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How to Develop Teaching and Learning through Technology

Prudmet workshop noº 1

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International School for Social and Business Studies
Celje · Slovenija

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Contents

- Introduction to the “Teaching and Learning Through Technology” (TTT) workshops
- Starting with learning outcomes first
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PRUDMET

Introduction to the TTT workshops

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Workshop list

Workshop 1 Title: How to Develop Teaching and Learning through Technology	**Workshop 2** Title: How to work with others to create and distribute technology for learning	**Workshop 3** Title: How to use Advanced Technologies for Learning
Workshop 4 **Title:** How to implement technology in learning easily	**Workshop 5** **Title:** How to use technology well in the physical and virtual classrooms	**Workshop 6** **Title:** How to show learning gain through technology
Workshop 7 **Title:** How to Lead Technology for Learning in HE	**Workshop 8** **Title:** How to facilitate learning through technology for technologists	**Mentoring**

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Objective of TTT workshops

- Promote the systematic design of learning
- Create awareness of advanced technologies for learning
- Allow tutors to understand how they can use technologies
- Enable effective implementation of technology in learning
- Ensure measurement of the impact of technology in learning – showing the gain
- Create champions for technology in learning

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How to engage in the course

- Use the TTT competency tool to assess your strengths and weaknesses
- Decide which workshops will best help you to improve – you might do just 1 or 2 or all 8
- Joining as subject / course group of staff is encouraged to boost team working
- Immediately change and try out ideas in your teaching
- Then put aside time to replan your course / module for the use of technology

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Starting with learning outcomes first

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The Importance of Learning Outcomes

- The first step in designing learning is to reflect on the learning outcomes to be achieved
  - What do you want students to achieve through your module/course?
  - What skills do need to be able to meet those learning outcomes?
  - To what extent do your students hold these skills already?
  - How will you provide students the opportunity to build those skills?
  - How will you enable students to demonstrate the outcomes?

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Technology and Outcomes

- How can technology support the building of skills/demonstration of outcomes?
  - What technology would people usually use when demonstrating a skill in the workplace?
  - What resources are available to support your area of practice?
  - Which technologies can support the process of teaching itself?

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Where to find out about technologies

- Search on the internet in technology websites and blogs
- Watch YouTube and other streaming sites
- Ask practitioners what they use
- Work with your technology lead
- Attend practitioner conferences and workshops
- Attend training
- Educational magazines and journals
- Government websites, educational technology associations and grants

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Beginning the design process

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Understanding the context in which learning happens

- Reflecting on the people involved
  - What is the person's micro and macro context? (geographical, social,..)
  - What are the students' expectations about the learning process?
  - How appropriate is this technology for this group of students?
  - Do students have the ability and the attitude to use technology? (W5)
  - To what extent are teachers ready for the use of technology? (W5)
  - Do we have the appropriate level of support in my institution?

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- Creating a tech-friendly environment
  - All the partners (teachers, students, administrators..) should be aware of the decision to integrate technology into the education process (W2)

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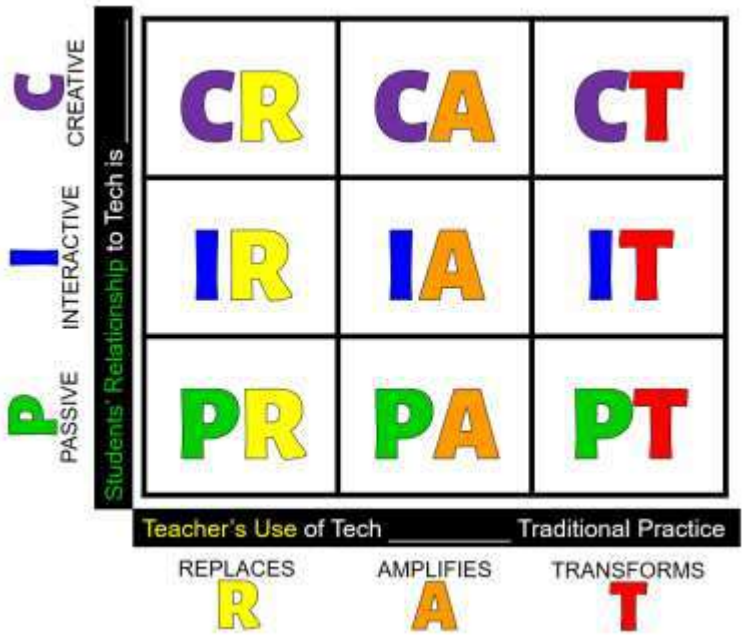
Principles for the design

1. Align technology with pedagogy
   - Technology is a strategic tool that should be adapted to the learning process… rather than the physical tools, the most important are the competencies that the student should develop and demonstrate.

2, Identify what students will do with technology
   - There are many different methods describing how teachers can integrate technology into the learning process, i.e. TPAK, SAMR, RAT, LoTi, but one the PICRAT Model relates the role of the student (Passive, interacting or creating) with the effect of the technology on learning (Replaces, Amplifies or Transform)



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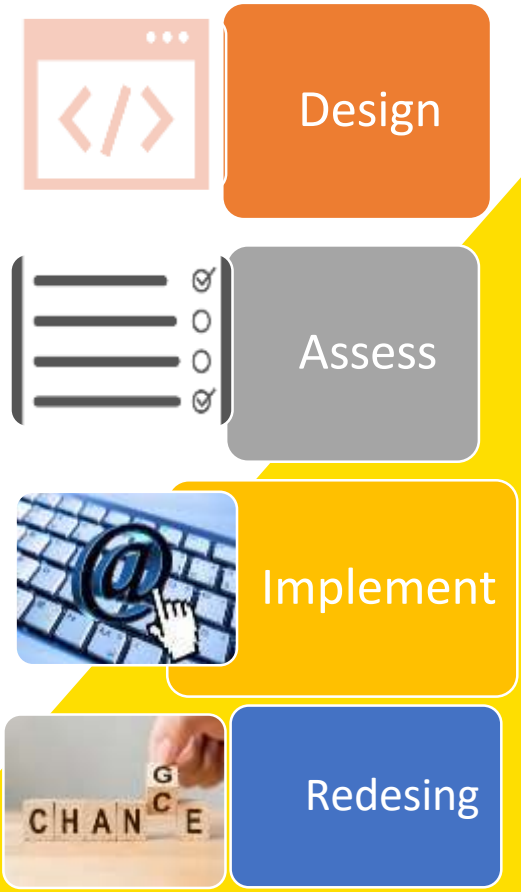
A framework for design (I)

1. Define
   - What do you really want students to learn?
   - What are the technologies that can facilitate this learning?
   - Which one are you going to finally use for the learning objective?

2. Assess:
   - Access to the technology for both, students and lecturers (cost, availability on time, …)
   - Easy to use for both students and lecturers (time needed no know how to use it, comfortability using it, ..)
   - Real impact on learning (support of the goals, engaging, transferability,…)
   - Future use and possible problems of the technology (reliability, novelty, experience, maintenance and upgrade of the technology..)



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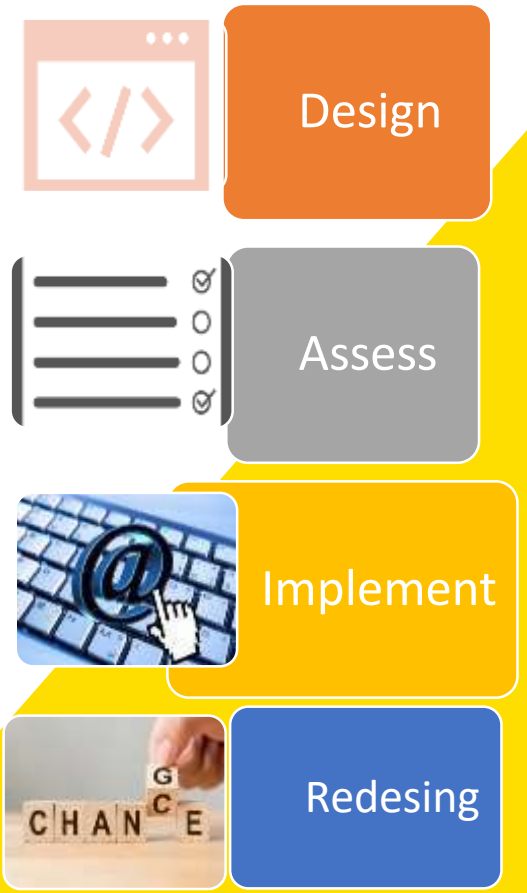
A framework for design (II)

3. Implementing

- Observe the students' attitudes and reactions during the process
- Evaluate the improvements in the achievement of the learning goals
- Gather information directly from the students about their results using the technology
- Evaluate the pros and cons after the use of the technology

4. Redesign

- What worked properly and what didn't work and why?
- Identify the things that are needed to change in the future



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Good practices in the use of technology in classroom

1

1. Incorporate **digital tools** into your lesson plans. Examples of digital tools include digital mapping software, online simulations, interactive whiteboards, video conferencing, game-based learning, and virtual reality.

2

2. Utilize social **media platforms** to engage students in learning. Examples of social media platforms include discussion boards, blogs, wikis, and video streaming.

3

3. Introduce **mobile devices** into the classroom. Examples of mobile devices include tablets, smartphones, and laptops.

4

4. Incorporate **technology-based assessment tools** into the learning design. Examples of technology-based assessment tools include online quizzes, online surveys, and online projects.

5

5. Utilize **online resources to enhance the learning process**. Examples of online resources include online libraries, online tutorials, and online databases.

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Designing authentic and engaging learning interventions

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What is authentic engaging learning?

- **Authentic Engaging learning** is a teaching and learning approach where teachers design learning experiences that will intellectually and emotionally engage students.
- Learning is optimal when is contextualized and situated in real-life experience and authentic activities
- It encourages students to take ownership of their learning actively and learn things that they can apply and are relevant to them to solve real-world problems.
- Authentic learning encourages collaboration, communication, interactions and connections between people through digital technology and critical thinking skills, as well as student-centred, inquiry-based activities

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How to include engaging activities?

1. Incorporate active learning strategies: Active learning strategies such as problem-solving, role-playing, and simulations can help engage learners and make learning more meaningful.
2. Use multimedia: Incorporate multimedia elements such as videos, audio clips, and interactive activities to make learning more engaging.
3. Provide real-world examples: Connecting the learning material to real-world examples can help learners better understand the concepts and make learning more relevant.

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Engaging technologies for learning

Some technologies are more engaging than others, i.e. It is easier to engage:

1. Interactive Learning Software: Interactive learning software is becoming increasingly popular in classrooms. It allows students to learn at their own pace and allows teachers to provide personalized instruction.

2. Virtual Reality (VR): Virtual reality (VR) technology allows students to explore and learn about different topics and environments in a safe and immersive way.

3. Augmented Reality (AR): Augmented reality (AR) technology allows students to explore and interact with virtual objects and information in a real-world environment.

4. Gamification: Gamification is the use of game elements to increase engagement and motivation in learning.

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Engaging technologies for learning

5. Simulations: Simulations are a great way to teach complex concepts and topics in a more engaging way.

6. Adaptive Learning: Adaptive learning technology uses algorithms to personalize instruction and activities to meet a student's individual needs and goals.

7. 3D Printing: 3D printing technology allows students to create physical objects that help them better understand and visualize concepts.

8. Robotics: Robotics technology engages students in a hands-on learning experience that encourages creativity and problem-solving skills.

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Reflection exercise

Now it’s time to apply!!!

Reflect on your current teaching and think about how you can make your students achieve better results through technology. Answer the questions in the second section about how it can affect learning outcomes and design your own plan by choosing some of the examples shown in the third section. Have you planted a plan that is engaging enough for your students?

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Thank you for your participation

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