na área das tecnologias digitais em educação	63
Adriana Cardoso; Joana Souza	
 Desenvolvimento de valores e deontologia	
Avaliação distribuída com recurso a Portefólio: o caso especial de uma atividade de aprendizagem supra curricular no domínio da formação ética	71
Inês Nascimento	
Questões de integridade científica na formação pré-graduada nas ciências da vida	82
Pedro Dias Ramos; Maria do Rosário Almeida; Maria Strecht Almeida	

Experiências em unidades curriculares específicas – didática das UC

Journal Club como estratégia pedagógica na formação de estudantes de enfermagem em Ensino Clínico 91
Catarina Alexandra Rodrigues Faria Lobão; Isabel Maria Pinheiro Borges Moreira; Maria do Céu Mestre Carrageta; Rui Filipe Lopes Gonçalves

Aprendizagem Baseada em Projeto para a Sociedade na formação para a docência 97
Elsa Ribeiro-Silva; Celina Salvador-García; Xavier Francisco-Garcés; Beatriz Gomes

Seminário em aulas de psicologia da saúde no curso de enfermagem: Percepção do sentido da interdisciplinaridade 107
Ana Paula Forte Camarinho

Maior Diversificação de Atividades, Maior Integração de Perfis de Estudantes 112
Paulo Sérgio Bogas

Ensino de Matemática no Ensino Superior pós-Covid 119
Ana Júlia Viamonte; Isabel Pinto[†]

Mini-testes com perguntas diferentes para cada aluno no Moodle 125
Sandra Gaspar Martins

Implementação de um modelo pedagógico de estudos de caso: colaboração entre estudantes e profissionais de Farmácia em atividade 132
Fernando Moreira; Ângelo Jesus; Ana Isabel Oliveira; Cláudia Pinho; Marlene Santos; Patrícia Correia; Rita Oliveira; Agostinho Cruz

Utilização da espectrofotometria ultravioleta-visível como técnica adequada para o ensino de validação de métodos analíticos 138
Fernando Moreira; Patrícia Correia

Trabalho por Projeto: Conceção de uma consulta de Enfermagem para adolescentes recorrendo a ferramentas tecnológicas 145
Ana Maria Poço Santos

Heteroavaliação de trabalhos académicos teóricos de pesquisa por estudantes universitários durante um workshop online 151
Fátima Leal

Journal Club Enquanto Estratégia Pedagógica em Ensino Clínico 157
Rosa Maria dos Santos Moreira; Teresa Maria Campos Silva; Júlia Maria das Neves Carvalho; Ana-Bela de Jesus Roldão Caetano; Ana Maria Poço dos Santos; Cláudia Patrícia da Costa Brás; Marlene Isabel Lopes; Catarina Sofia da Silva Cortesão; Elsa Maria Vieira Veloso; Helena Sofia Duarte; Sónia Margarida dos Santos Coelho

O modelo de ensino e aprendizagem sala de aula invertida na componente de prática laboratorial: Suporte tecnológico e interação presencial 163
Anabela Mendes; Maria Eulália Novais; Maria José Gois Paixão; Cristina Saraiva; Sónia Colaço; Maria João Delgado; Fernanda Bernardo; Delmira Pombo

Journal Club: quais as áreas de interesse dos estudantes de enfermagem? 170
Rui Gonçalves; Maria do Céu Carrageta; Marília Neves; Catarina Lobão

Desenvolvimento de Competências Transversais

Business-University collaboration in designing Work-based experiences 177
Rita Payan-Carreira; Hugo Rebelo; Luís Sebastião; Margarida Máximo

Implementação de um programa terapêutico em contexto da prática clínica	183
Dina Costa; Isabel Gil; Adriana Coelho; Carina Gomes; Alberto Barata; Paula Cordeiro; Maria de Lurdes Almeida	
Competências transversais emergentes nas áreas STEM: empreendedorismo e inovação em Saúde	191
David M. Pereira	
Modelos Pedagógicos – PBL; Simulação; Aprendizagem colaborativa; Tutorias	
Jogos tradicionais em sala de aula: aprendizagem de conceitos-base em ambiente colaborativo	199
Emília Malcata Rebelo	
Pedagogical and learning experiences from Demola project – the facilitator’s perspective	205
Sandrina B. Moreira	
Mini-Project of Ethanol Production from Waste as a Teaching Methodology	212
Nilmara Dias; Teresa Carvalho; Alexandre L. S. Reis; M. Fátima Serralha	
Avaliação e intervenção em gerontologia com recurso ao <i>Project Based Learning</i>	219
Raquel Gonçalves; Filipa Sousa Luz; Augusta Manso; Catarina Fiúsa; Joana Monteiro; Patrícia Silva; Carla Faria; Alice Bastos	
Aprendizagem com base em processos de cocriação: o exemplo do DEMOLA® no Instituto Politécnico de Setúbal	225
Alcina Dourado; Alice Ruivo; Bernardo Ramos; Célia Picoito; Fátima Serralha; Fernando Angelino; Helena Cária; João Vinagre; José Pires; Nuno Pereira	
<i>Inquiry-Based Learning</i> no Ensino Superior: Principais potencialidades e limites	233
Patrícia Silva; Joana Monteiro; Augusta Manso; Carla Faria; Catarina Fiúsa; Filipa Luz; Raquel Gonçalves; Alice Bastos	
O Impacte da Metodologia Problem Based Learning na Aprendizagem de Patologia do Curso de Licenciatura em Enfermagem	238
Paulo Marques	
Challenge Based Learning plus (CBL+) Aplicação da metodologia em grandes grupos de Engenharia	242
Victor Neto; João Dias-de-Oliveira; Rui Moreira	
Reabilitação da aprendizagem com a estratégia <i>flipped classroom</i>	250
Paulo Oliveira	
Impactos dos Programas de Apoio no Sucesso Escolar: O Caso dos Estudantes Finalistas	257
Maria Dulce da Costa Matos e Coelho; Sandra Cristina Dias Nunes	
Promovendo a Aprendizagem e a Saúde com Challenge Based Learning	263
Mário Alexandre Gonçalves Lopes; Ana Rita Vieira Pinheiro	
Desenvolvimento de modelo pedagógico para a Inovação e a Criatividade no âmbito da Comunicação Audiovisual	270
Mónica Silva Santos; Vera Cristina Ribeiro	
Inventado há 31 anos, o <i>Peer-Instruction</i> mudou para sempre a minha forma de leccionar	277
Filipe Tiago de Oliveira	
Avaliação de aprendizagens; Avaliação do ensino; Avaliação institucional	
Riscos e Oportunidades de Um Sistema de Ensino e Avaliação Híbrido nas Ciências da Saúde	285
Cristina de Mello-Sampayo; Maria Cristina Marques	

Proposta de um modelo para Avaliação da Evolução de Competências Transversais e Técnicas em Cursos de Especialização Tecnológica	291
Helder Rodrigo Pinto; Luís Borges Gouveia; Miguel Trigo	
Diferenciação de classificações individuais em trabalhos de grupo	298
Paulo Jorge Santos	
Itens de avaliação em duas etapas: trabalho de grupo seguido de teste individual	303
Susana Fernandes	
Metodologia para aferir a carga média de trabalho necessária em função dos ECTS atribuídos a cada unidade curricular	310
Maria Dulce da Costa Matos e Coelho; Sandra Cristina Dias Nunes; Susana Maria Teixeira da Silva; Maria da Conceição dos Santos Contreiras Salema Aleixo	
Recurso a projetos com utilidade pública no primeiro ano do ensino superior: percepções sobre uma unidade curricular da área da saúde	315
Ana Rita Vieira Pinheiro; Mário Alexandre Gonçalves Lopes	
Proposta de avaliação como processo de aprendizagem crítica: O uso de metodologias ativas num contexto online	321
Georgia de Souza Assumpção; Carolina Maia dos Santos; Alexandre de Carvalho Castro	
Formação de Professores	
Redes Virtuais de Inovação e Apoio na Formação Contínua e Inicial de Professores	331
Margarida Morgado	
Práticas de design instrucional na elaboração de módulos de formação em Educação a Distância e Digital para professores do Ensino Superior	338
Fernanda Araujo Coutinho Campos; Helena do Carmo Banza Manuelito; Cláudia Patrícia Lopes do Carmo Trigo Asseiceiro; Marco António Gonçalves Dias; Diogo Casanova	
Escritas inacabadas nos horizontes da formação de professores	344
Yara Cristina Alvim	
Percepções dos Docentes Sobre a Formação Pedagógica da UTAD	350
Tatiana Ferreira; José Paulo Cravino	
Avaliação das necessidades de formação de docentes do ensino superior: a experiência da Escola Superior de Enfermagem de Lisboa	355
Florinda Sá; Tiago Nascimento; Carla Nascimento	
Contributos de uma experiência formativa de mobilidade Erasmus para a docência no Ensino Superior	360
Susana Jorge; Sofia Barreira	
Dinâmicas colaborativas entre a universidade e a escola no contexto da formação de professores: Uma experiência no desenvolvimento do currículo em Educação Física	366
Paula Batista	
Investigação em práticas pedagógicas	
Promoção de competências metacognitivas em estudantes em ambientes digitais	373
Maria de Fátima Goulão	

Promoção de uma pedagogia para a autonomia em contexto universitário – Um estudo de caso no ensino do francês como língua estrangeira	380
Bruna Plácido; Flávia Vieira	
As aulas invertidas e o desenvolvimento da cooperação como uma competência académica em ciências farmacêuticas	387
Fernando Remião; Amélia Veiga	
Ensino do Empreendedorismo em Enfermagem: Impacto no Perfil Empreendedor dos Estudantes	392
Helena Loureiro; João Tavares	
Peer Feedback: Guideline de Implementação em Contexto de Ensino Clínico de Enfermagem	397
António Manuel dos Santos Ferreira; Beatriz Rodrigues Araújo; José Joaquim Ferreira Matias Alves; Fernanda Maria Príncipe Bastos Ferreira; Liliana Andreia Neves da Mota	
Nota Final CNaPPES.22	403

Design thinking method for cocreation process

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Abstract

Co-creation using design thinking allows us to use innovative methods of learning and improvements of skills. We will give the practical example that occurred during the live laboratory of the E³UDRES² European University (European University Alliance comprising St. Pölten UAS, Polytechnic Institute of Setúbal, Hungarian University of Agriculture and Life Sciences, UC Leuven-Limburg UAS, Politehnica University Timioara and Vidzeme UAS. Funded by the Erasmus+ program of the European Commission & additionally financed by national Erasmus+ funds in the OeAD-GmbH). We will do so through a living laboratory experience on the theme of Well-being and Ageing, notably on increasing fish intake and exercising for the development of a healthy and active lifestyle. In this case study, the co-creation steps in solving real problems considered the overall needs and specifically using the suggestions and recommendations of an expert stakeholder in the area. All the work was developed with a group of international students with different basic backgrounds. Over a period of six weeks, the design thinking steps were applied to create a product and/or solution. In this case, a tiktok page was developed with pedagogical videos on the use of fish (how to cook, how to season, etc.). In the final, all the students could show their work to the community. Above the process of the design method, the students shared digital competencies and developed goals and skills at different levels: communication, self-confidence, teamwork, and the improvement of pedagogical content about the theme.

Keywords: Design Thinking, Learning, live laboratory.

1. Contextualization

E³UDRES² stands for Engaged and Entrepreneurial European University as Driver for European Smart and Sustainable Regions. It is one of 41 “European Universities” - a flagship initiative of the European Union that aims to build strong and long-lasting alliances between universities all over Europe in order to strengthen the European Higher Education Area and create a European Education, Research and Innovation Area - allowing a new generation of creative Europeans to cooperate across languages, borders and disciplines to address societal challenges and skill shortages faced in Europe.

The E³UDRES² European University Alliance comprises a total of six international partner universities: The Polytechnic Institute of Setúbal (Portugal), the Hungarian University of Agriculture and Life Sciences (Hungary), UC Leuven-Limburg (Belgium), the Politehnica University Timișoara (Romania), and the Vidzeme University of Applied Sciences (Latvia), all under the leadership of the St. Pölten University of Applied Sciences (Austria). It is funded by the Erasmus+ program of the European Commission and additionally financed by national Erasmus+ funds in the OeAD-GmbH.

The alliance aims to promote the development of small and medium-sized cities and their rural environments into smart and sustainable regions and shapes a prosperous future with the best possible quality of life for self-determined people in a progressive European society. E³UDRES² also co-creates outstanding ideas and concepts for future universities, integrates challenge-based education, mission-oriented research, and human-centered innovation as well as open and engaged knowledge exchange as interrelated core areas and aims to establish an exemplary multi-university campus across Europe.

E³UDRES² adopts the innovative concept of I Living Labs. The I Living Lab (ILL) is a safe working and learning space that allows learners (students) to put ideas to test, succeed or fail and learn from these experiences. In doing so, they develop and sharpen their future skills and grow on a professional and personal level. Feedback and reflection play an essential role in supporting this process. Various assessment methods show the personal learning success of each student through the ILL.

The I Living Labs aim to be a safe and fun working and learning space for students with all kinds of different backgrounds. The skills they learn and evolve during the ILL enable them to create their very own tool belt to be well-equipped for future jobs and to engage in society. Students will also work with entrepreneurs, policymakers, citizens, researchers, and other groups of people, who may offer a different perspective on the challenge the students are facing. Finally, education professionals support the students in every step along the way. This mix of diverse actors holds the potential for creating innovative solutions for European regions.

2. Description of pedagogical practice

I Living Labs (ILLs) in E³UDRES² are special course units (6 ECTS) that are part of a study program (or extracurricular course units) in which teams of students from different universities set to work on a challenge. This challenge is a complex problem that has been handed in by an entrepreneur, a (non-profit) organization, or local government for example, for which there is no cut-and-dried solution and can have a positive impact on the region they are located in.

The “I” in the ILL stands for the adjectives that form the core of what an ILL should be: inspiring, innovative, intercultural, international, interdisciplinary, intersectoral, inclusive,

and intense. The didactic design of the ILL is oriented on the concept of flipped / inverted classrooms as students should be supported to evolve their self-reliance, self-efficacy, and possibilities to co-create every step of the ILL.

The student teams working together over the course of several weeks in the ILL have the benefit of profiting from all the individual backgrounds of each student - coming from different study programs, and different countries and being equipped with different skills. The teams, therefore, represent a diverse mix of people, each bringing in their own strengths to solve the challenge they are working on. This is called trans-disciplinary work - and it's also an important component in the tool belt of future jobs.

2.1. Participants and objectives

An ILL aims to perform a solution to a real problem in society and according to the methodology used, during the ILL, where each learner selects each Future Skills needs or can improve.

The core players of an ILL are the students. Consisting of various students from different institutions, countries, and disciplines, the teams regularly get together over the course of several weeks to co-create ideas and prototypes for the challenge they are working on. Also, most of the time, two Educational Entrepreneurs are the coaches of the ILL. They guide the students in their co-creative design-thinking process and stimulate them to evolve their future skills. Together with the stakeholder, they work towards smart and sustainable ideas and prototypes for the challenge presented in the ILL.

In the middle of the process, we have the contribution of a stakeholder that is the owner of the challenge - the institution representative who originally identified the problem and is willing to contribute to the development of smart and sustainable ideas and prototypes in the ILL. It can be anyone from the regional society: a business owner, a local authority, a civilian, a (nonprofit) organization, or any other regional player. Together with students and coaches (Educational Entrepreneurs), they start a process of co-creation within the ILL.

Finally, we also have T-Shaped Innovators working in each university participating in E³UDRES². They support Educational Entrepreneurs and together they evaluate, reflect, and evolve the concept of the ILLs. T-Shaped Innovators are allrounders?!, but also have very specific expertise in a certain field. This is represented by the "T" in "T-Shaped": the vertical bar on the letter represents the depth of related skills and expertise in a single field, whereas the horizontal bar is the ability to collaborate across disciplines with experts in other areas and to apply knowledge in areas of expertise other than one's own.

2.2. Methods

Team-based work in explorative projects, phenomenon-based project topics, multidisciplinary team composition, neutral facilitation, and a service design-based co-creation process are at the core of the tested co-creation concept. The tested method is divided into three steps.

The first step is co-creation preparation and team building, the aim of which is to bring actors together and create innovation challenges that are relevant, inspiring, and responsive to industry needs.

The second step of the process is teamwork, which is an intensive period have a working period of 6–9 weeks. In this case study, a process adapted to an 8-week practice period was used. The process follows a weekly pattern, with the facilitator guiding the team's work, creating work routines, and assigning weekly tasks.

The third step of the tested method is valorization, which aims to share the findings of the co-creation project with different stakeholders, take advantage of the emerging interactions and provide results and inspiration for the next stages of the innovation process.

Each week consists of two online sessions of two hours each or a single session of three hours with some extra sessions to perform eventually tasks, if is necessary. The online sessions were using Zoom (zoom.us) and Microsoft Teams.

Different strategies were used to improve the workgroup, such as icebreaker games, Kahoot, the Menti online platform (mentimeter.com), and also Miro/Mural online platform (miro.com; mural.com). Before the proposed solutions an invited stakeholder was interviewed, and learners presented their team's concept. The stakeholder also provided an experienced overview of the implementation which helped learners to further reflect on their concepts.

2.3. Evaluation

To proceed with the main tasks for the evaluation, different tools are used, such as menti, meter, kahoot, miro, among others. Working with an international team in an ILL requires tools that make this type of collaboration possible. For the basic infrastructure of the ILLs, different camps on Basecamp are used to get people together, organize their work and share the news.

Students need to perform a pitch and an e-portfolio for their evaluation. Moreover, 360-degree feedback is given. This is a type of feedback process where not just superiors but also peers and even external participants (e.g., stakeholders) evaluate learners (students). Therefore, ILL students will receive continuous feedback from Educational Entrepreneurs (EE), stakeholders, team members, and peers in different forms. They can thus develop themselves from a learner receiving feedback to responsible, self-reliant, independent, and adaptable ILL alumni.

Assessment in an ILL is challenging because learners develop their skills individually and therefore appropriate methods are needed that differ from traditional tests. The assessment method must take into account the development of the individual learner based on their personal goals and prior knowledge.

Each learner defines their personal learning goals for personal development. It is important to define personal goals at the beginning of the ILL. The learners need to set goals that they want to achieve for their future and therefore, develop their self-determination. There are two key points for personal development, reflective practice and the development of a learning community.

Therefore, learners will set their personal goals related also to the Future Skills (only a few) at the beginning and deepen them within the context of creating their E-Portfolio. The goals are set together with the EE. This creates a clear plan for the student and for the responsible EE to follow and give feedback on.

Personal goals are defined as smart goals. The alignment of personal goals includes the following topics: life and professional skills, learning, and innovation skills, information, media and technology skills, critical thinking and problem-solving, communication, collaboration, and creativity. The final grading consisted of a letter-based quantitative assessment of learners according to Table 1. Each ILL has 6 ECTS and all the learners are evaluated in an individual assessment interview.

Table 1
Grading Guide for learners

ECTS Grade		Definition	
A	Excellent	90-100%	Outstanding performance with only minor errors
B	Very Good	70-89.9%	Above the average standard with some errors
C	Good	70-79.9%	Generally sound work with a number of notable errors
D	Satisfactory	60-69.9%	Fair but with significant shortcomings
E	Sufficient	50-59.9%	Performance meets minimum criteria
F	Fail	Under 49.9%	Considerable further work is required before credit can be awarded

3. Results, implications and recommendations

In each ILL of learners must create their individual E-Portfolio with all the information related to the bi-weekly meetings performed with the "reflection partner". Also, it is expected a reflection on the development of the selected Future Skills skills and knowledge that they achieved.

In the final of all processes, according to the related Future Skills, the most worked were: Self-Effectiveness, Communication, Ambiguity, Innovation, and Capacity for Reflection. Portuguese learners were between 1 and 2 levels and want to achieve 3 or 4.

Also, in the final of the ILL, all the learners performed one pitch to present the main solution to the community between the different ILL called "The I Living Lab Showdown". This event wraps up the ILL journey of the group and gives the students the chance to finally present their work. Students prepare a pitching video, which has to be ready and submitted the week before the showdown. They also produce a poster, that gives insights into the journey through the ILL.

4. Conclusions

Depending on the theme, each I Living Lab has one thing in common: international teams get together over the course of several weeks to work on solving a challenge. Learners have different backgrounds and disciplines, and after a pre-selected challenge the travel around good ideas starts and we can look for all here: <https://eudres.eu/i-living-labs-fall-22>

The Design Thinking Model is an interesting methodology but more evidence is needed to understand the impact of this approach taking into consideration the normal function of curricular units.

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