5. Use of multimedia for university education

ISSBS, SLOVENIA

Learning objectives:

1. Present multimedia examples used within several courses of master‘s programme
2. Demonstrate various approaches of video production for educational purposes
3. Explain the advantages and approaches to add interactivity to the videos
4. Showing how created videos can be stored and shared
5. List possible digital tools that might be used for the multimedia production
6. Demonstrate how an infographics can be produced
7. Showing where and why infographics can be usefule within the delivery of courses
8. List possible digital tools that might be used for the multimedia production

5.1 Example 1 - Short introduction to a course

The video was used as a short introduction to the course of Management. It served as an explanation of the course's objectives, contents, methods used, teachers involved in the implementation of the course, assignments required, and literature supporting the course. The video was recorded as an animation with added narration and text visually supporting spoken explanation. Additionally, H5P interactivity was added after embedding the video onto the course's Moodle e-classroom- a text summarising the video's key messages.

Summary of a lesson

The video was used to summarise a 4 hours lesson on training transfer factors of the course KMS. The video structure is based on a PowerPoint presentation, and some of the slides are generally used for the lesson's in-person delivery. In addition, the narration was added to the video, and some additional text was added as well to combine audio narration with a corresponding text, making the multimedia item closer to visual learners and the auditory ones.

Videos supporting a specific topic

Video available HERE was produced as a short support multimedia item within the KMS course. It is a simple visualisation of a knowledge hierarchy concept, visually explaining the difference between data, information, knowledge and wisdom.

Procedures and tools for production of multimedia

Recording animation (Toonly)

Recording narration (Simple Voice Recorder)

Transforming text to speech and thus creating computer synthesised narration (Text to speech & MP3)

Video editing for composing the final videos Filmora Wondershare;

Storing the videos to a cloud (YouTube)

5.2 Example 2 - Definition of infographics

Infographics (a clipped compound of "information" and "graphics") can be defined as graphic visual representations of information, data, or knowledge intended to present information quickly and clearly. They can improve cognition by utilising graphics to enhance the human visual system's ability to see patterns and trends.

Why to use infographics

The infographics aim to clarify and summarise the contents of individual lessons. Several lessons in the course were supported with quite some study items such as readings, PowerPoint presentations, online questionnaires, interactive videos, quizzes, assignments, etc. leading to a danger of information overload for the students. To avoid the latter, infographics were introduced.

Tools used for production of multimedia

Canva "is an online design and publishing tool with a mission to empower everyone in the world to design anything and publish anywhere" (About Canva, n.d.).

The items were produced in the Canva virtual environment, downloaded and embedded into Moodle e-classroom as a PDF file

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SEEU, NORTH MACEDONIA

5.1. Example 1 - Interactive video

The Students Parliament and Association Video presented by SEEU is composed mainly to highlight the educational capacities of the South East European University.

It offers a mixture of languages and recording techniques, all this accompanied by sound and visual effects.

https://www.youtube.com/watch?v=exkzYDYmDyY

Tools used for the development of multimedia products

For the development of the above listed videos, several tools were used for:

- Adobe Premier,
- Adobe After Effects,
- Drone and camcorder recording

5.1. Example 2 - Interactive video

https://www.youtube.com/watch?v=nkLAKMCSE20

The video represents the English Language department's modern and progressive English teaching training program.

The video shows that SEEU has changed the model of the teaching process from physical to online teaching because of a pandemic in order to keep professors in touch with their students and to continue the academic progress.

Tools used for the development of multimedia products

- The video contains compilation of promotional materials from previous recorded videos and photos,
- The video editing was done with Adobe premiere

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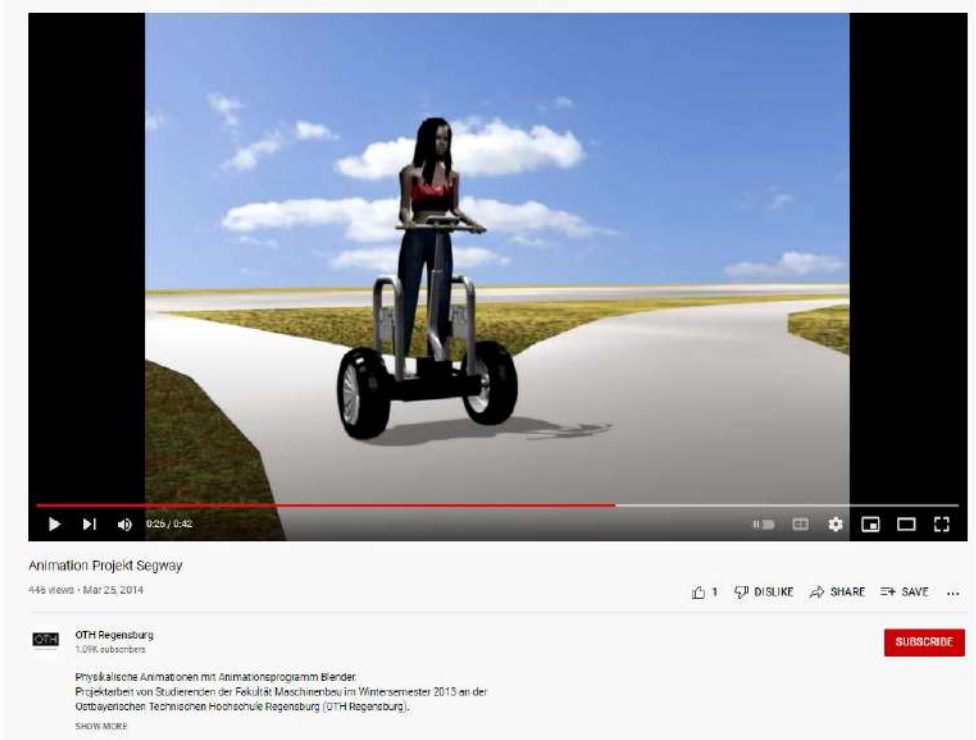
SOWIBEFO, GERMANY

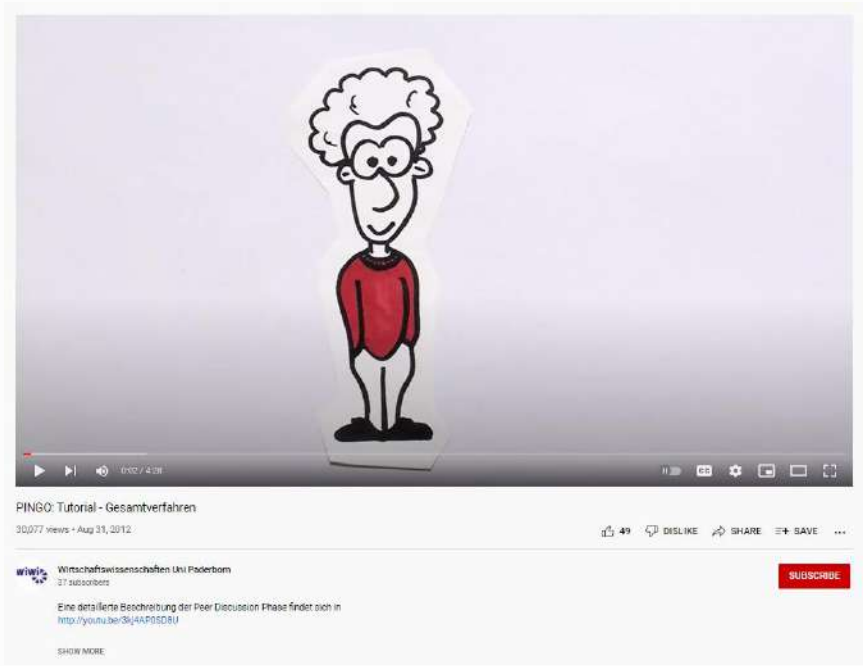
5.1 Example 1 – Video 1



https://www.youtube.com/watch?v=mJEeD5NHQFg

- physical animations with animation program blender
- video compares two types of Segway's with and without pilot control regarding the acceleration phase and the breaking process
- the surrounding shows the area of the university of applied sciences Regensburg
- project work by students of the faculty of mechanical engineering in the winter semester 2013 at the university of applied sciences Regensburg

5.2 Example 2 - Video 2



https://www.youtube.com/watch?v=KK22QMb0MFA

- The video shows a tutorial for the interactive program Pingo *Peer Instruction for Very Large Groups* developed by the University of Paderborn to facilitate the interaction between the teacher (tutor) and students in large classes.
- The program enables students to give feedback in the lectures using their computers, mobile phones, or other digital devices.
- Thus, the participants are activated in a communication form with their peers alternative to a discussion.
- The course leader can decide based on the feedback received if there is a mutual understanding about the subject area or opening a discussion is necessary.
- The program is free and functions similarly to Mentimeter.

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STORYTELLME, PORTUGAL

Learning objectives:

1. To raise awareness of the communicative potentialities of video in the educational context

2. Promote the use of video in the educational process

5.1. Example 1 - Interactive video

https://youtu.be/hAKjzLprgDk

The multimedia example presented by STORY was produced as part of the Fight the Fright project - Facing the Fear of Public Speaking Foreign Language.
This video was entitled Verbal communication. The media type used for this interactive video and infographic was Canva.

Interactive videos aim to:

- Serve as a guide for trainers piloting the Curriculum (lesson plans), detailed descriptions of the exercises (objectives, outcomes, procedures, resources needed, possible variations and adaptations), and video tutorials - guides and recording of the exercises. A blended learning approach will be adopted in this course - a part will be implemented face to face and a potion online (also addressing the issue of public online performance in videoconference calls).

PHASES OF THE PROJECT

Developing a script will help to construct the videos in a more organized and precise way. The idea of the structure of the digital resource and the narrative plan are presented in the script in different segments:

- Step 1 - introduction to the topic;
- Step 2 - presentation of the key learning content to be delivered through this video, it should be scaled into 2 or 3 core pieces of learning content in each script.
- Step 4 - presentation of a conclusion or a summary of the learning content or even some recommendations or suggestions, if applicable.
- Step 5 – exercise
- Step 6 - congratulate the learner on the conclusion

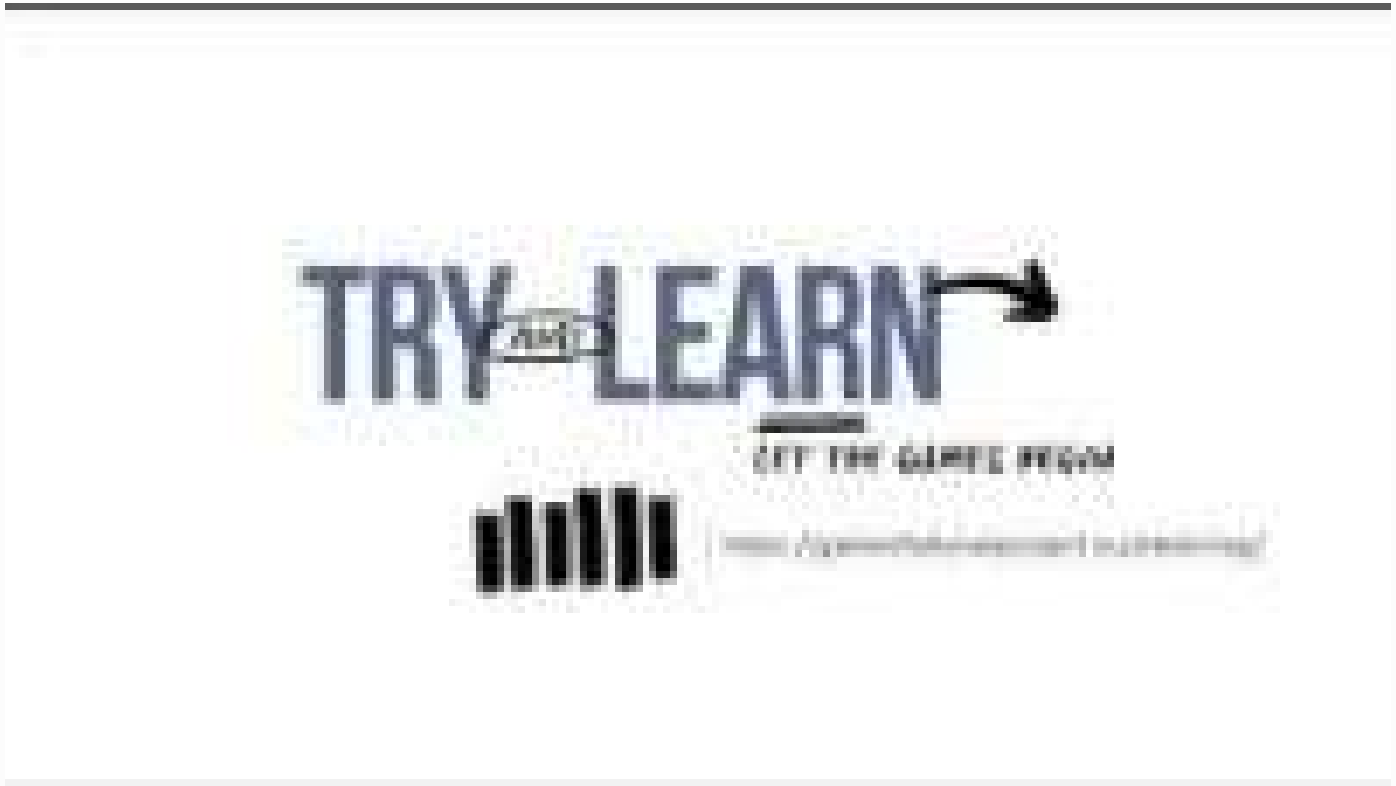
Tools used for the development of multimedia products

For the development of the video, the following tools were used:

– Canva (image, music and text to describe the content)

Canva is a graphic design platform that allows users to create social media graphics, presentations, infographics, posters, and other visual content. It is available online and on mobile devices and integrates millions of images, fonts, templates, and illustrations.

5.2. Example 2 - Interactive video



https://youtu.be/wSXc3fS68q8

The multimedia example presented by STORY was produced as part of the Gameofphones project.
This video was entitled NEETS Compendium of online WebQuests educational challenges. The media type used for this interactive video and infographic was Canva.

Interactive videos aim to:

- The purpose of the video is to present the project objectives through the use of WebQuests and the eLearning platform and thus design and develop a tailor-made, challenge-based educational intervention to re-engage NEETs and support them in building skills and competencies to help their reintegration into education or employment

Tools used for the development of multimedia products

For the development of the video, several tools were used:

- animation recording,

- text,

- music.

The entire video was created in the Canva tool, from the texts to the images and music.

Canva is a graphic design platform that allows users to create social media graphics, presentations, infographics, posters, and other visual content. It is available online and on mobile devices and integrates millions of images, fonts, templates, and illustrations.

5. Use of Multimedia for University Education

Formative Training Pills

VICENTE SABATER, UNIVERSITY OF ALICANTE, SPAIN

Learning objectives:

1. Developing multimedia content that can be used by teachers for the development of virtual courses or support for face-to-face classes.
2. Have a means that allows the preparation of tutorials on the use of services for university staff

5.1. Example 1 - FORMATIVE TRAINING PILLS

PUAs are short videos that serve as support for the teaching + learning processes. It can be used by the PDI and PAS of the University.

The scope of diffusion is as varied as degrees, masters, doctorates, secretariats of the centers, students endorsed by professors, etc. Vertex allows you to group all the videos of a similar theme and create collections so that the student can take a complete online course

https://si.ua.es/es/puas/

Basic requirements and content structure of the multimedia

1. The recording is done by a professional from the UA IT service,
2. The preparation of all the content and design corresponds to the staff
3. The Computing Service has a recording room to carry out the PUA (Training Pills of the University of Alicante).
4. It is necessary to design a presentation and the text for each of the PUAs that are going to be developed.

Selection of adequate tools for the multimedia product development (I)

1. The steps to follow in this case are these:
2. Request the recording of PUAs. The request for the recording of PUAs will be made through UACloud, Vértice, where the link to the web application form will be clearly marked.
3. Designing of the PUA. The person interested in making the PUA must make a presentation in PowewPoint of similar and should be brief. The recommended duration for each of the PUAs should ideally not exceed ten minutes, thereby facilitating viewing by students.

Selection of adequate tools for the multimedia product development (II)

4. If the person is going to read the script of the PUA on the room monitor at the same time that is recorded (prompter), he/she will take the text of said script in a file in a usual format for text files (ODT, PDF, DOC, txt…)
5. It is also advisable to reduce the text on the slides as much as possible. The presentation serves as visual support for the recorded oral explanation to the teacher/speaker. To prevent the recording from being a mere reading of the slides that are used, it is advisable to prevent them from containing a large amount of text.
6. There are several recommendations about clothing, speaking and reading during the recording.

REFERENCES and LINKS:

https://si.ua.es/es/puas/

https://si.ua.es/es/documentos/normativa/normativa-pildoras-formativas-ua-puas.pdf

https://si.ua.es/es/puas/generacion-de-materiales-docentes-multimedia-de-alta-calidad-desde-casa.html

Learning objectives:

1. Plan the teaching objectives, scenarios, degrees of difficulty and evaluation criteria of the software for decision-making during the assessment of victims in a Multiple Casualty Event.
2. To create a safe environment for both the prospective victim and the health worker.
3. It allows the development of both technical and non-technical skills.

5.1 Example 2 - TRIAGE PROJECT – VIRTUAL REALITY

The multimedia examples presented by the UA are produced for a master course, the **Master's Degree in Emergencies and Catastrophes**.

https://web.ua.es/es/proyectovr-triage/proyecto-triage-realidad-virtual.html

PHASES OF THE PROJECT

Phase 1. Educational planning of the software.

The trainer can choose between several options such as: the type of scenery (an accident or a riot), the moment of the day (morning, afternoon, evening), type of emergency, different degrees of complexity …

Phase 2: Design and development of the minimum viable product of the software.

This minimum viable product includes real images and sounds recorded in a simulated plane crash,

with 360° cameras and zoom.

Phase 3: Practice by students using immersive virtual reality.

It provides interaction with real situations and events that increase complexity. These train the student in the decision making.

ADVANTAGES

a) Immersive Virtual Reality provides greater **motivation** to students in learning,

b) The resource helps students to understand the concepts and therefore they will learn better,

c) IVR makes it easier to put knowledge into practice.

TIPS AND TRICKS for the successful multimedia product

TO DO

Involve students as producers and consumers in the learning activity.

Clearly define the levels of complexity.

Always improve the activity with different situations, events and scenarios.

Implement time control and pressure for decision making.

TO AVOID

Activity with prolonged use of VR goggles as it may cause nausea and dizziness.

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Karunasekera, N. (2011). Effectiveness of Virtual Reality Based Immersive Training for Education of Health Professionals: a Systematic Review.

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