



# ORAL COMMUNICATIONS

## 1 Collaborative Scholarship: A Model for Enhancing Faculty Development and Research in Pharmacy Education

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The Centre for Pharmacy at UiB has prioritized the development of educational competencies, leading to the establishment of the FREMFARM project in 2021. This educational research initiative seeks to promote active teaching methods in pharmacy education and strengthen the connection between research and educational practice. With a special focus on faculty development, the Centre aims to foster collaboration between researchers, educators, and practitioners.

Due to the increasing pressure on faculty members to conduct research within their disciplines and demonstrate a scholarly approach to teaching<sup>1</sup>, the implementation of the collaborative scholarship model has become necessary. This model provides a practical way for academic staff to engage in the Scholarship of Teaching and Learning (SoTL). It involves a structured collaboration between faculty-based academic developers and teaching academic staff through a project<sup>2</sup>.

In this intervention, we will demonstrate how the collaborative scholarship model has been successfully applied across various courses at the Centre for Pharmacy. We will also share concrete tools and ideas for conducting small-scale practice-based research on teaching. Our academic staff has warmly embraced the collaborative scholarship model, as it equips them with the necessary tools to explore alternative pedagogical approaches to teaching and provides opportunities to share their work in the spirit of SoTL.

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## 2 Global Health Challenge in Pharmacy

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### Introduction

The Global Health Challenge is an innovative pedagogy about scientific topics in the field of Health. The students have to develop an innovative project (device, service, application, etc.) unpublished yet and have to manage the creation of their business as a self-entrepreneur.

### Method

The students constitute their own team (4-5 students) and have to find a yet undeveloped project in Health domain based on research (scientific literature/websites) or their own experience. They will be challenged by mentors to define the main scientific questions, a SWOT analysis and the financial, ethical, legal and environmental aspects of their project. At the end, they have to defend it in front of a jury of experts.

### Results

The overall objective of this kind of challenge is to facilitate the transition from student life to professional life by promoting the development of their spirit of initiative, self-confidence and the application of the global knowledge acquired (hard skills), their soft skills and transversal competences. Mentors create a stimulating and inspiring environment to make the students motivated by exerting a positive pressure (competition for ranking), the visibility of the project by experts, and the constant interactions between mentors and students. This challenge has already been organized at different levels of study (3<sup>rd</sup> year of Pharmacy, master, PhD), trainings (pharmacy, medicine, engineering), durations (2 days up to 1 month) and contexts (Summer Schools, teaching in Cameroon). Students are always very creative and have a lot of fun!

Conclusions: Students gain invaluable experience in teamwork and problem solving while competing against others. This teaching activity is based on reverse pedagogy and on project work with guidelines, so easy to transpose to new student audiences. This year, we are proposing this challenge as part of a European Blended Intensive Programme (BIP) with the Universities of KU Leuven and Parma.

## 3 Knowledge and Attitude about Drug Pollution in Students from Five Spanish Schools of Pharmacy

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### Introduction

The presence of pharmaceuticals in the environment is a problem of growing concern. European Commission adopted the 'European Union strategic approach to pharmaceuticals in the environment' which focusses on actions to reduce the risk of drugs in the environment, including how environmental aspects can be part of medical training programs.

Surveying the knowledge of pharmacy students about pharmaceuticals pollution will provide updated information about the training needs that may help developing new actions related to the training and dissemination of this emerging issue.

### Method

A validated self-administered questionnaire was completed by 1289 pharmacy students from five different Spanish Schools of pharmacy: La Laguna, Valencia, Santiago de Compostela, Sevilla and Vitoria-Gasteiz. The questionnaire consisted on 24 questions: 13 about knowledge on drug pollution, 8 related to attitude and 3 to opinion.

## 3 Knowledge and Attitude about Drug Pollution in Students from Five Spanish Schools of Pharmacy

### Results

The majority of respondents could not identify basic terms about drug pollution: around 80% of responders did not know "One Health" or "emerging pollutant", and around 90% did not know that diclofenac caused the catastrophic vulture decline in Asia. Although 54% of the participants totally agree that pharmaceuticals negatively affect the environment, they were not aware of their existence in our drinking water (50%) and wastewater treatment plants (30%).

The importance of this topic and their attitude in the acquisition of new knowledge got a very high score (>8 points out of 10), while training in this area during Pharmacy degree was poorly scored (2.6 out of 10).

### Conclusions

Knowledge about key concepts related to pharmaceuticals in the environment can be considered poor among surveyed Spanish pharmacy students. However, they consider that drug pollution is a very important issue and have a very good attitude towards acquiring knowledge related to this area, and they judged training about pharmaceuticals in the environment during Pharmacy degree was very scarce.

## 4 The Dutch Approach to Sustainability in Pharmaceutical Curricula – UU examples

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In several government supported agreements like the 'Dutch Green Deal Sustainable Healthcare 3.0' [1] and 'The Dutch Chain Approach to Pharmaceuticals in Water' [2] it is stated that all Dutch healthcare curricula within universities should implement sustainability within their course program. As a consequence a government commissioned workgroup of all stakeholders was tasked with the development of a strategic, multilayered and practical approach and in 2022 the evidence based but still very intuitive 'Guidelines for the Implementation of Planetary Health in Academic Healthcare Curricula' [3] was presented. This guideline not only gives examples of subjects and skills to be implemented, the scale of implementation, etc. but also on how to overcome setbacks, motivate co-workers and use the power of the student population. This (poster) presentation will give an overview of how the guideline can be used to develop a strategy for implementation of sustainability within any healthcare curriculum with examples of our own Department of Pharmaceutical Sciences at Utrecht University.

<sup>1</sup> Ministerie van Volksgezondheid, Welzijn en Sport, "Green deal Samen werken aan Duurzame Zorg," 2022.

<sup>2</sup> Ministerie van Volksgezondheid, Welzijn en Sport, "Ketenaanpak Medicijresten uit Water," 2018.

<sup>3</sup> E. Van Bree, J. Mattijsen, L. Warmerdam and E. De Ridder, "Planetary Health: Handreiking voor onderwijsimplementatie in universitaire zorgopleidingen.," Ministerie van Volksgezondheid, Welzijn en Sport, 2022.

## 5 Embedding the Un Sustainable Development Goals into the Pharmacy Curriculum

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### Introduction

De Montfort University (DMU) is the only Higher Education Institution in Britain to be a global hub for one of the UN Sustainable Development Goals- SDG16 to promote peace, justice and strong institutions. DMU subsequently committed to embed sustainability into all taught courses. Staff and students across the institution need to be equipped with an understanding of the challenges of sustainability and sustainable development; with opportunities to contribute locally and globally to the public good.

### Introduction

The programme team identified opportunities throughout the pharmacy programme to increase awareness of the SDGs and global healthcare challenges. Students have an assessed discussion each year on a global health topic:

**Year 1:** Differences in pharmacy regulation and education between the UK and another country

**Year 2:** How control measures can reduce the spread of a chosen infectious disease and achieve the aims of SDG3 (Health and Wellbeing) and SDG10 (Reduced Inequalities)

**Year 3:** How an international healthcare programme for a non-communicable disease can achieve the aims of SDG3, SDG10 or SDG12 (Reliable consumption and production)

**Year 4:** How a chosen country is working towards reducing premature mortality by a third by 2030 (SDG target 3.4), and how their strategy is tailored to the needs of their population

Themes of inequality and inequity are explored throughout the programme; through themes within case studies, volunteering and global travel opportunities. Students also consider sustainability aspects of pharmaceutical formulation and production.

### Results

Students have found these activities "insightful", and facilitated an enhanced sense of belonging for our international students and recognition of the challenges in their home country. Students recently visited Dubai and many have volunteered with a charity providing healthcare to the homeless.

### Conclusions

The UN SDGs are an engaging focus for pharmacy students to appreciate the key challenges to address in global healthcare.

## 6 Improving Student Confidence in Lab learning through Problem-based Learning

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### Introduction

Faculty teaching the laboratory course on manufacture of non-sterile medicines at the University of Bergen experienced that the students reported high levels of stress related to the course. The feedback specifically pointed to the emphasis on product quality and yield that is required to pass the experimental part. This end-result focus was perceived as particularly overwhelming and shifted student attention from learning to concern about outcomes. To address this challenge, a problem-based learning (PBL) activity was developed, as a collaboration between faculty teaching the course and a faculty-based educational developer. The aim was to achieve meaningful learning in the laboratory<sup>1</sup>, increase student confidence, critical thinking and problem-solving skills by empowering students and increasing student agency.

### Method

An existing lab activity was re-designed, moving from traditional classroom teaching to more student active learning. The classroom was flipped, and students had to investigate and assess the correct formulation through group work, literature search and discussion within groups and with teacher before the practical lab work. A post lab workshop was conducted to review the process and discuss conclusions. Students used audionotes<sup>2</sup> to reflect on their learning process. Data collection included pre- and post questionnaire<sup>1</sup>, observation, and focus group interview.

### Results

The data collected demonstrated increased student confidence in practical lab work, which led to reduced student stress, and consequently improved critical thinking and problem-solving skills. As a result, students focused on their learning, mastering the new skills, and reflected more, instead of fretting about outcomes. Students reported increased enjoyment in the learning environment and increased collaboration among peers. Furthermore, data showed the importance of teacher feedback and guidance through the process.

### Conclusions

Adopting novel student-centered teaching methods improved the outcomes of the laboratory as a learning arena, by increasing student agency, fostering significant learning.

### References

<sup>1</sup> Galloway KR, Bretz SL. Journal of Chemical Education. 2015;92(7):1149-58

<sup>2</sup> Abdulwahed M, Nagy ZK. Journal of engineering education. 2009;98(3):283-94



## 7 “Myth or Fact under Pressure”: Active Learning through Real World Simulation

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### Introduction

Pharmacists are often confronted with new and unfamiliar situations. Moreover, when patients raise any question/concern, they usually expect a quick but trustful answer, which requires a prompt evidenced-oriented literature search. We analyzed the students' perspective concerning an assignments designed to train these situations.

### Materials and methods

Pharmacology II is a curricular unit of the Integrated Master on Pharmaceutical Sciences of the Faculty of Pharmacy of the University of Porto, Portugal (4th year, 1st semester). Students (2-3/group) were asked to answer a “myth or fact” question in the context of cardiovascular or endocrine pharmacology, within a limited time (same day). They were guided to use a maximum of two systematic reviews and/or meta-analysis to solve the problem. At the end of the semester, students were asked to anonymously respond a survey to grade the contribution of this assignment to the acquisition of certain skills (scores 1-low to 5-high) and to answer few open questions.

### Results

69/156 students responded to the survey. When the highest scores (>4) were considered, students highlighted the development of critical thinking as well as planning and time management capacities as skills for which this assignment contributed most (81% and 83% of the students, respectively). Also, 80% of the students considered that this assignment contributed to their education as a future pharmacist with a grade>4. Development of creative thinking was the skill that less students graded >4 (46% of the students). Qualitatively, the “real world scenario” was identified as a major strength of the assignment.

### Conclusions

We report an assignment that contributes to pharmacy education mostly by training critical thinking and plan and time managing skills, which are relevant in certain situations of the pharmaceutical profession.

## 8 Sustainability Initiatives in Dutch Community Pharmacies

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### Introduction

As the world population age, medicine use increases and with that also the impact to the environment. This creates a need for concrete actions from the pharmacists. In this study we aim to explore the current sustainability initiatives in community pharmacies in The Netherlands.

### Method

An online questionnaire was developed, containing 16 open and closed questions. It served to explore various sustainability aspects, such as: delivery of medication, collection of medicinal waste, reduction of (medicine) waste, Individualised Distribution Systems, pharmacy building, and future initiatives. The questionnaire was distributed via email and LinkedIn towards community pharmacists. Results were collected in April 2022.

### Results

A total of 120 community pharmacists filled in the questionnaire. The explored aspects resulted in the following: 27.5% of the pharmacies use (one or multiple) ways of green delivery electrical vehicles. Collection of medicines waste was encouraged by active communication at the counter (75.0%), posters (45.8%), leaflets (12.5%), or a special retour box for medication waste in the pharmacy (8.3%). Furthermore, 50% of all pharmacists participate in regional or national initiatives to reduce medicine waste. When looking at the pharmacy building, 90% has LED-lighting and on 25% solar panels are installed. Furthermore, around 60% of the pharmacists work paperless. The most mentioned sustainable initiatives planned for the coming year is to purchase an electrical delivery car, followed by placing solar panels and working paperless.

### Conclusions

There are various sustainability initiatives undertaken across the community Pharmacies in the Netherlands indicating the awareness for interventions towards sustainability. Further research might serve for better informing about the impact of these initiatives on the reduction of the carbon footprint per type of intervention. This is necessary to provide a substantiated advice on which interventions are best to implement first.

## 9 International Co-operation in Course Development focused on the Online Pharmacy Market and Falsified Medicines

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### Introduction

Online pharmacy market is a rapidly growing sector of pharmacy. This trend has been significantly influenced by the COVID-19 pandemic that accelerated online purchases of goods and services. Our aim was to implement an optional course or module that introduces the topics related to purchasing medicines online and preventing the use of unregistered, substandard, and falsified medicinal products to the education of pharmacists.

### Method

In the project academics from two member universities of the European Digital UniverCity Alliance, Masaryk University and University of Pécs were involved. The topics were selected based on literature research and previous experience in this field and planned their inclusion in a one-semester course blending asynchronous lectures and synchronous seminars. To support co-operation between students and their active participation, students' group project tasks were assigned at the beginning of the semester.

### Results

Both involved faculties chose their own model of implementation: inclusion to an existing obligatory course (Brno) and design of a new elective course (Pécs). During the semester regular meetings of the students and academics took place via MS Teams/Zoom in previously scheduled time slots. For sharing study materials and instructions, a Moodle course was created that included video presentations of selected theoretical topics. Project work was conducted in mixed groups of students from both universities and their results were presented in an online session at the end of the semester.

### Conclusions

Our two-year experience with this activity points out the usefulness of online tools that can enhance international co-operation in education and the opportunities for "virtual mobility" for pharmacy students. Online activities and students' individual or group homework can be combined with the classical on-site teaching method. Because of the heterogeneous composition of the students in our courses, small group work seems to be a suitable way to increase the involvement of students.

## 10 Exploring the Accuracy and Feasibility of OpenAI in Clinical Pharmacy: A Comparative Study with Expert Clinical Pharmacists

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### Introduction

The introduction of ChatGPT, a novel artificial intelligence (AI) chatbot that has taken the world by storm, marked a new era in information retrieval. The emergence of AI technology has sparked interest in healthcare and is a useful tool for clinical pharmacists as it can help them access the latest drug information and provide guidance on medication-related problems.

### Objective

The aim of this study was to compare the knowledge and interpretive capabilities of OpenAI with those of clinical pharmacy experts around the world by processing pharmacotherapy cases to investigate the reliability of the medical information provided.

### Method

In a descriptive study, ChatGPT's ability to answer twenty pharmacotherapy cases was compared to that of clinical pharmacists around the world. Cases were administered over several weeks. The data were analyzed in terms of the overall rating of ChatGPT over time, the rate of correct answers, and the acceptability of explanations to the questions. Overall scores were compared with those of clinical pharmacists, and responses were compared by continent.

### Results

There was limited consistency in the responses ChatGPT gave to several cases. However, there was a correlation between acceptable explanations and correct answers, with ChatGPT's overall performance being lower than that of the clinical pharmacists. The performance of clinical pharmacists in the United States was excellent compared to the rest of the world.

### Conclusions

OpenAI knowledge and interpretation skills in these twenty pharmacotherapy cases were not yet comparable to those of clinical pharmacists around the world. Artificial intelligence is about linking human knowledge to a variety of applications that are currently being developed. Pharmacists must have the opportunity to learn about AI through continuing education. To ensure that our profession is prepared for future developments in healthcare, the education system for pharmacists must remain adaptable as these technologies rapidly evolve.

## 11 The Effectiveness of Team-Based Learning in Pharmaceutical Education: a Survey of Student Perceptions

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### Introduction

Team-Based Learning (TBL) is an active and student-centered approach that enhances understanding of course objectives by promoting teamwork, communication, and collaboration skills among students. TBL allows students to apply course concepts to real world-projects. Group diversity is prioritized to ensure a dynamic learning environment and to promote trust and collaboration, students remain in the same groups throughout the course. The TBL method was implemented for the first time in three courses in the pharmacy program at the University of Iceland (UI). This study aimed to determine whether the TBL approach was beneficial to students' learning.

### Method

An online survey was administered to a cohort of 70 students who had completed the three courses within the BS/MS pharmacy program. Participation was voluntary and anonymous. The survey solicited the students' perceptions and experiences of TBL, with responses being recorded on a 5-point Likert scale. Of the total cohort, 51% participated in the survey.

### Results

Results indicated that all students either agreed or strongly agreed that they invested time in reviewing course material in preparation for TBL sessions. Additionally, 94% of students expressed pride in their contributions to TBL sessions and 86% of students agreed or strongly agreed that TBL helped them to understand the course material.

### Conclusions

TBL was positively received by students within these courses. The majority of students invested time in reviewing course material in preparation for TBL sessions, indicating a dedication to the learning process. High levels of pride in contributions to TBL indicate a positive team environment and a sense of ownership. These findings suggest that TBL promotes student engagement, teamwork, and learning outcomes. Further research could explore TBL's long-term impact on students learning.

## 12 Development and Implementation of Blended Learning and Serious Gaming for Integrated Pharmacy Education

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### Introduction

Blended learning (BL) is an educational approach that combines online teaching materials with in-classroom methods. Serious Gaming (SG) uses visualisation technologies and simulation to contextualise the student's experience in a realistic environment.

### Methods

From 2020 to 2022, newly developed BL and SG modules were introduced in the Master's programme. BL cycles include nine themes: (1) use of scientific sources and fact-check, (2) medication review, (3) interactions, (4) advanced pharmaceutical compounding, (5) addiction, (6) side-effects and intoxication, (7) medication use in specific populations, (8) interpreting laboratory values, and (9) counselling pregnancy and lactation. SG comprises a 4-week programme in which students are trained in a real-life simulation pharmacy. This includes helping patients who (virtually) consult the pharmacy, compounding and maintaining the digital extension of the pharmacy (e.g., website and social media channels). Every team also records a podcast about a pharmacy-related topic and develops a business case of an innovative pharmaceutical care service. Student feedback was collected in a qualitative and quantitative way.

### Results

Student feedback confirmed learning goals as more than 80% experienced both BL and SG as a method to translate theoretical knowledge into practical skills. The provision of general feedback at the end of each session (BL) or day (SG) was well received. Considering BL, about 70% of students found the covered topics intellectually challenging and stimulating. Almost all students stated they were encouraged to think more critically and to apply knowledge in a more critical way. For SG, positive aspects included learning to collaborate, becoming competent in observational learning and the contacts with particular cases and situations different from their internship. Negative remarks for both BL and SG included a high workload and friction within the teams.

### Conclusions

BL and SG enable advanced integrated pharmacy education. Student experiences with both integrative learning methods are clearly positive.

## 13 Development of a course accreditation gap analysis tool to support professional development courses for the pharmaceutical workforce

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### Introduction

Technology, Artificial intelligence and Big data are amongst the evolvments that lead to transformation in pharmacy which highlight the contribution of lifelong learning and professional development courses. At the same time, ensuring robust professional courses adds value to the relevance of the development courses to empowerment of the pharmaceutical workforce to embrace transformation.

### Aims

To develop a tool to support the design of accredited professional development courses addressing pharmaceutical workforce and which target scientific and pharmaceutical advancements.

### Materials and Methods

A thematic analysis was undertaken from the requirements for course accreditation as set by the Malta Further & Higher Education Authority (MFHEA) as reflected in the Malta Qualifications Framework. Themes identified were used to develop the "Course Accreditation Gap Analysis Tool (CAGAT)" which is a checklist, intended to encompass the list of requirements necessary for course accreditation. The CAGAT was validated by an expert panel consisting of two academic pharmacists, a pharmacist with experience in quality and, two members within the Malta Laboratories Network- Institute for Scientific Development.

### Results

The developed "Course Accreditation Gap Analysis Tool (CAGAT)" consists of 6 headings namely: Organisation information, Course information, Requirements and Learning Outcomes, Lecturers and Teaching Method, Delivery of the course and Post course delivery. The checklist can be completed within a maximum of 10 minutes. All members of the expert panel, (N=6) agreed that the CAGAT is easy to use and assists the user to identify missing gaps of information required to provide an accredited continuous professional course.

### Discussion

The developed CAGAT assists in the design and delivery of accredited courses intended for the pharmaceutical workforce allowing the sharing and enhancement of expertise in fields such as forensics, medical devices expertise and quality management systems. The CAGAT identifies gaps in the organization's current management system and the requirements for courses accreditation targeting professional pharmaceutical workforce development.

## 14 Simulation - Based Education Implementation in Pharmacy Program

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### Introduction

Simulation is one of the teaching strategies that has been used widely in health profession education. Pharmacy profession has evolved with the progression of the pharmacist role with the emphasis on patient-centered care. Lithuania is expanding pharmaceutical care services in community pharmacies, so new knowledge is relevant for pharmacy students. Simulation teaching tools have been implemented in the Pharmacy program aiming to enhance student's pharmaceutical knowledge, clinical skills and communication competencies.

### Method

Several simulation tools were implemented in the Faculty of Pharmacy. (1) Imitation pharmacy connected with direct video transfer to seminar room, which allows to on-line discussion of students and teachers. (2) Drug safety program Inxbase, which is the tool used of Lithuania E-health system for daily practice of doctors and pharmacists. (3) E-Prescription class integrated with electronic health records and practice-management system, adapted for students- to educate the E-Prescription system peculiarities. (4) Health and beauty service laboratory, equipped with blood pressure measurement, blood oxygen monitoring, immunodiagnostics, diabetes monitoring system, respiratory inhalers, etc.

### Results

Student learning outcomes were assessed through interim assessments and during the final exam, which had an Objective Structured Clinical Examination (OSCE) component. OSCE was organized with 4 stations: management of pharmaceutical documents, clinical pharmacy services, pharmaceutical technologies and drug analyses. Feedback from students was collected on the time for completing tasks, evaluation criteria, student experience during exam, student preparation for OSCE, etc. Most of students evaluated the OSCE positively, gained courage, confidence and experience in completing tasks within a limited time frame. However, most of students reported that experienced stress during OSCE examination.

### Conclusion

Pharmacy education simulation tools have positive outcomes regarding students' communication skills, patient counseling and clinical pharmacy knowledge. However, the student's attitude and psychological disposition is an important factor in improving teaching and assessment forms.



## 15 Pedagogical Escape Room for Medicine Dispensing and Patient Counselling – Students' Perceptions

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### Introduction

Escape games refer to different tasks and problems based on time-limited stories (1). They are perceived as motivating, constructivist learning environments that enable active learning and community problem-solving (2). Escape rooms enhance teamwork skills and integration of subjects and 21st century skills i.e. active participating, problem solving, and logical reasoning.

The pharmaceutical escape room was built on the campus in the spring of 2022 as part of pharmacy students' Project Work course in 2021-2022. The game focuses on medicine dispensing and patient counselling using real-world scenarios and tasks. The game is aimed at second-year pharmacy students who are about to start their first internship. The aim of this study is to explore students' perceptions of the escape room.

### Method

Second-year pharmacy students (n=68) participated in the escape room in the spring of 2023. Each game included an introduction to the game and its learning objectives, and a post-discussion after the game. Students filled in an electronic feedback questionnaire after the post-discussion. Students' perceptions were assessed by statements with a 5-point Likert scale (1=weakest agreement, 5=strongest agreement). Quantitative methods were used in the analysis.

### Results

Of the students, 75% strongly agreed that the escape room was well constructed and motivated to play. 88% strongly agreed that learning in the escape room was enjoyable, and that escape games should be used more in pharmacy studies. In addition, the majority of the students (81%, 79%, and 72%, respectively) strongly agreed that escape game promoted logical reasoning, problem-solving skills, and active participating.

### Conclusion

The pedagogical escape room worked well for engaging students to solve medicine dispensing and patient counselling tasks as teamwork, as well as enhancing 21st century skills. Escape room is an innovative way to enhance students' motivation to learn in a collaborative way.

<sup>1</sup> Fotaris P, Mastoras T. Escape Rooms for Learning: A Systematic Review. In: 13th European Conference on Games Based Learning, 2019; Denmark.

<sup>2</sup> Nicholson S. Creating Engaging Escape Games for the Classroom. *Childhood Education* 2018; 94(1): 44–49.

## **16 A Sustainable Approach To Internationalization In Pharmacy Education Through Virtual Exchange Programs: The Strategy Of The Faculty Of Pharmacy At University Ceu-San Pablo (Spain)**

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### **Introduction**

The Faculty of Pharmacy at University CEU-San Pablo (CEU-USP) is devoted to internationalization. Indeed, it exchanges more than 100 students per year through the Erasmus+ program or through International Bilingual Programs in collaboration with the Universities of Chicago and Boston. Another goal of our Faculty is to improve sustainability in pharmacy education. Virtual international exchange programs, such as COILs (Collaborative Online International Learning), allow students and educators from different countries to collaborate and exchange ideas on various topics, including sustainable pharmacy practices. Moreover, COILs eliminate the need for international travel, which can significantly reduce carbon emissions.

### **Method**

Virtual exchange programs typically involve several online activities, including an introductory session with icebreaking activities. Under the guidance of their professors, students work together in teams to complete a specific project. They then present their findings through oral presentations or written reports. Throughout the program, students are evaluated, and feedback is collected through satisfaction surveys.

### **Results**

The Faculty of Pharmacy has organized 15 virtual international exchange programs in the last three academic years (2020-2021 to 2022-2023), with the participation of over 120 professors and 1,100 students from 12 different degree programs and 22 universities across 15 countries. These programs have helped students enhance their intercultural, communication, and teamwork skills. The projects have included students enrolled in the degrees offered by our Faculty of Pharmacy (Pharmacy, Biotechnology, Nutrition and Dietetics, and Optics and Optometry), and students from health and non-health related programs, such as Marketing, Architecture, and Business Administration, resulting in multidisciplinary learning experiences.

### **Conclusion**

The Faculty of Pharmacy at CEU-USP has developed a strategy to promote internationalisation and sustainability in education through virtual exchange programs that facilitated the collaboration of more than 1,200 students and professors from 15 different countries without the need for travel, significantly reducing the carbon footprint.

# ORAL COMMUNICATION

Friday,  
May 19<sup>th</sup>, 2023

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## 17 Continuing Education in Soft Skills: 20-Year Experience in Workshops for Health Professionals

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### Introduction

Continuing education is essential in the health sciences. Our non-profit scientific institution has organized various courses to train postgraduates and professionals in key competences that are insufficiently covered in pharmacy and other biomedical degree programmes. Here we analyse and share our vast experience in developing and delivering training courses targeting soft skills over the last two decades.

### Method

Since 2004, we have designed workshops for health professionals to develop competency in five essential tasks: 1. How to prepare study protocols; 2. How to write scientific papers; 3. How to design and deliver oral presentations; 4. How to interact with journalists; and 5. How to disseminate research projects in short videos. Two to four trainers deliver these courses in different formats: in English or Spanish and face-to-face (16 hours over 2 days) or online (synchronous or asynchronous). All workshops are eminently practical. Participants complete anonymous satisfaction questionnaires (Likert scale 0–5) at the end of each course.

### Results

From 2004 through 2022, we held 212 iterations of the courses to teach these five tasks: 193 (93%) face-to-face and 19 (7%) online. Courses trained 6,179 (70% women) professionals in 47 cities (40 in Spain and 7 abroad); 4,325 (70.0%) completed the satisfaction questionnaire. Mean overall course satisfaction score was 4.6 of 5.

### Conclusion

Pharmacists and other health professionals attending these courses were highly satisfied. Independent institutions like the Dr Antoni Esteve Foundation can contribute to continuing education in the health sciences by focusing on essential competences that fall outside standard university curricula.



