

*Education on the Horizon: Teaching  
and Learning with Technology*

Week 2: How to Evaluate  
ICT for Teaching?

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Dr. Yizhen (Eejain) Huang

Department Erziehungswissenschaft, University of  
Potsdam



# First, some house cleaning...

- Any remaining questions about the syllabus?
- Course site

Dates	Topic
2022-10-24	<b>W01: Introduction</b>
2022-11-07	W02: How to Evaluate ICT for Teaching?
2022-11-14	W03: Multi-Media Learning
2022-11-21	W04: Embodied Learning (VR / AR)
2022-11-28	W05: Game-Based Learning 1
2022-12-	W06: Game-Based Learning 2

# What is ICT?

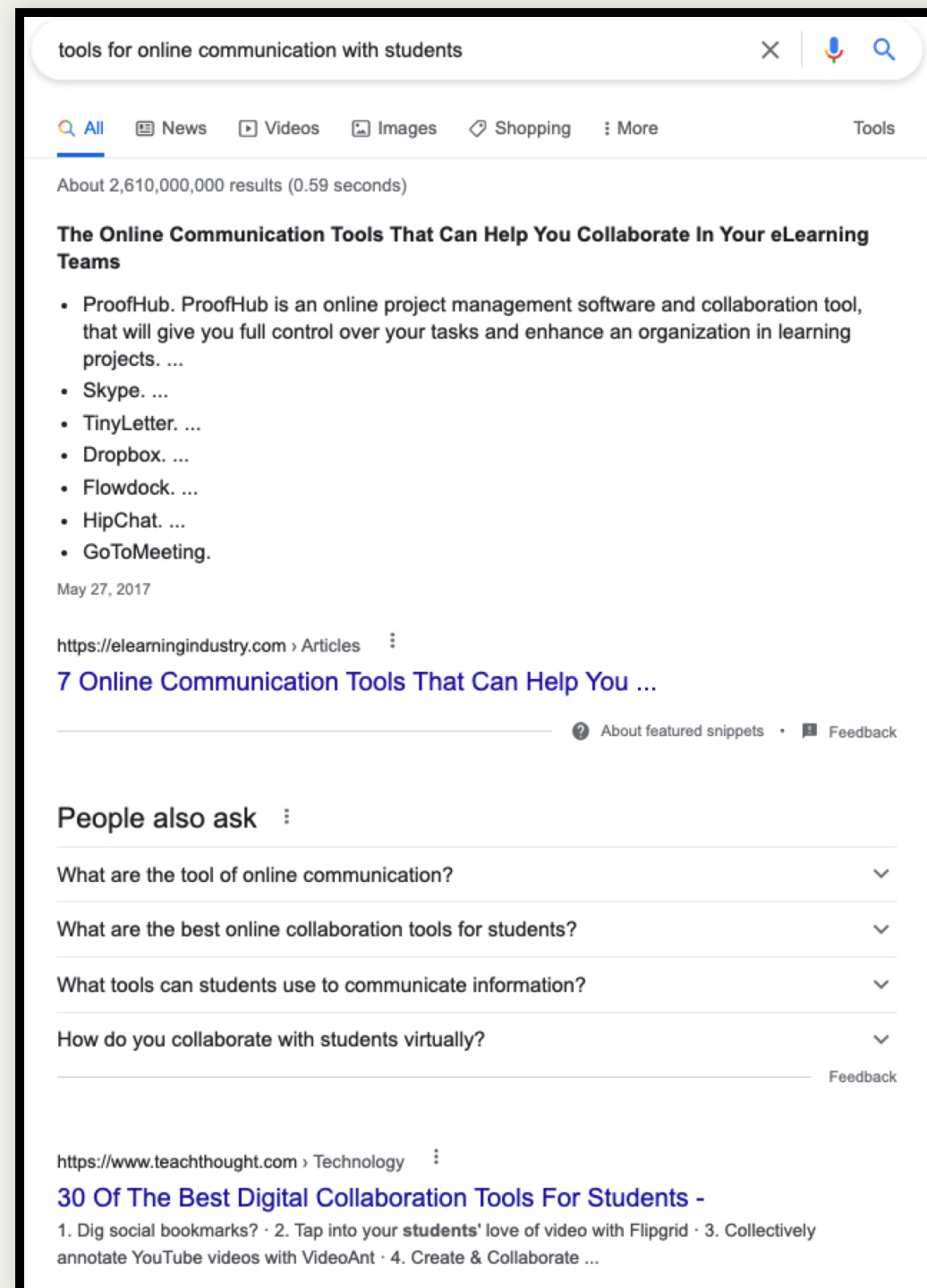
- More than IT (informational technology)
- Information and communications technology (ICT)

# The dilemma of modern educators

- Too many ICT tools that come out too fast
- Yet we have little guidance when making choices
- Will *der Wegweiser* leads us to a wise path?



# Search for a solution in a hurry?



# Prepare a toolbox beforehand!

- All tools have learning curves, do your preparation early



# Our goal for preparing the toolbox





*To teach someone how to fish is better  
than to just give them a fish*



# Selecting a tool: Backward design

- Like always, plan your instructional goals first
- Then think backwards: what kind of tools would you need to fulfill your instructional objective?
  - I want students to be able to...
  - This tool should help students to...
  - Adjectives describing this tool

# Example of using backward design

- I want students to be able to memorize molecule structure
- This tool should help them to reconstruct key elements in the structure
- Therefore, it should have the following feature:
  - interactive 3D modeling (to reconstruct)
  - easy to use (for students)
- Search for "easy interactive 3D modeling software / app"
- Viola, Google gives you many candidates

# Evaluating a tool: SAMR model

- Substitution, Augmentation, Modification, and Redefinition
- Four types of reasons to use new ICT tools over old ones
- A framework to consider: Do you really need the new tool?

*All that glitters is not gold*





# Example of using SAMR

- Use SAMR to make a sentence
- I *substitute* the paper-based flashcards with Quizlet to teach German, because...
  - it *augments* the existing function of flashcards by linking an image or video to the card;
  - it *modifies* the function of flashcards by adding possibility of setting deadline for learning the cards and compare with class mates
  - it *redefines* flashcards because users can make cards together with anyone in the world.

# Create our own ICT toolbox

- Content tools: facilitate delivering certain content.  
Khan Academy, Google Arts & Culture
- Assessment tools: evaluate what students know.  
Kahoot, Google Forms
- Community tools: enable group and collaborative work. Hypotes.is, Diigo, Notion
- Creative tools: allow students to create their own work. Canva, Adobe Spark



# Workflow

# Resources

- A good example of ICT showcase:  
<https://blogs.umass.edu/onlinetools/>
- A data base for edtech tools:  
<https://database.edtechhub.org/tools/>
- Additional reading:  
<https://edtechbooks.org/digitaltoolsapps/teachingv>
- Don't overwhelm yourself, think about backward des

