

Using virtual avatars for learning and training in dietetics? That sounds pretty cool – and will soon be possible!

Diet has a decisive influence on people's health. Dietitians apply the science of nutrition to the feeding and education of people in health and disease and are therefore major stakeholders in public health.

But practical education is complex. It can be difficult to organize as clinical internships are very scarce. Especially these days, practical education is also a major challenge in higher educational institutions, making use of online learning to bridge distance and improve digital skills of the future nutrition professionals.

Goal of the E+DIETing_LAB project is to develop a digital learning and training environment for dietetics students and dietitians. With virtual avatars, users can train patient counseling sessions and improve skills and knowledge (learn more about the project here).

Interested in the future of digital learning in dietetics? Hang on for our interview with Iñaki Elío, Kilian Tutusaus Pifarré and Antonio Ferreras – leading developers in the E+DIETing_LAB project – and find out what it needs to develop virtual training environments for student dieticians and professionals!



What do we know about learning with avatars so far?

Is it just a fancy trend, or does the learning experience actually affect the learning outcomes?

In general, the usefulness of avatars for learning is relegated to the background. We understand that they should not be used to transmit knowledge, for example to teach a lesson, because there are other more effective and economical means for this (videos, interactive content, pdfs of content prepared for self-training...). On the other hand, they are very useful for answering questions and this opens up a wide range of possibilities for reinforcing the knowledge acquired through these other media.

The most immediate and widely used utility is to answer frequently asked questions from students. This, however, has little impact on learning outcomes: only doubts are solved more quickly. On the other hand, any use associated with being able to self-assess the knowledge acquired by the learner has a positive impact on learning outcomes. Examples of this would be asking questions about the key concepts of a lesson or, as we have proposed in this project, using it as a case study.



Well, avatars don't hatch from eggs: what is needed to

develop a virtual character suitable for learning?

Kilian Tutusaus: I'm the director of technology - my role is to bridge the gap between technology and academics, and the learning needs of academics. It is a slow process because we have to understand each other and it takes many meetings to define a solution that satisfies both the learning outcomes and is technologically and economically feasible to create and maintain. In this sense, learning outcomes drive any technological decision making, but sometimes they can be rethought on the basis of feasibility criteria, which results in rich - and heated - discussions between technicians (IT) and academics (ACAD).

In summary, these are the steps proposed in this project to translate academic needs into something technologically feasible:

- 1. Define the learning outcomes: what impact do we expect on the student (ACAD)?
- 2. Define avatar functionalities: what should the avatar do to achieve these learning outcomes (IT + ACAD)?
- 3. Research solutions: what has been done and how could we do it? Review previous studies, collect possible learning inputs, look for current technologies that allow implementing the defined functionalities (IT).
- 4. Choose a solution and define methodology: choose technology, learning inputs and methodology and refine functionalities and learning outcomes according to real possibilities (IT + ACAD).
- 5. Develope a prototype: develop a functional prototype. (IT)
- Validate the prototype: validate with end users and correct the prototype. (STU + ACAD)
- Implement the final avatar: release the updated version of the prototype. (IT)

Iñaki Elío: My part is to act as a bridge between the technological part and the nutritional interview, adapting it to a self-learning process in which the student must interact independently with a virtual environment that simulates a nutritional interview with a real patient. To do this, the nutritional interview process must be defined and at the same time the academic competences that the student must develop must be understood.



What avatars and simulation scenarios can the students learn with?

In this project we intend to simulate the process of interviewing patients in the field of nutrition and evaluate how it has been done. Each patient presents a real scenario provided by academics which is coded in order to feed the avatar.

In the academic part, the aim is to simulate clinical cases that can be found in a nutritional consultation (digestive problems, obesity, diabetes mellitus, renal insufficiency) and that the student, through the process of anamnesis, can extract all the information from the patient and finally make a nutritional diagnosis and propose a treatment.

The avatar returns results to the learner at the end of the case so that he/she can learn and correct mistakes in future attempts.

This all sounds incredibly fascinating! So when will we

finally meet your exciting avatars?

The prototype will be completed by mid-April 2023 and then we will have a test phase with students from the different universities involved in the project. If everything goes according to plan, we could have the avatar finished by the end of 2023.



You want to know more about the E+DIETing_LAB project?

Check out the video!



Looking forward to meeting the E+DIETing_LAB virtual avatars?

Get some first impressions in our next newsletter - stay tuned and check out our website: https://edietinglab.eu/project/

E+DIETing_LAB



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







U. PORTO

UVa



Updates from the E+DIETing_LAB - #1 (October 2022)