

European Space University for Earth and Humanity

UNIVERSEH is an alliance of five European universities established to develop a new way of collaboration in the field of Space, within the “European Universities” initiative.

The alliance aims to create new higher education interactive experiences for the university community, teachers, and students, and for the benefit of society. Such initiatives will enable broadminded, informed, and conscientious European citizens to capture and create new knowledge and become smart actors of European innovation, valorization and societal dissemination within the Space sector, from science, engineering, liberal arts to culture.

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4.7 Implementation of Hybrid and virtual classroom; experience and recommendation

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CO	Confidential, only for members of the consortium	

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Document History

Version	Date	Author	Partner	Summary of main changes
1.0		Joanna Hübinette	LTU	

Deliverable 4.7

Our aim is to have a UNIVERSEH development plan for hybrid and virtual classroom described as a Course development plan “How to Design a Universeh Course”.

Introduction

Our focus in WP4.5 of the project is to define hybrid learning and describe how it can be implemented in Universeh courses. Moreover, we have focused on digital tools that can enhance the hybrid learning and be used by instructional designers as well as teachers when the developing a course in Universeh. Lastly, we have implemented these methods/tools/apps and given recommendation to teachers and students of Universeh. Our work is a process, which can be described in following steps:

1. Investigate digital platforms and give recommendation of one platform to the steering committee to decide on one joint platform for all partner universities.
2. Explore different digital tools in teaching and how they can be used in hybrid as well as online settings.
3. Evaluate the findings and adapt these methods and activities to Universeh settings.
4. Implement digitals tools, apps, and platforms in Universeh courses to enhance hybrid and virtual learning.
5. Evaluate the implementation and give advice how teach and learn in a hybrid learning environment in tutorials and webinars.
6. Create Teachers guide how to use digitals tools in hybrid learning.
7. Design a Course Development Plan “How to Design a Universeh Course”.

Implementation

UNIVERSEH development plan for hybrid and virtual classroom

Method

Our plan to develop hybrid and virtual classroom consist of four steps which we hope will lead to the objective of creating a hybrid environment in Universeh.

- 1) Explore different digital tools and the concept of hybrid learning
- 2) Implement these in Universeh courses

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- 3) Create teachers guide and tutorials
- 4) Make the guides and tutorials a part of teachers training, but in the end make the hybrid and virtual classroom a part be part of the concept when creating and conducting a Universeh course.
- 5) Strive for the objective that the hybrid and virtual classroom is part of the curricula for a Universeh course and therefore something that all courses will have to develop using the guides/tutorials and the expertise of the Instructional Designers.

Result

(1) Diana Chroner has made a report describing different reality processing concepts' impact and usability in learning and several seminars are available for teachers to learn more about this and use these concepts within their courses (in the learning platform Moodle, in teachers' training and available when filling in the application for a Universeh course).

(2) The virtual learning environment "Walk about" has been tested in language courses during the summer with a positive response from both student and teachers. This is a cooperation between Sonja Bretschneider (Instructional Designer) Germany and Peter Parnes (Walkabout Led Designer) Sweden. Moreover, hybrid learning is implemented in several other courses, seminars, and lectures during autumn 23 and spring 23. There are several projects on virtual labs within to different courses eg; Sumeet Gajanan Satpute is working with simulation environment related to space in a collaboration Luxemburg and Hamam Mokayed is working on Machine learning tin robotics and edge devices for space exploration" for better labs and education. These courses will be evaluated and part of the final report, as well as in the recommendations in our teachers guides and tutorials.

(3) In the last report we described the work on video lectures and tutorials, and this work continues during Autumn 22 and Spring 2023.

(4) This is just the beginning of our implementation of the hybrid and digital classroom. We will continuously contribute to the resource bank and thus allow it to grow as the project progresses. The next step is to make it available to even more Universeh members by putting all the resources – teachers guides and tutorials on our Moodle plat form. Åsa Ericson and Johan Lugnet are developing a tutorial concept for Moodle together with some other teachers in Wp4.5. This is an ongoing process, where the implementation is still in progress and some courses have not started yet or have just started this autumn (2022).

(5) Our objective is to have a course development plan for a Universeh course "How to build a Universeh course", where the hybrid and virtual classroom is one of the key elements. We have made the online for this process and are building the structure by using the materials we have gathered from earlier steps.

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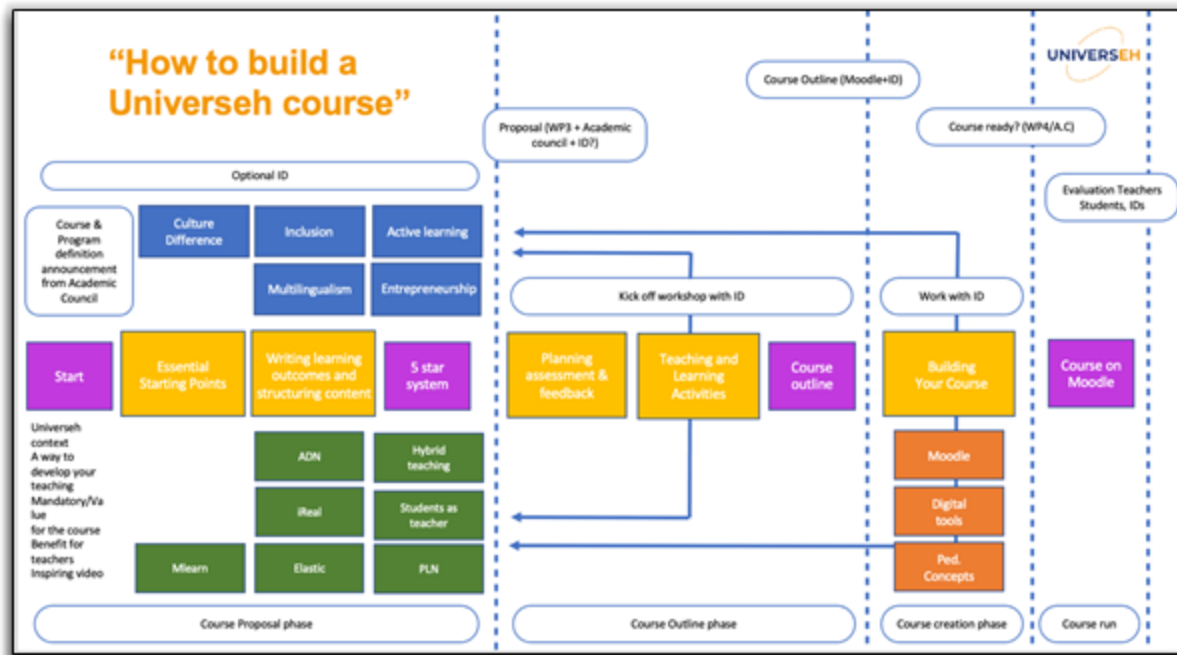


Figure 1. Development plan for hybrid and virtual Classroom

Conclusion and future

We cannot completely fulfill the vision to achieve consortia-wide hybrid learning at this stage. There have been some delays in course starts and technical issues with the learning platforms, which are impediments for the implementation of hybrid solutions. We have also the challenge of the different semester periods between universities, which means that we see a need for asynchronous lectures mixed with synchronous lectures, both online and on campus.

We have designed, but not yet used, a room with techniques for integration of campus and distance students, visual and sound, working with how to build a good environment for group work (campus working with distance). Next step is to pedagogy around this, asynchronous vs synchronous activities. Moreover we still work on the implementation on Moodle for teachers to learn more about hybrid learning and how they can use this in their course.

There are also plans on further courses and even a master with robotics as major feature in next semester (spring 23).

You will find the Teachers guide under the tab “Useful links” - “Teachers resource”.

Link: <https://edu.universeh.eu/course/view.php?id=5>

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