

GreenVETAfrica

Teachers training on Green Waste
Management
Module 2 - Digital Pedagogy
Date



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the European Union

2023-2024 GreenVETAfrica



GreenVETAfrica mission is to offer an innovative capacity building programme on Green Waste Management in Nigeria and Ghana

The role of Technology in teaching

Unit 1 – Lesson 1

Unit objective: understand the role of technology in teaching and its potential for enhancing learning outcomes.

Knowledge domain: Teaching and pedagogical methods



Unit 1

Digital pedagogy

The Digital Pedagogy unit aims to equip participants with the knowledge and skills to leverage technology in teaching, utilize educational technologies effectively, develop engaging digital content, employ digital pedagogy strategies, and design inclusive learning activities.

Objectives:

- Understand the role of technology in teaching and its potential for enhancing learning outcomes.
- Identify and categorize various educational technologies (e.g., apps, platforms) and comprehend their key features and benefits.
- Create and share multimedia content for digital teaching and learning.
- Apply effective methods and strategies of digital pedagogy (e.g., active learning, meaningful learning, cooperative learning).
- Design and test inclusive learning activities that meet the diverse student needs.

Unit 1

Classroom management

The Classroom management unit equips participants with the knowledge and skills to effectively utilize technology for classroom management using innovative strategies, assume the role of a facilitator and manager, evaluate activities, and design engaging cooperative learning tasks.

Objectives:

- Explore innovative models of technology-supported classroom management.
- Understand the principles and implementation of the flipped classroom model.
- Learn effective strategies for cooperative learning and promoting positive interdependence among students.
- Recognize the role of the teacher as a facilitator and manager in a technology-enhanced learning environment.
- Develop skills in evaluating activities and providing constructive feedback.
- Design and test engaging cooperative learning activities aligned with curriculum objectives.

Learning outcomes

Learning outcome 1:

participants will be equipped with the knowledge and skills to effectively integrate technology into their teaching practice, utilizing a range of educational technologies to create and share multimedia content, apply effective digital pedagogy methods and strategies, and design inclusive learning activities that cater to diverse student needs.

Learning outcome 2:

participants will be able to effectively leverage technology to create an inclusive and engaging learning environment by implementing innovative models of classroom management, using innovative teaching strategies, assuming the role of a facilitator and manager, evaluating activities, and designing and testing cooperative learning tasks aligned with curriculum objectives.

What are educational technologies?

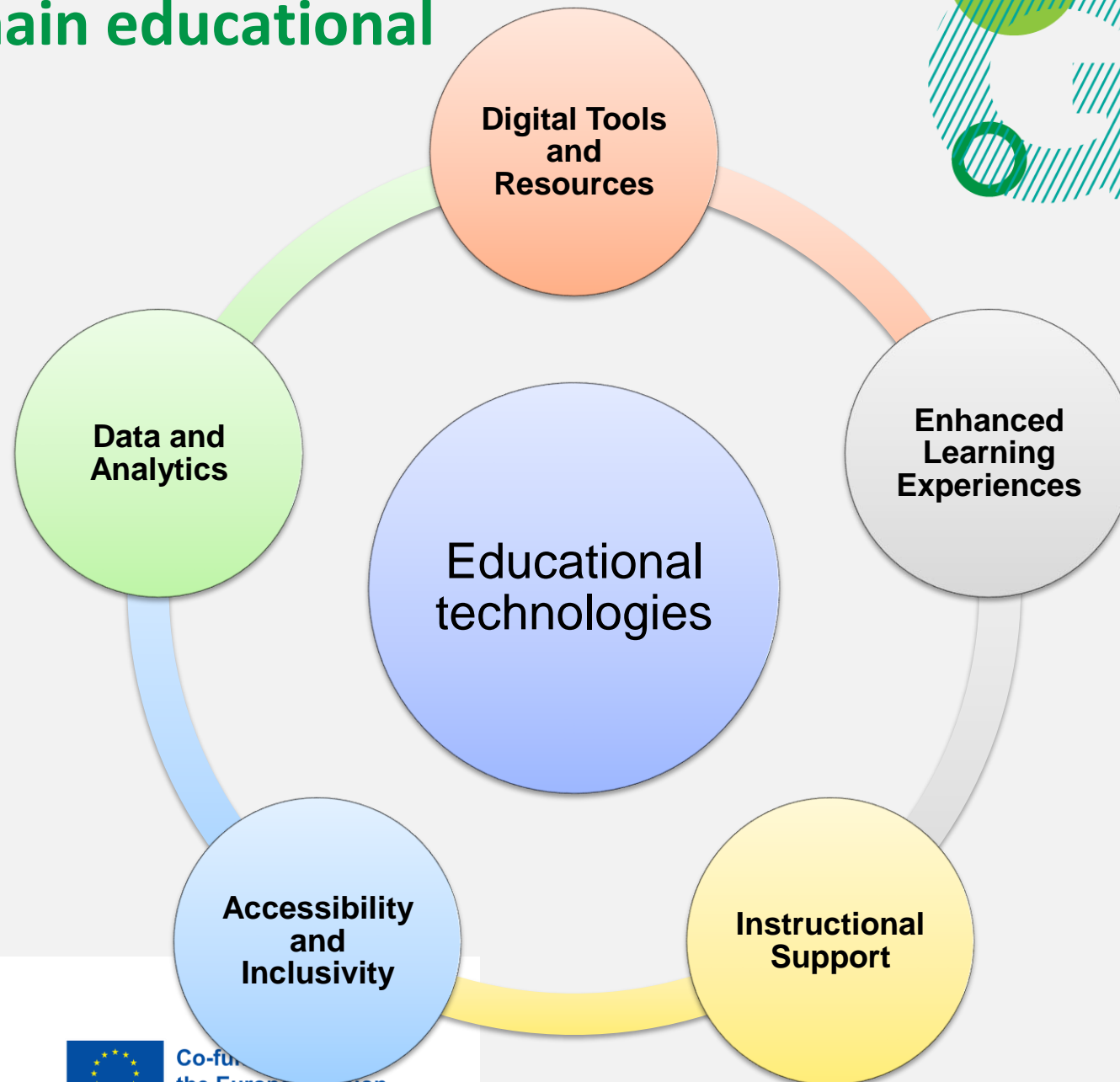
Short definition

Educational technologies encompass digital tools and resources that enhance learning experiences, support educators, promote inclusivity, and provide valuable data for educational improvement. They are a dynamic and evolving field with the potential to transform the way we teach and learn.



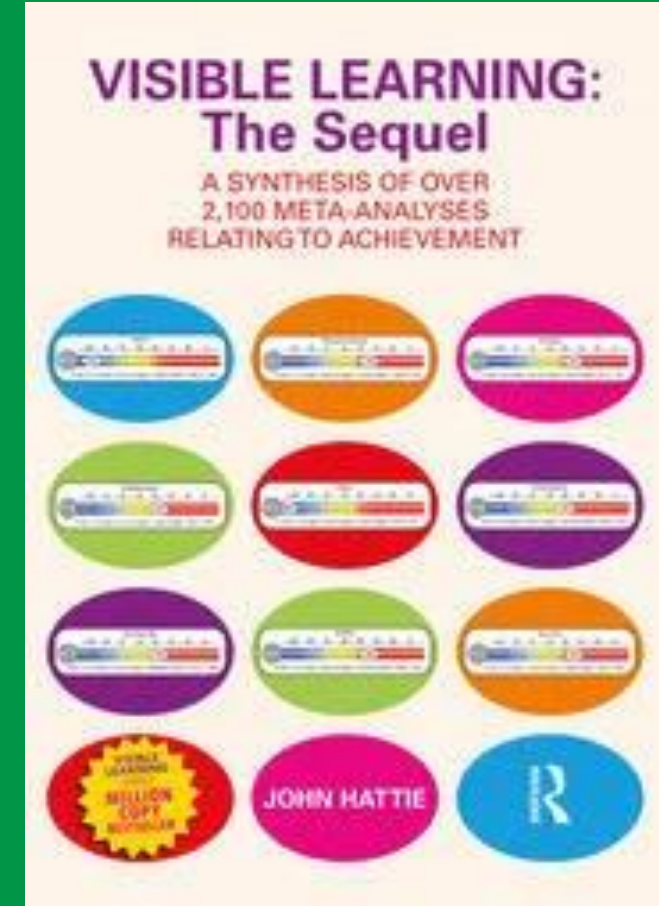
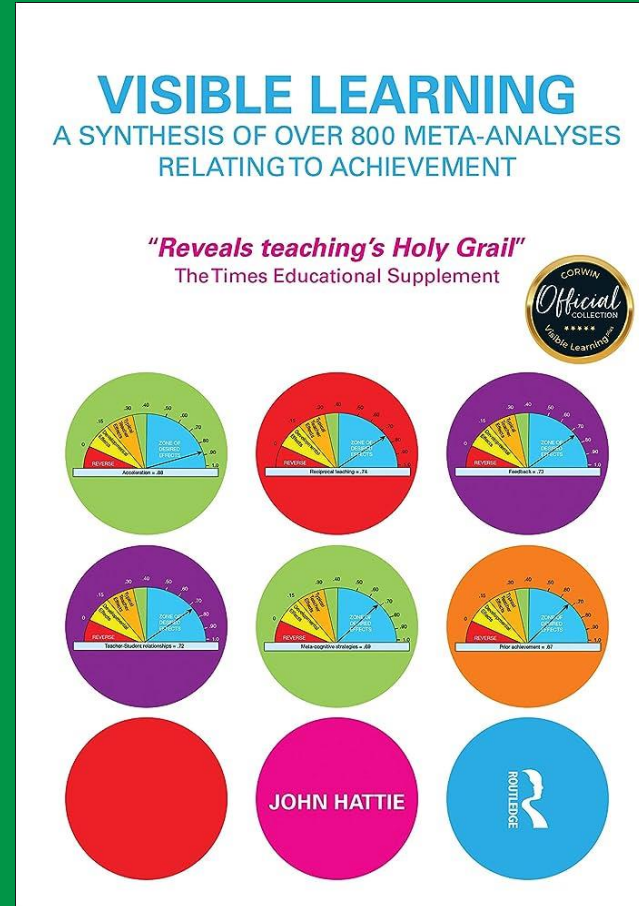
What are the main educational technologies

5 categories



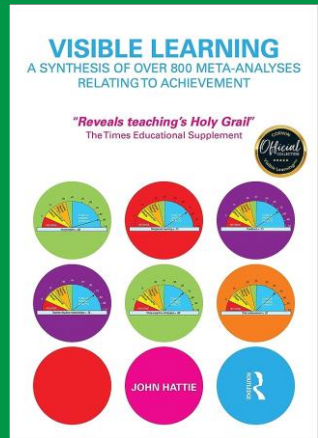
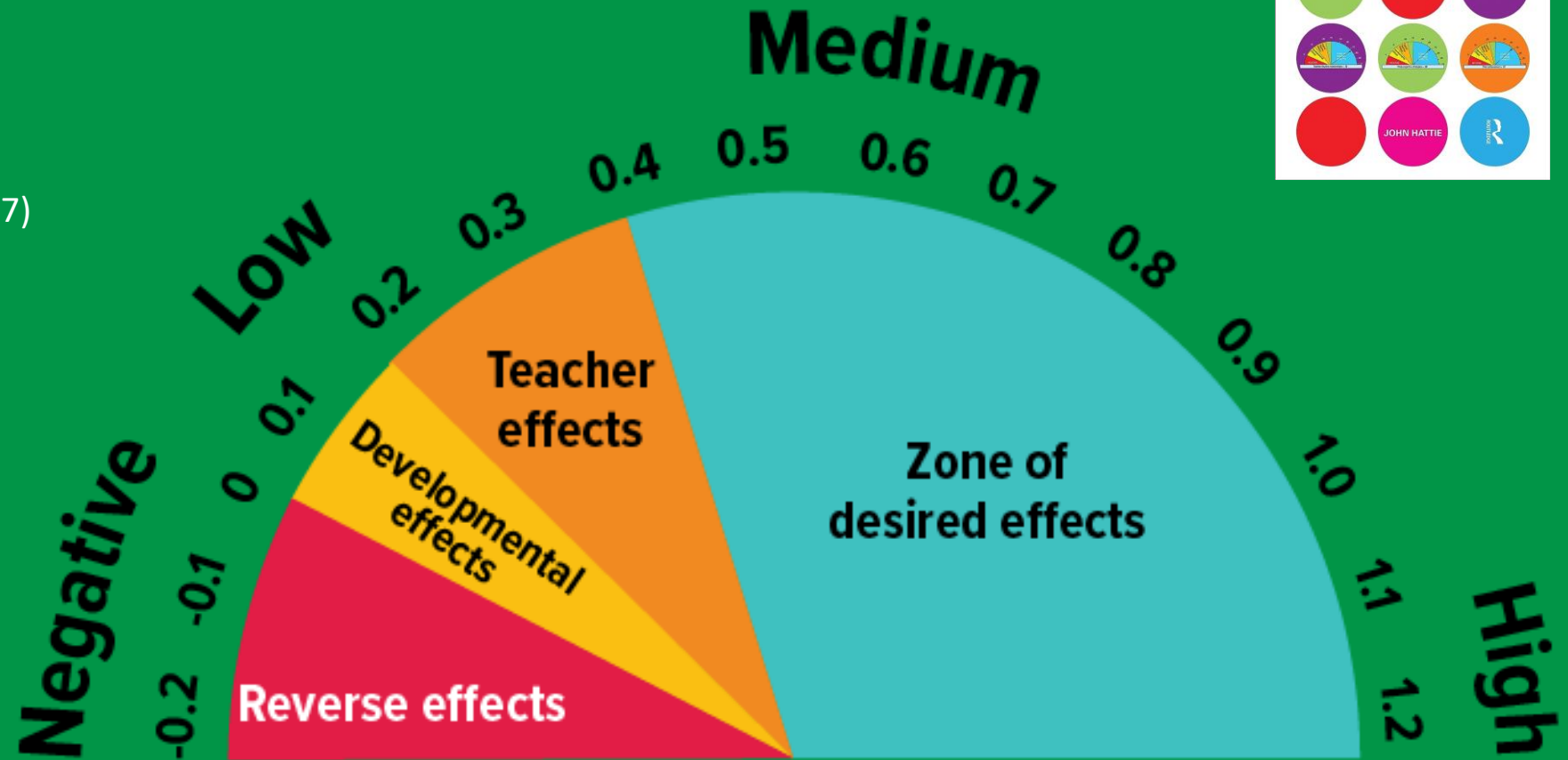
Does the use of educational technologies improve learning processes?

Research results

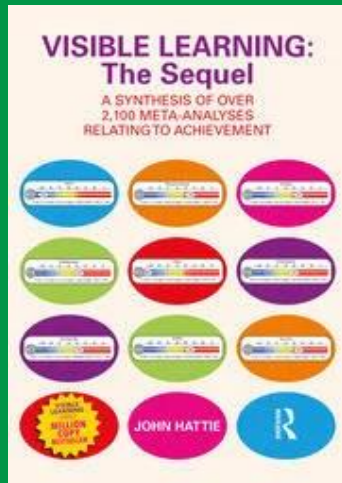


Results in 2009

- Interactive-videos (ES 0.52)
- Computer-assisted instruction (ES 0.37)
- Simulations (ES 0.33)
- Programmed instruction (ES 0.24)
- Audio-visual methods (ES 0.22)
- Web-based learning (ES 0.18);
- Distance learning (ES 0.09)



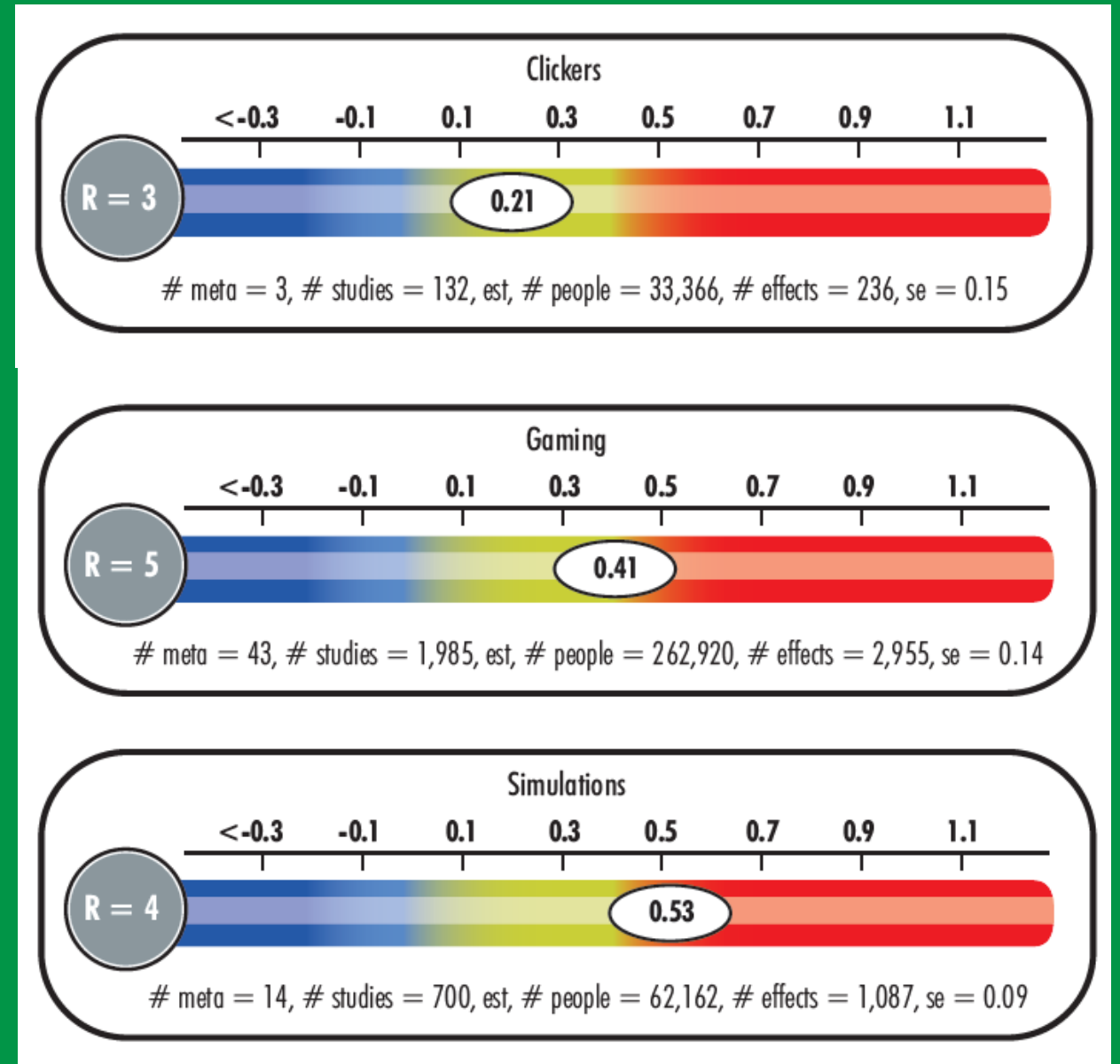
New results in 2023



Use of APPS (0.21)

Gaming (0.41)

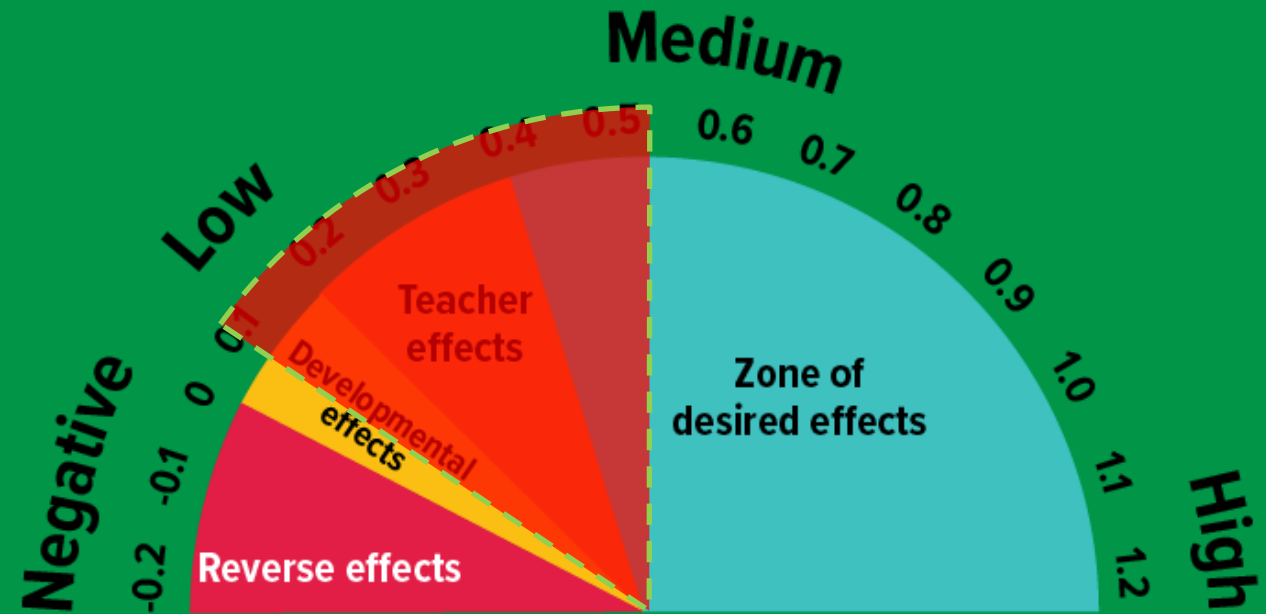
Simulation (0.53)



Some considerations

With a few exceptions, the impact of the use of technologies on the effectiveness of school learning is not significant

On the one hand the scarce effect is confirmed, but on the other hand we see variations depending on the context and the subject



Some considerations

The most advanced technological constructivism is questioned
- **Cognitive load theory** (Sweller, 1994)

An **excess of open activities** (learning by discovery, Internet searches, preparing PowerPoint presentations) can make it difficult for students to focus their attention on what matters, as they often like to explore details, irrelevant or unimportant things while doing these activities (Hattie 2009)



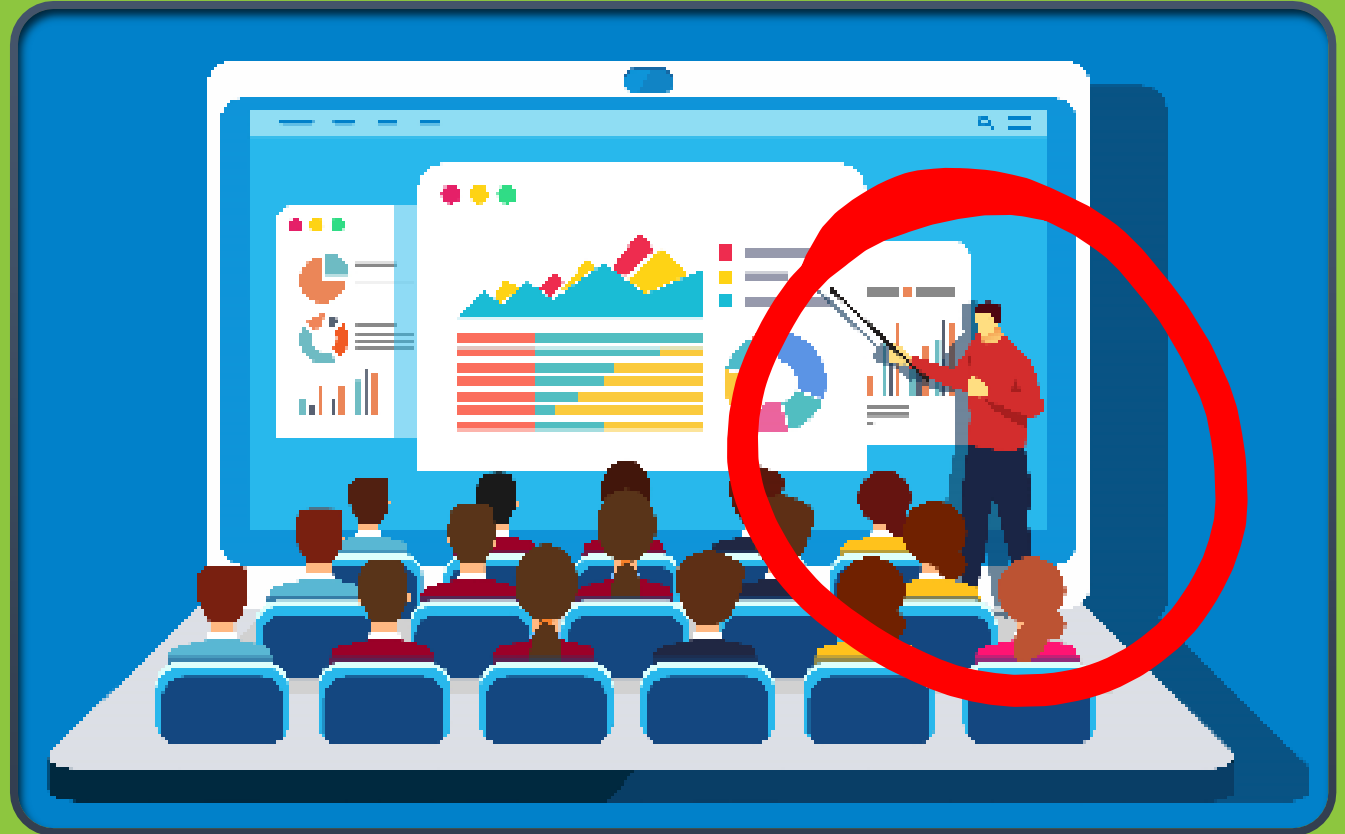
Some considerations

The a-critical introduction of large-scale technologies (almost) always fails in the objective of improving the quality and quantity of learning, with expenditure of human and financial resources.



The centrality of the teacher's actions

- Technologies should not be viewed as inherently decisive, but rather as tools that supplement, rather than replace, **the quality of teaching interactions and strategies developed by teachers.**
- The use of technologies cannot be based on **tools or content**, but on **students** and their role in the learning process.



Beware of Uncritical Enthusiasm



Steps for educational technology implementation



Infrastructure

- Few tools but stable
- Focus on services (network stability, maintenance of a learning platform) instead of devices



Teachers

- Gradually involve teachers
- Organize training interventions
- Propose tools while also leaving room for creativity



Use of technologies

- Using technologies to support teaching
- Integrating the use of technology in instructional design

Let's take a look at ...

Timetoast and Prezi



<https://prezi.com/tos31lfyygoa/educational-technology-timeline/>



<https://www.timetoast.com/timelines/history-of-educational-technology-589c8de9-adec-48ba-9a7b-2113b3465f4c>

Timetoast

Link	www.prezi.com
In summary	It allows for dynamic presentations through which sections can be zoomed in and out by navigating in a two-dimensional space (not just sequential like Power Point). Direct links to external materials such as Youtube videos, online articles, Wikipedia pages etc. can also be inserted within the presentations. Saved presentations are automatically made public, that is, accessible to all Prezi users who can also view and edit presentations created by others.
It could be useful for:	<ul style="list-style-type: none">• Create presentations that can be used to make classroom lectures more effective as the two-dimensionality of presentations can be useful in giving a more consistent representation of the logical links between concepts• Have multiple students work simultaneously on the same presentation; since it is an online and public tool, multiple students can work together on the same presentation or rework those already on the portal



Timetoast

Account:	Required
Technical characteristics:	<ul style="list-style-type: none">• Web-based• Videos can be embedded within blogs, virtual classrooms etc. via embed code- Presentations can also be saved locally (on one's own computer).• An app is also available for Android and ios that simplifies/easy to use on mobile devices
Similar instruments	Powtoon - http://www.powtoon.com/ Allows you to create presentations with animated characters



Timetoast



Link	http://www.timetoast.com
In summary	It allows you to create interactive timelines within which you can insert information, photos, geographic directions, videos and external links. You can create a timeline in collaborative mode and share it with other users.
It could be useful for:	<ul style="list-style-type: none">• Reconstruct together with students the sequence of events inherent in a particular historical theme by searching for information online• Reconstruct biographies of authors and historical figures• Keeping track of current news stories• Keeping track of the educational coursework carried out during the school year• Propose it to students as a tool to be used independently to facilitate learning• Propose it to students as a tool with which to elaborate a response to an assignment



Timetoast



Account:	Required
Technical characteristics:	<ul style="list-style-type: none">• Web-based• Timelines created or already on the platform can be embedded within blogs, virtual classrooms etc. via embed code
Similar instruments	<p>https://www.preceden.com/ (automatic timeline generator)</p> <p>http://www.tiki-toki.com/</p>



Task 1

Think of a situation in which you used educational technologies in an educational/training context in which you perceived their usefulness.

If not

Think of a training goal for which you think educational technologies might be useful

Complete the form

Let's try using **Google form!**



Google Forms

Bibliography

Bonaiuti, G., Calvani, A., Menichetti, L., & Vivanet, G. (2017). *Le Tecnologie Educative* (1st ed.). Carocci editore.

Hattie, J. (2023). *Visible learning: The sequel: A synthesis of over 2,100 meta-analyses relating to achievement*. Taylor & Francis.

Hattie, J. A. (2009). *Visible learning: A synthesis of 800+ meta-analyses on achievement*. Routledge.

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