Dreaming of Constructivist Technology Integration Strategies in Future Teacher Students

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Meaningful Learning in Different Settings

UNIVERSITÉ DU
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ISSUE

1. Need for teachers who are <u>willing</u> and <u>able</u> to <u>design</u>, <u>implement</u> and <u>reflect</u> <u>meaningful</u> and <u>successful</u> educational technology <u>practices</u> in schools (cf. national Digital Education strategy)

2. Current <u>rarity</u> of <u>strategic uses of ICT</u> in education in Luxembourgish schools, the self-declared <u>lack</u> of <u>competencies</u> and the <u>low confidence</u> of teachers when it comes to teaching with ICT (Reuter, Busana & Linckels, 2016)

3. Relative dominance of <u>directed-instruction</u> technology integration <u>strategies</u>
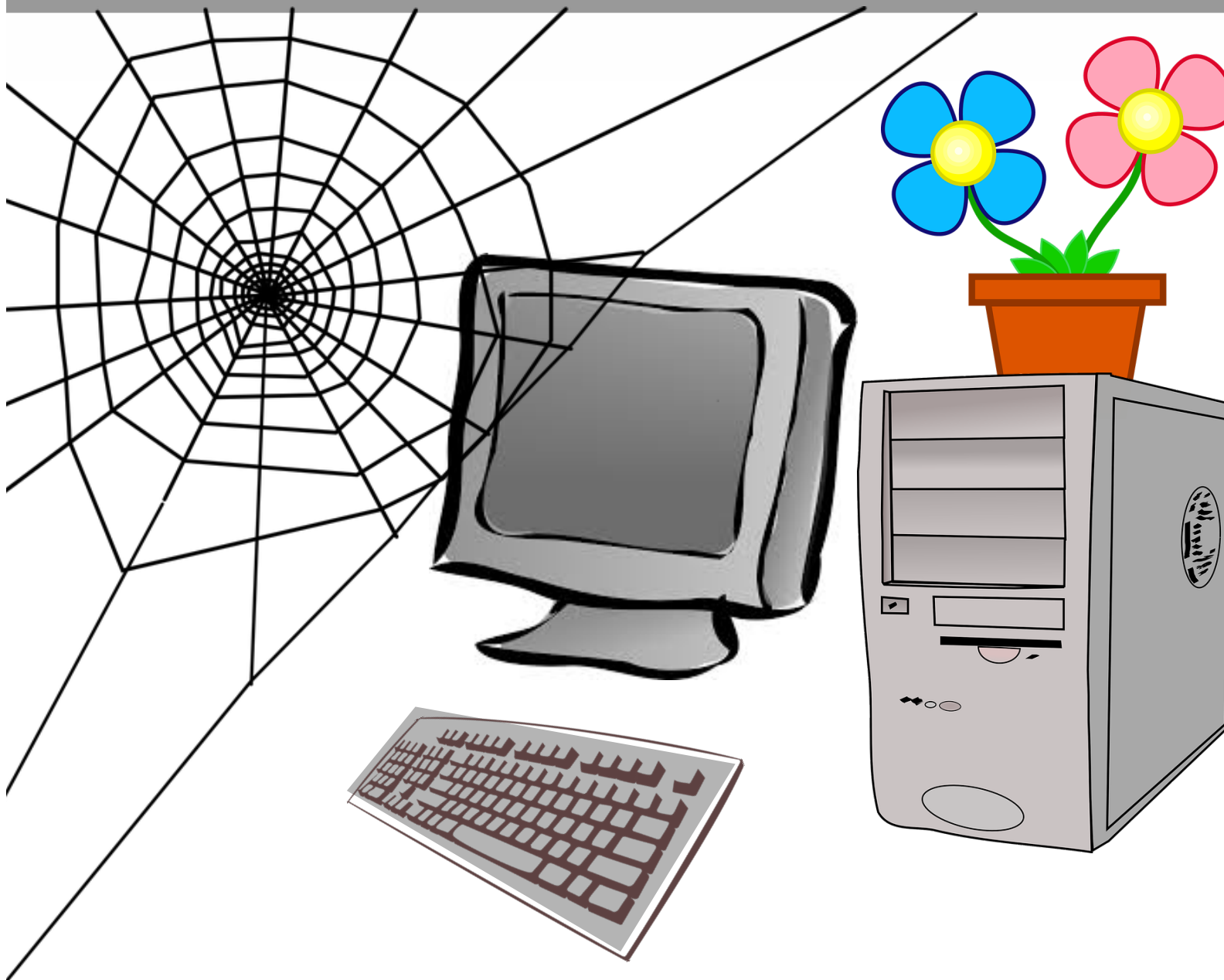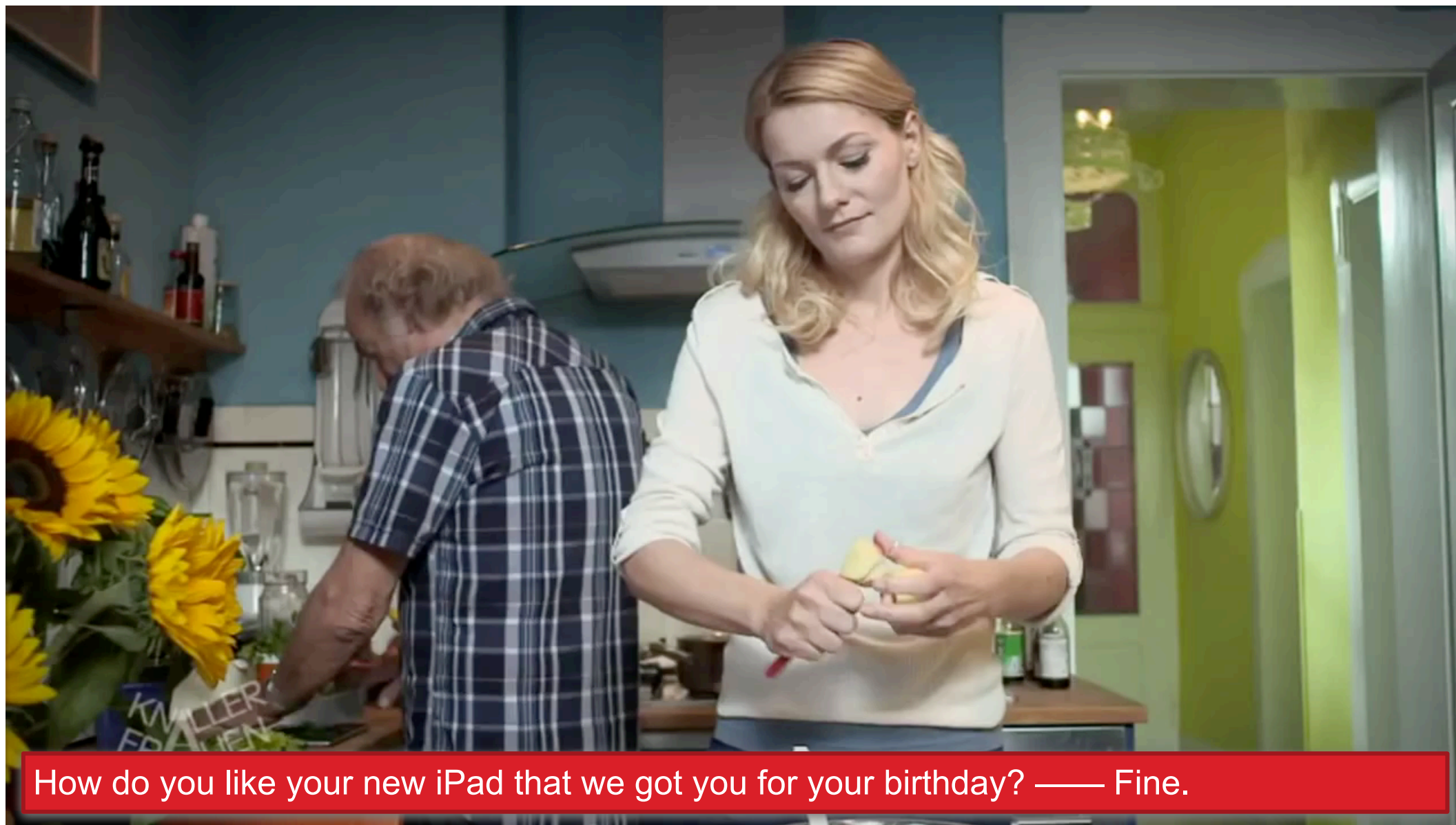
How do you like your new iPad that we got you for your birthday? —— Fine.

TRIPLE E FRAMEWORK

Extend

Does the technology create opportunities for students to learn outside of their typical school day?

Does the technology create a bridge between school learning and everyday life experiences?

Does the technology allow students to build grit skills, that they can use in their everyday lives?

Enhance

Does the technology tool aid students in developing a more sophisticated understanding of the content.

Does the technology create scaffolds to make it easier to understand concepts or ideas
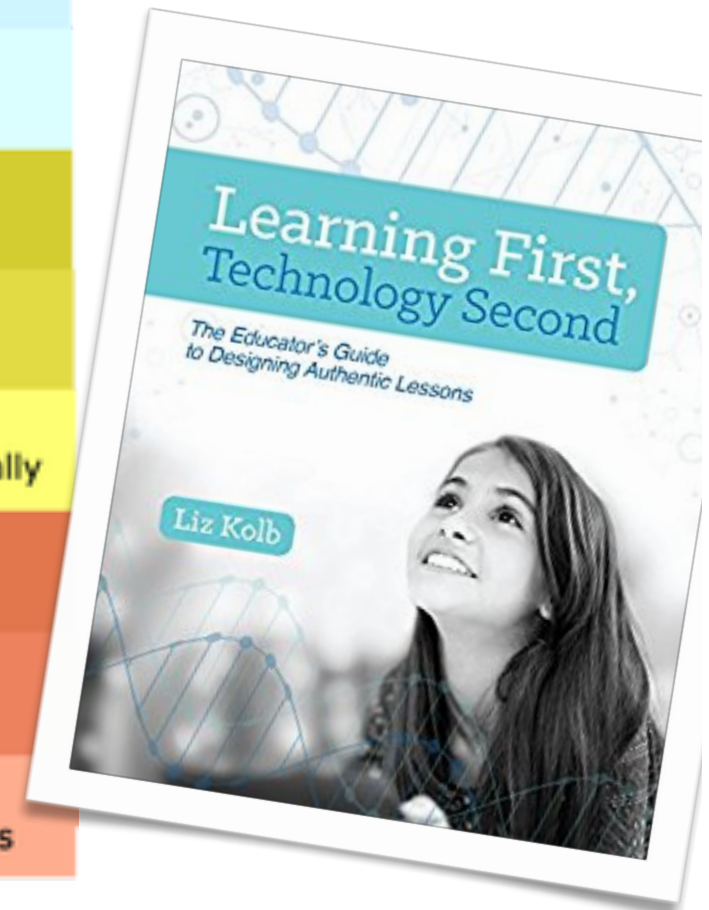
Does the technology allow students to demonstrate their understanding of content that they could not do traditionally
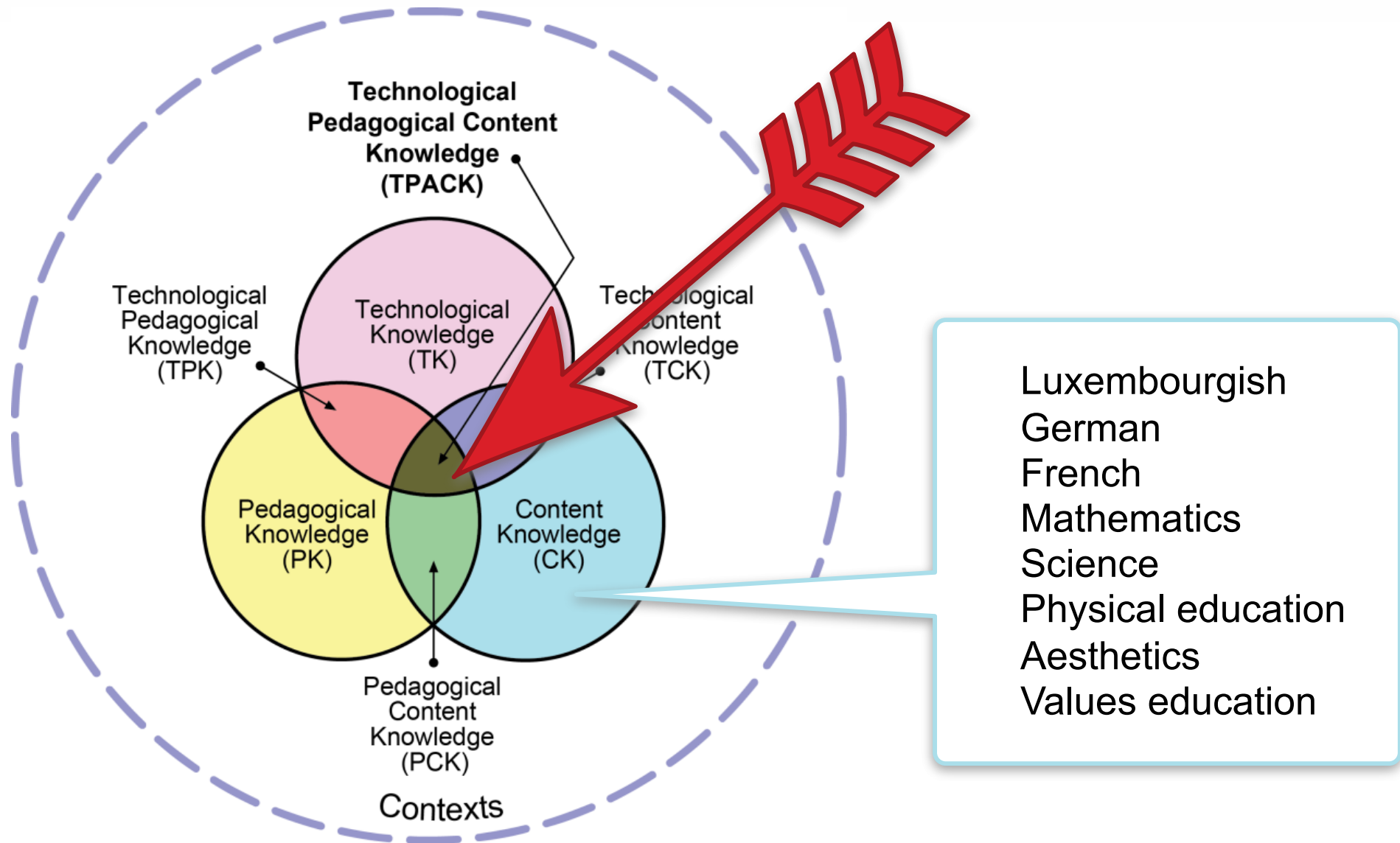
Engage

Does the technology allow students to focus on the assignment or activity with less distraction

Does the technology motivate students to start the learning process

Does the technology cause a shift in the behavior of the students, where they move from passive to active learners

Learning First, Technology Second

The Educator's Guide to Designing Authentic Lessons

Liz Kolb

GOAL: DEVELOP TPACK

Luxembourgish
German
French
Mathematics
Science
Physical education
Aesthetics
Values education

PROPOSED SOLUTION

Project-based approach to the development of <u>practice-oriented</u> TPACK in <u>pre-service teachers</u> in 7th semester:

- Define an educational <u>problem</u> they want to solve,

- Explore existing pedagogical and technological <u>solutions</u>

- Design an <u>original solution</u> that involves the strategic use of ICT.
  NEW CONSTRAINT: CONSTRUCTIVIST foundations only

- <u>Implement</u> the designed learning & teaching scenario in a classroom,

- <u>Document</u> the teaching & learning processes,

- <u>Analyse</u>, <u>evaluate</u> and critically <u>reflect</u> them.

- Structured <u>report</u> about their project

- <u>Presentation</u> to their peers and to interested teachers from schools.

**Adapted from:
BEC-OME-RER by Leclercq & Poumay (2005)**

OBSERVED PRACTICES

- **Collaborative project: students work in pairs**

- **10 sessions**

- **Intermediate deliverables**

- **Organised exchanges between working groups**

- **Coaching by 2 teachers**

- **Final session: project presentation - gallery walk**

- **Selected projects presented by students at an in-service teacher training workshop**

Given our project-based approach, students working on their scenario according to their own pace during the on-campus sessions, many <u>students feel that they could also work from home</u>.

We have worked on the <u>added-value of on-campus sessions</u> by having them present their ongoing project more often to us and their peers.

<u>Tension</u> between "giving recipes" vs. "co-developing solutions".

Given that our students do not have their own classes that they regularly teach, <u>identifying an authentic pedagogical problem</u> is quite challenging to them.

While it is relatively easy to think about general issues in education that are worth solving, these do not necessarily exist in the <u>specific classrooms</u> to which they have access.

Moreover, while we instruct them to first think about the issue before choosing a technology to use, they also need to consider which <u>tools</u> are <u>available</u> in the <u>concrete settings</u> where they will implement their scenario.

They thus often tend to think <u>"technology first, learning second"</u>, which can lead to challenging situations, where the use of ICT does not respond to a real problem and is perceived as a gadget without value.

However, this can also lead to <u>interesting surprises</u>, where the use of new tools allows them to reconsider and to rethink existing pedagogical practices.

Reporting is still (often) problematic

 => Other forms of reporting?

 => Support report writing more closely?

Community of Practice

 => Online publication: planned for this semester's works

 => Present to teachers, authentic audience?

 => Networking with international partners?

CONCLUSIONS

Overall, we observe that while most students become able to design and implement <u>relatively</u> meaningful educational technology practices, they still tend to <u>feel</u> that they are <u>not ready to teach with technology</u> in a more general sense.

Their work was indeed focused on one or two tools and does not give them access to a <u>broader range of meaningful ICT-enriched teaching scenarios</u> for their later professional career.

CONCLUSIONS

In general, we saw that students were able to design <u>rather attractive</u> constructivist learning activities.

<u>Positive feedback</u> from in-service teachers!

We also observed that our students were <u>quite surprised</u> that such activities do not require complicated and expensive tools, but that they can be implemented with <u>standard productivity tools</u>.

THANK YOU FOR YOUR ATTENTION!

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