Enhancing Practices and Strengthening Core Competencies in Disaster Nursing through the Learning HUB (ECoDN-HUB)

Disasters continue to be a global problem with their impact on public health. Today, natural and man-made disasters are increasing in frequency and severity, and health systems are increasingly challenged to respond quickly and effectively to these crises. In Türkiye, more than 33,000 earthquakes occurred in 2023 alone, with large-scale disasters affecting more than 14 million people. In Finland, climate change-related emergencies have increased by 30% in the last decade. The Czech Republic and Romania are struggling with floods and geographical challenges. This makes it imperative to increase the competencies of health professionals for disaster response.

Nurses have to make critical decisions, manage a large number of patients at the same time and intervene rapidly in disaster settings. However, current disaster nursing trainings cannot provide adequate preparation for real conditions in the field due to the lack of hands-on and interactive learning opportunities.

Augmented Reality (AR) and Virtual Reality (VR) technologies offer hands-on training opportunities in disaster nursing education. Studies show that AR/VR supported trainings reduce error rates by 40%, increase decision-making speed by 35% in times of crisis, and increase process recall by 75%. These training models, approximated to real-world scenarios, can contribute to the development of disaster-related knowledge, skills and competencies by contributing to nurses' access to safe information.

The ECoDN-HUB project developed in this context aims to improve the eight basic disaster response skills of nurses with AR/VR technologies. While AR technology provides technologically based support in patient assessment, triage and emergency response processes, VR simulations allow training students and nurses during and after disasters such as earthquakes, floods and fires.

ECoDN-HUB brings together innovative learning tools to bring disaster nursing education to international standards. Within the scope of the project, AR will increase the realism of trainings, provide performance evaluation and enable individual learning processes. Multi-user training modules aim to develop disaster response scenarios based on teamwork, while cloud-based content management will ensure that training materials are constantly updated and accessible on different devices.

Through the use of these innovative tools in education, students, educators and nurses will increase their skills in preparing and using technology-based educational material. Participants will gain skills to use digital resources effectively and prepare for a technology-driven future. The project will contribute significantly to learning and skills development by enabling the development and strengthening of core skills in disaster nursing. Project partner countries will contribute to the development of technical support and training programs by integrating AR/VR-based training methods into existing training processes. Thus, the sustainability of disaster nursing education will be supported.

Objectives of the ECoDN-HUB Project

The overall aim of the project is to improve practices and strengthen basic skills in disaster nursing through innovative AR/VR-based training tools.

The following objectives have been determined to achieve this goal:

- Develop essential competencies by increasing knowledge and skills in disaster nursing
- Support education by developing scenario-based AR/VR-based educational materials that will enable target groups to learn
- Create learning tools in the field of disaster nursing
- Increase motivation in skill development and acquisition of essential competencies in disaster nursing
- Encourage collaboration between academic institutions, stakeholders, and other relevant groups

Project Partners

- Akdeniz University Faculty of Nursing (AKDU) **(Coordinator-Türkiye)**
- Antalya Training and Research Hospital (ATRH) **(Türkiye)**
- Koç University Faculty of Nursing (KU) **(Türkiye)**
- Abo Akademi University (ABO) (Finland)
- Jihoceska Univerzita V Ceskych Budejovicich (USB) **(Czech Republic)**
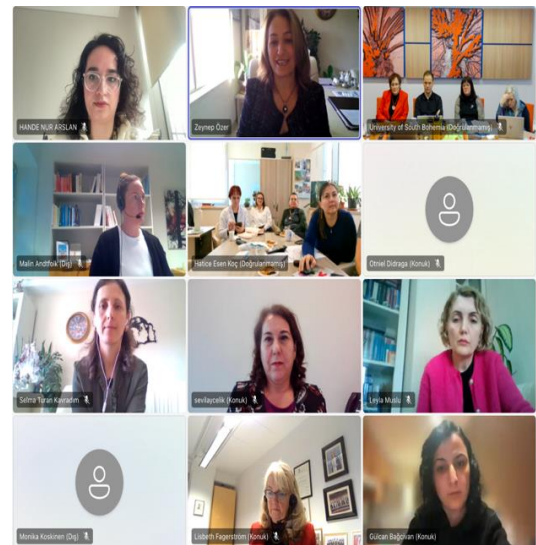- Universitatea De Vest Din Timisoara (WUT) **(Romania)**

News from the Project

1st Transnational Project Meeting Held.

The first Transnational Project Meeting (TPM) of the ECoDN-HUB project, which is carried out within the scope of Erasmus+ Program Strategic Partnerships for Vocational Education and Training Key Action 2, was held online on 12-13 December 2024 on Microsoft Teams platform.

The meeting was attended by the project management team and representatives of partner organizations from Türkiye, Finland, Czech Republic and Romania. While the main objectives of the project, work plan and task distribution were detailed, extensive discussions were held on the Disaster Nursing Curriculum development process and the applicability of AR/VR training modules.

The meeting provided a productive environment to strengthen cooperation between the project partners and to define the first stages of the project process.
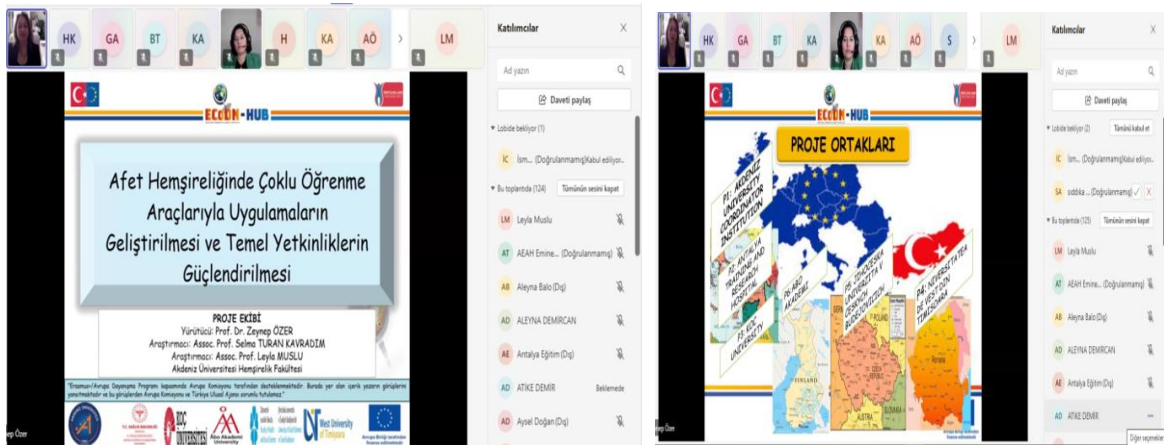
Project Kick-off Meeting was held.

A kick-off meeting was held online on the Microsoft Teams platform on December 13, 2024, to introduce the project.

Project partners, stakeholders from the health sector, nurses, and students attended the kick-off meeting. Project Coordinator Prof. Dr. Zeynep Özer stated in her opening speech that the project aims to increase the effectiveness of nurses in disaster management by contributing to disaster nursing. She also emphasized the opportunities offered by European Union-funded projects for international collaborations.

The Disaster Nursing Curriculum development process and the applicability of AR/VR-supported training modules were discussed during the meeting. The event significantly raised awareness of the project and cooperation between partners.

ECoDN- HUB Project was widely covered in national and local media.

The project kick-off meeting was covered in many print and broadcast media.

TRT Antalya Radyosunda yayınlanan "Bir Konu Bir Konuk" Programı'nda 25 Aralık 2024 tarihinde canlı yayın konuğu olan Akdeniz Üniversitesi Hemşirelik Fakültesi Öğretim Üyesi Prof.Dr. Zeynep ÖZER, yürütücülüğünü yaptığı Avrupa Birliği Erasmus+ Yükseköğretim Alanındaki İşbirliği Ortaklıkları (KA220) Programı kapsamında "Afet Hemşireliğinde Çoklu Öğrenme Araçlarıyla Uygulamaların Geliştirilmesi ve Temel Yetkinliklerin Güçlendirilmesi (ECoDN-HUB)" adlı projeye ilişkin önemli bilgi paylaşımlarında bulundu.

Project Management Committee convened within the scope of ECoDN-HUB Project.

On February 11, 2025, in the online meeting held with the participation of all project partners, the details of both the "Scenario Writing and AR/VR Tools Development Training" and the "Second Transnational Project Meeting (2nd TPM)" to be held in Romania were planned.

Upcoming Events

March 03-07, 2025: Training on Script Writing and AR/VR Tools Development (C1) in Romania

08-09 March 2025: Second Transnational Project Meeting (2nd TPM) in Romania

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