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Blueprint for Digital Learning Solutions for "VR for memories and communication"

An ADDIE based Template for Designing Digital Learning Solutions.



Table of Contents

1. Analysis: Competency Gap, Target Audience and Digital Playboard.	2
1.1. Instructional Goals: Analysis of Competency Gaps as Specified in the Competency Framework.....	2
1.2. Target Audience Characteristics: Analysis of Student Prerequisites.....	2
1.3. Digital Playboard: Analysis of Technical Possibilities and Limitations.	2
2. Design: Creating a Blueprint for a Digital Learning Solution.	2
2.1. Learning Objectives: Specification of a Competency Focus and Creation of Learning Goals.	2
2.2. Instructional Strategies: Determination of the Required Learning Activities, Educational Contents and Methods for Reaching the Learning Goals.	2
2.3. System Design: Design of Appropriate Delivery Medium, Format, Usability, Application, Availability, and Interface of the Digital Learning Solution According to the SAMR-model.	4
2.4. Testing Strategies: Integration of Methods for Evaluation and Feedback into the Digital Learning Solution.....	4
2.5. Validation: Feedback from Ongoing Stakeholder (TP 2+3+5) Review of the Proposed Learning Solution.....	4
2.6. Visual Representation: Model of the Digital Learning Solution.....	4
3. Develop: Creation of a Showcase that Realizes a Part of the Blueprint.	4
3.1. Showcase System Design: Detailed Description of the System Design of the Showcase.	4
3.2. Learning Resources: Creation of Educational Content, Media, Guidance for Activities, and Instructions for Using the Digital Learning Solution.	4
3.3. Validation: Ongoing Stakeholder (TP2+3+4) Review of Learning Resources and Activities.	4
3.4. Pilot Test: Adjustments are Made to the Showcase based on Small-Scale Tests.	4
4. Appendix: Relevant Documents and Models	4
4.1. Competency Framework	4
4.2. Modified ADDIE Model.....	5
4.3 SAMR Model.....	6
4.4 Digital Playboard.....	6

1. Analysis: Competency Gap, Target Audience and Digital Playboard.

1.1. **Instructional Goals:** Analysis of Competency Gaps as Specified in the Competency Framework.

Confer the [Competency Framework for this Digital Learning Solution](#).

1.2. **Target Audience Characteristics:** Analysis of Student Prerequisites.

Confer the [Competency Framework for this Digital Learning Solution](#).

1.3. **Digital Playboard:** Analysis of Technical Possibilities and Limitations.

Confer the Common Digital Playboard.

2. Design: Creating a Blueprint for a Digital Learning Solution.

2.1. Learning Objectives: Specification of a Competency Focus and Creation of Learning Goals.

This digital learning solution will be focused on providing students with the competencies to use digital solutions/tools in order to be able to design mental wellbeing user experiences for the person.

Although the learning objectives proposed refer to the use and design of digital tools for that aim, it also includes the process students need to follow in order to design it, such as being able to understand and analyze the cognitive status of the person they are dealing with and when it is suitable to use the digital solution, always seeking the best results for the person.

The learning objectives for this learning solution are specified through the general (GC) and partial competences (PC) listed below.

(GC1) Research and elaboration of the user experience guide.

- (PC 1.1) The student is able to write and execute the questions correctly in order to get the information needed for the user experience guide.
- (PC 1.2) The student is able to design the user experience guide based on the information obtained.

(GC2) VR content development.

- (PC 2.1) The student is able to record and edit the videos in 360°
- (PC 2.2) The student is able to reflect people's memories through VR technology in an accurate way.

2.2. Instructional Strategies: Determination of the Required Learning Activities, Educational Contents and Methods for Reaching the Learning Goals.

In order to reach the knowledge and skills that complete the competencies listed above, it is important to first train students on what VR is, how to use a digital tool for mental wellbeing and when to use it, based on the assessment of the cognitive status of the person. First, students will have a theory part on VR and technology that will allow them to learn how to use VR, how to record videos and how to use editing programs. Second, using the digital tool designed in this project, they will be able to put into practice the

Kommenterede [MH1]: •What is the scope of this digital learning solution in terms of its competency span? Why?

- What, then, is the specific competency focus for this digital learning solution? Why?
- How does this competency focus translate into learning goals that aim for the construction of specific knowledge and skills?

Kommenterede [MH2]: •What types of learning activities and experiences can lead to the construction of both knowledge and skills that are specified by the learning goals?

- What types of educational content (e.g., curricula, texts, cases, videos, images, etc.) is required to create a learning experience that can facilitate the construction of the intended knowledge and skills with the students.

knowledge acquired related to patients, on assessing the cognitive status of the patients, how to ask them the right questions to get the information needed and how to use VR solutions with them based on the information gathered before. The digital tool will consist on a scenario (e.g. a nursing home) where different cases are proposed, and to which students have to give an answer based on the theory they have learned before.

Moreover, it is important that students learn how to communicate and coordinate with healthcare professionals involved, more specifically, professionals that work in nursing homes and day care centers, such as geroculturists and psychologists.

This digital solution pretends to create an experience through the activities proposed below. They can be done separately or combining some of them.

1. **Observe and assess the cognitive status of the person.** Observing and assessing cognitive status requires careful observation of a person's behavior, thinking, and memory abilities. Therefore, a case of a patient will be proposed, in which students will interact with their target person, in order to understand and point out in which status the person is, making reference to their memory, language and attention levels, and carry out executive function tests. In addition, in order to give answer to situations in which is not possible to be face to face to a real patient, a virtual profile of the person will be developed. The student, individually or in groups, will be the one to design and decide which activity suits best in each situation and that the client will have to carry out. The objective of these activities is to obtain as much information as possible about the person that will help the student design the solution that fits best with each client. In this first step, the professionals involved will guide the students on how to talk and deal with people.
2. **Think if the digital solution can be useful, safe and appropriate for the client.** The student, based on the assessment made previously, should be able to determine if the digital solution is useful, safe, appropriate and relevant for the person. They will make this decision based on the activities developed before and the knowledge acquired, and with the help of the teachers and healthcare professionals involved. The objective of the digital solution is to improve and contribute to the mental wellbeing of the client.
3. **Plan the development of the VR solution.** Students, with the help of the teachers and healthcare professionals, will make a roadmap and planning on how the VR solution is going to be designed. For that, they will have to count with technological skills and VR knowledge on how to record the videos and edit them. Therefore, they will receive theory lessons and activities.
4. **Design the VR solution.** Once the students know how to use VR technology and know their target person, what makes them unique and their cognitive status, they will design the VR solution with another program that will help with the mental wellbeing of each person as the final product, which is going to be evaluated. In order to do that, they will follow the next steps. First, they will analyze the conversations they had with the users. Second, with all the information they have collected from the users, they will record the videos. Third, they will edit the videos using another program that is able to manage 360° contents. Once they have followed these steps, they will present a first draft to teachers to see if the video fulfills the expectations, and if it does, it will be presented to the final users.
5. **Feedback and evaluation.** Students will get feedback and evaluation, not only from the teachers and the healthcare professionals that have been involved, but also from the final users (the elderly) about the VR solution they have designed and see if they have met with the expectations. Therefore, two different feedback documents will be generated, one from teachers and professionals,

Kommenterede [MS3]: Is this a VR-solution for learning? Or is it a solution that teaches student's to create VR-experiences for clients (e.g., that does not itself need to be VR)?

Kommenterede [MS4]: Is this case text or video?

Kommenterede [EV5R4]: Is it a real case, but already 'solved', i.e.: is it an old case, or is it a new case that the student is really responsible for?

Kommenterede [PJ6]: I think it wuld be a good idea to have a virtual case as an alternative, to make the learning solution useful alos to schools who may not have constant access to real person cases, like you do.

Kommenterede [MS7]: How is this planning going to be performed (e.g., according to which method/structure)?

Kommenterede [EV8]: We feel that this is not specific enough. How does this roadmap is made. We have an idea: you answer questions about how the VR-360 should look like (for example: where does the scene take place, answer: on the beach on a sunny day). And then the answers are integrated in a visual preformed roadmap. The result is a pdf roadmap that you can download.

Kommenterede [MS9]: How is this design process to be structured? Are certain tools or methods to be taught/used? How do you imagine that it is possible to design a VR-experience in a digital learning experience?

Kommenterede [EV10]: Not only design I think, but also develop? They should really make the solution as an end product right? What would the students need to do for that?

Kommenterede [MS11]: How and on the basis of which parameters (e.g., data, criteria, etc.) is this feedback/evaluation performed? How do you make well-being explicit in order to act as direct feedback to the designed VR-eksperiance?

and the other from the final users, where they mention how they have felt when using the digital solution.

2.3. **System Design:** Design of Appropriate Delivery Medium, Format, Usability, Application, Availability, and Interface of the Digital Learning Solution According to the SAMR-model.

The application must be a cloud-based solution and accessible from multiple devices, such as phones, tablets, computers and VR glasses. It is recommended that the phone or the tablet have the gyroscope and accelerometer functionality, since the user won't need to touch the device and will work by moving it naturally. Most of the new devices bring this functionality already.

The digital medium must be able to support 360 video and audio.

2.4. **Testing Strategies:** Integration of Methods for Evaluation and Feedback into the Digital Learning Solution.

As mentioned previously, students will get feedback from teachers, healthcare professionals and final users. The feedback will be provided by a face to face meeting with teachers and healthcare professionals, and after with the users. In case the meeting cannot be held, an online survey will be created to obtain the information needed.

The goal is that with that with the feedback received, students make improvements to the digital solution in order to always provide the best service and experience possible.

2.5. **Validation:** Feedback from Ongoing Stakeholder (TP 2+3+5) Review of the Proposed Learning Solution.

2.6. **Visual Representation:** Model of the Digital Learning Solution.

3. Develop: Creation of a Showcase that Realizes a Part of the Blueprint.

3.1. **Showcase System Design:** Detailed Description of the System Design of the Showcase.

3.2. **Learning Resources:** Creation of Educational Content, Media, Guidance for Activities, and Instructions for Using the Digital Learning Solution.

3.3. **Validation:** Ongoing Stakeholder (TP2+3+4) Review of Learning Resources and Activities.

3.4. **Pilot Test:** Adjustments are Made to the Showcase based on Small-Scale Tests.

4. Appendix: Relevant Documents and Models

4.1. Competency Framework

Kommenterede [MH12]: •What digital formats/interfaces can serve as appropriate and efficient mediums for facilitating an interactive learning solution that can accommodate both the learning experiences and educational content that are required for students to reach the specified learning goals?

•How is the application of this digital interface/format/medium affecting the didactics of the learning situation? Substitution, Augmentation, Modification or Re-definition (cf. SAMR)?

•What digital formats are useable/available in all partner countries?

Kommenterede [MH13]: •How can test protocols and feedback – both formative and summative – be integrated into the digital learning solution?

Kommenterede [MH14]: •What do TP2+3 say about the didactic and pedagogical aspects of the digital learning solution?

•What do TP5 say about the useability, availability, and feasibility of developing this digital learning solution?

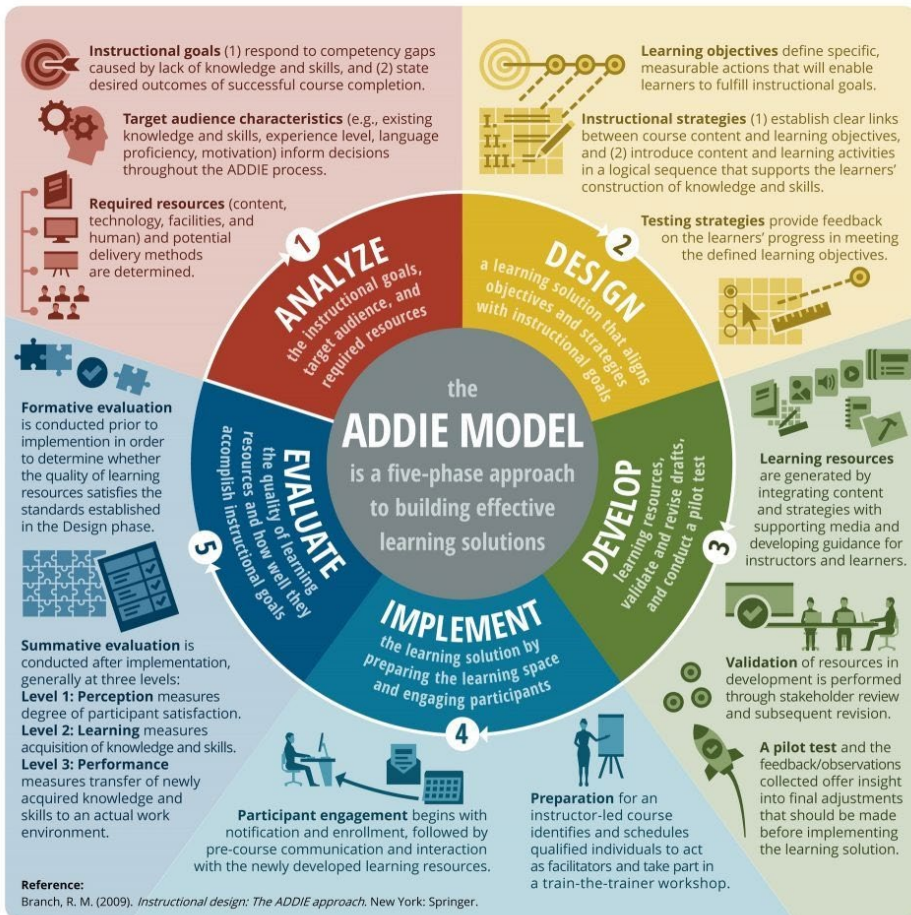
•What technological, didactic, pedagogical, organizational or infrastructural considerations might we have overlooked?

Kommenterede [MH15]: Finally, the work above is visualized by creating a model og flow chart which sketches the learning process and interaction with the digital learning solution.

Kommenterede [MH16]: Insert high-resolution image of the competency framework here.

4.2. Modified ADDIE Model

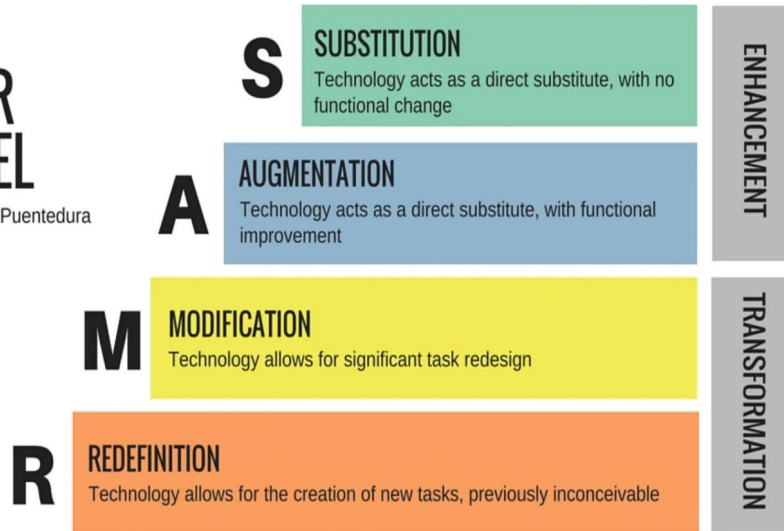
Kommenterede [MH17]: Edit ADDIE model in accordance with our final proces.



4.3 SAMR Model

THE SAMR MODEL

Dr. Ruben R. Puentedura



4.4 Digital Playboard

Kommenterede [MH18]: Insert a model of our common digital playboard,