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How to choose digital tools for higher education

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Starting With “Why”: How I Choose Digital Tools to Support Students Learning

"Backward design" - that is, start with the question: "What learning effect should my students achieve?

When it is necessary to explain why my students participate in these activities, what would I say?

If we reflect on our "why", it is possible to step back from that result - at this point think about tools that can help our students.

Each tool should support three basic goals: motivation to develop independently; developing learning skills; mastering the standards.

Constructive allignment

https://www.teacher2teacher.education/2020/12/06/starting-with-why-how-i-choose-digital-tools-to-support-my-students/

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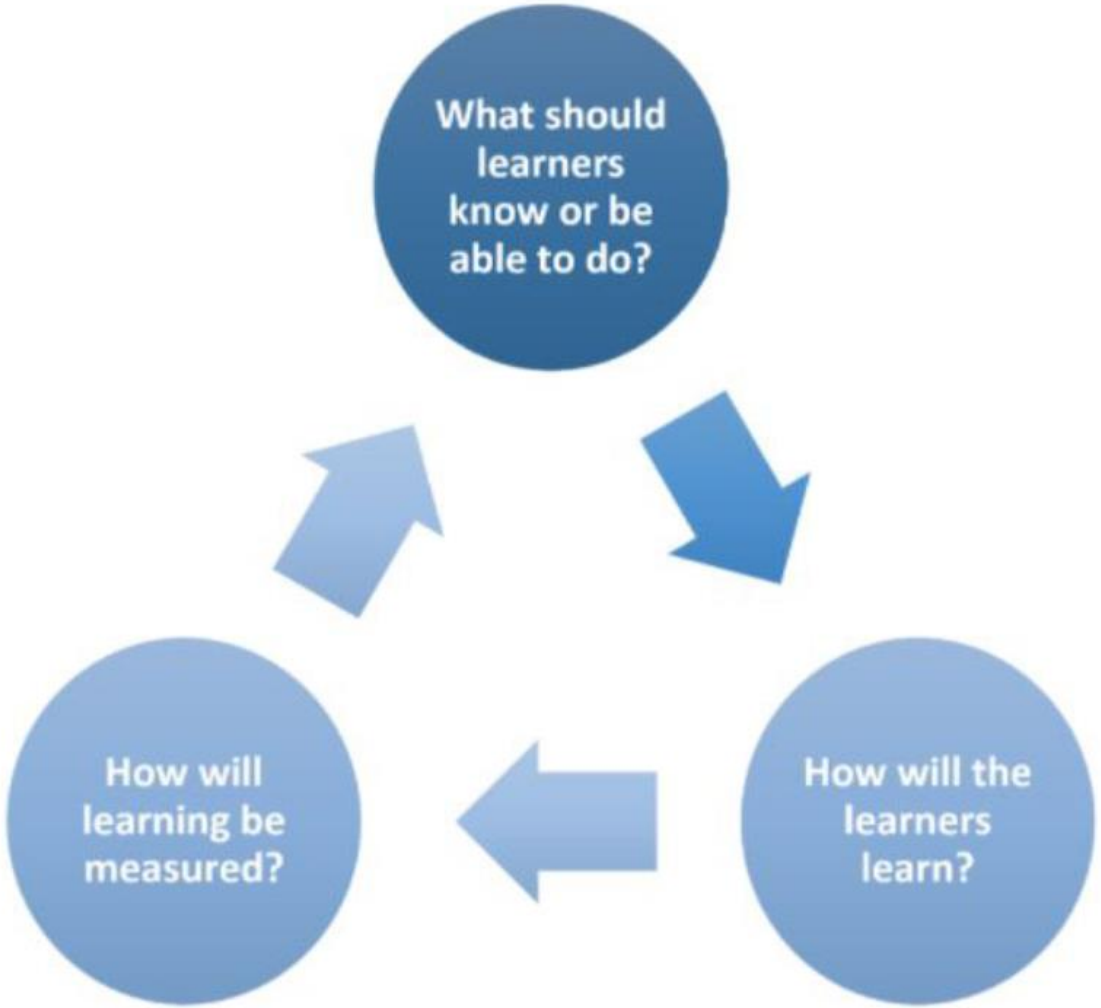
Constructive allignment



http://ectn.eu/work-groups/stem-cpd/

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Constructive allignment

Constructive alignment means synchronising pre-defined objectives, learning and teaching activities and assessment tools. It is strongly based on active learning and student involvement. It seems to be one of the most influential teaching philosophies in higher education today.

When creating a course (unit), ask yourself the following questions:

✓What should students know or be able to do after the course or course unit (what outcomes do you want to achieve with these students?)

✓What learning and teaching activities should you undertake to enable students to acquire these skills?

✓How to assess whether the learners have sufficiently mastered the intended competences?

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Constructive allignment

Step 1: Start with learning outcomes.
What do I want students to know and be able to do when they leave this course? Use skills across Bloom taxonomy to write your aims.

Step 2: Choose assessment methods
What kinds of tasks will reveal whether students have achieved the learning objectives I have identified? Think of assessment methods that allow students to demonstrate that the aim(s) of the course have been met.

Step 3: Decide on teaching and learning activities
What kinds of activities in and out of class will reinforce my learning objectives and prepare students for assessments?

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Starting With “Why”: How I Choose Digital Tools to Support My Students

1. Using virtual tools to promote voice and choice

2. Building learning skills by building edu-tech skills

3. Using digital feedback to promote student success

https://www.teacher2teacher.education/2020/12/06/starting-with-why-how-i-choose-digital-tools-to-support-my-students/

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1. **Using virtual tools to promote voice and choice**
   Teaching in the virtual classroom gives me really exciting tools to promote this differentiated learning: I use rooms / subgroups to create discussion groups, link them to shared Docs or Google Slides, and give each student a choice of how to engage and what is their responsibility

https://www.teacher2teacher.education/2020/12/06/starting-with-why-how-i-choose-digital-tools-to-support-my-students/

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2. Building learning skills by building ed tech skills

How skillfully students use digital tools? if the tool (e.g. at the beginning of the semester) is new for students, it would be good to use it in a simple way, so that the students feel confident and able to use it relatively independently.

At the same time, it is worth that the tool could be used for deeper learning in the long term. In this way, students become more adept at using digital methods of working independently and together. Additionally, their ed-tech skills enhance their learning skills.

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3. Using digital feedback to promote student success

Feedback is a complementary part of learning and therefore the third point also relates to the first (choice and communication).Feedback is suggested not only in writing (comments in a text file) or a descriptive evaluation but also for viewing or listening.

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At the beginning, it is worth browsing the available resources and finding ideas for using them. Here are some basic considerations when choosing a tool:

Is it free?

Do I need an account?

Do my students need an account? If yes, what kind of information does the service ask for?

Does it offer teacher accounts?

What are the Terms of Service? Can my students legally use the site?

Can my students' finished products be easily archived or shared?

https://www.edutopia.org/blog/best-tech-tools
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Consider working with a given tool and how it will be used by students. A few things to consider when getting to know the tool:

How long will it take my students to set up an account or log in?

What are the most vital workings of the tool that I will need to show my students to get them started?

How long will it take to produce a finished product?

How will my students hand in their work?

https://www.edutopia.org/blog/best-tech-tools

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Seven Items to Consider When Choosing Tools or Activities

Related to **technology** specifically, the education research indicates that underserved students benefit from:

- Opportunities to learn that include one-to-one access to devices.
- High-speed Internet access.
- Using technology designed to promote high levels of interactivity and emphasize discovery.
- The right blend of teachers and technology and only rarely one without the other

https://www.edsurge.com/news/2016-06-25-what-7-factors-should-educators-consider-when-choosing-digital-tools-for-underserved-students

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Seven Items to Consider When Choosing Tools or Activities

Related to the **context**, education research tells us that underserved students benefit from:

• Learning activities that focus on the development of higher order thinking skills (such as problem solving, making inferences, analyzing, and synthesizing) and 21st century skills.

• Learning activities that draw on culture and community, specifically activities that integrate culturally relevant practices

• Underserved students benefit from learning activities that provide them with opportunities to drive their own learning.

https://www.edsurge.com/news/2016-06-25-what-7-factors-should-educators-consider-when-choosing-digital-tools-for-underserved-students

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Successful technology implementation in education demonstrates a high degree of fit within and between these seven key elements.

The abilities, thinking and convictions of the learning community, including the teacher implementing the tool, but also members of the wider community, including other teachers, administrators, IT staff and parents.

It is worth preparing a step-by-step implementation plan with dates and measurable goals that will bring applications into high alignment within an acceptable time frame.

https://www.edsurge.com/news/2016-06-25-what-7-factors-should-educators-consider-when-choosing-digital-tools-for-underserved-students

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Seven key aspects to adapt when analyzing or adopting technology:

1.Student needs.

2.The specific learning objectives and intended outcomes

3.The details of the learning activitie

5.The specific features of the digital resource being used.

6.The model students will use for accessing the technology (e.g. BYOD).„

7.The site and district technology infrastructure

https://www.edsurge.com/news/2016-06-25-what-7-factors-should-educators-consider-when-choosing-digital-tools-for-underserved-students

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Tools can be divided according to various features, dividing lines. For the purposes of the presentation, the proposed tools have been divided according to the possibility of use / applicability.

Some tools can be used in several areas.

• **Open Educational Resources**

Offer ready-made educational materials freely available for teachers to use, adapt and distribute

• **Quick montage and editing tools**

For quick assembling all possible types of materials

• **Tools for communication, collaboration and sharing**

To make enable collaboration and innovative developments, collective file creation, games, activities. Offer space for discussion, sharing and storage.

• **Tools for student assessment and evaluation**

To collect information about students and his work and development

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Open Educational Resources

Khan Academy
PhET Science Simulations
TED
Coursera
GapMinder
Open Learn, The Open University
National Center For Case Study Teaching in Science
Play Decide
Library of Congres
Connexions Open Stax Textbooks
MIT OpenCourseWare

Applied Math and Science Education Repository
Merslot
OER Commons
The National Academies Press
Wikibooks
University of Hawai‘i OER
Open Textbook Library
Smithsonian Open Access
HippoCampus. org
BCCampus OpenEd
Open Stax.org

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Quick montage and editing tools

Clarisketch
Comixify
FilmoraGo
Kizoa
Lumen5
Pixton
PosterMyWall
Thinglink
Loom

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Tools for communication, collaboration and sharing

ActionBound
AnswerGarden
Blogger
Canva
Coggle
EdWordle
Emaze
Genially
Google Classroom
Google Drive
Khan Academy
Lino
Mentimeter
MindMup
MonkeyLearn
Moodle
MSTeams
LearningApps
Nearpod
OneDrive
Padlet
Prezi
Sway
Tagxedo
TED
Trello
Tricider
Wakelet
WordArt
WordItOut
Wordsift

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Tools for student assessment (Evaluation)

ActionBound
Coggle
Genially
Google Classroom
Kahoot
Khan Academy
LearningApps
MindMup
Moodle
MSTeams
Nearpod
Padlet
Quizizz
Socrative

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Boettcher, J. V., & Conrad, R. (2021). *The online teaching survival guide: Simple and practical pedagogical tips*. John Wiley & Sons.

Casey, M. et al.(2018). *Online teaching: Tools and techniques to achieve success with learners*. Rowman & Littlefield.

Cleveland, A., & Sharp, S. (2019). *50+ tech tools for school counselors: How to be more engaging, efficient, and effective*. Corwin Press.

Karchmer-Klein, R. (2020). *Improving online teacher education: Digital tools and evidence-based practices*. Teachers College Press.

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McKenzie, S. et al. (2020). *Tertiary online teaching and learning: TOTAL perspectives and resources for digital education.* Springer.

Supporting the continuation of teaching and learning during the COVID-19 Pandemic Annotated resources for online learning https://www.oecd.org/education/Supporting-the-continuation-of-teaching-and-learning-during-the-COVID-19-pandemic.pdf

The Most Comprehensive List of FREE Online Tools for Teachers https://ce.csueastbay.edu/files/docs/free-tools-blog-final.pdf

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Evaluation of Evidence-Based Practices in Online Learning A Meta-Analysis and Review of Online Learning Studies https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf

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Constructive Alignment https://www.teaching-learning.utas.edu.au/unit-design/constructive-alignment

Which Technology Tool Do I Choose? https://www.edutopia.org/blog/best-tech-tools

What 7 Factors Should Educators Consider When Choosing Digital Tools for Underserved Students? https://www.edsurge.com/news/2016-06-25-what-7-factors-should-educators-consider-when-choosing-digital-tools-for-underserved-students

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