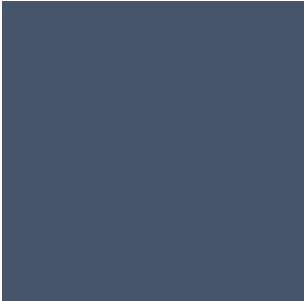


PERSONAL LEARNING ENVIRONMENTS (PLEs) as DIGITAL LEARNING ECOSYSTEMS

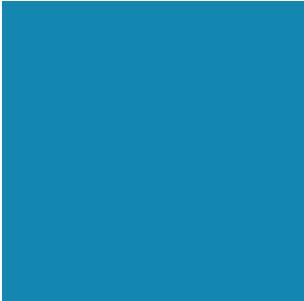


Nada Dabbagh
Professor & Director
Division of Learning Technologies
George Mason University

PRESENTATION TOPICS



Technology and Pedagogical Ecology



Technologies used for Learning



Personal Learning Environments



Learning Ecosystems



TECHNOLOGY and PEDAGOGICAL ECOLOGY

Technology is not JUST A TOOL !!!

Different technologies have different
affordances
capabilities, or possibilities for action



Marshall McLuhan

The medium is the message – media ecology

Communication technology is the primary cause for social change

Theory of Affordances

Perception vs Information Processing

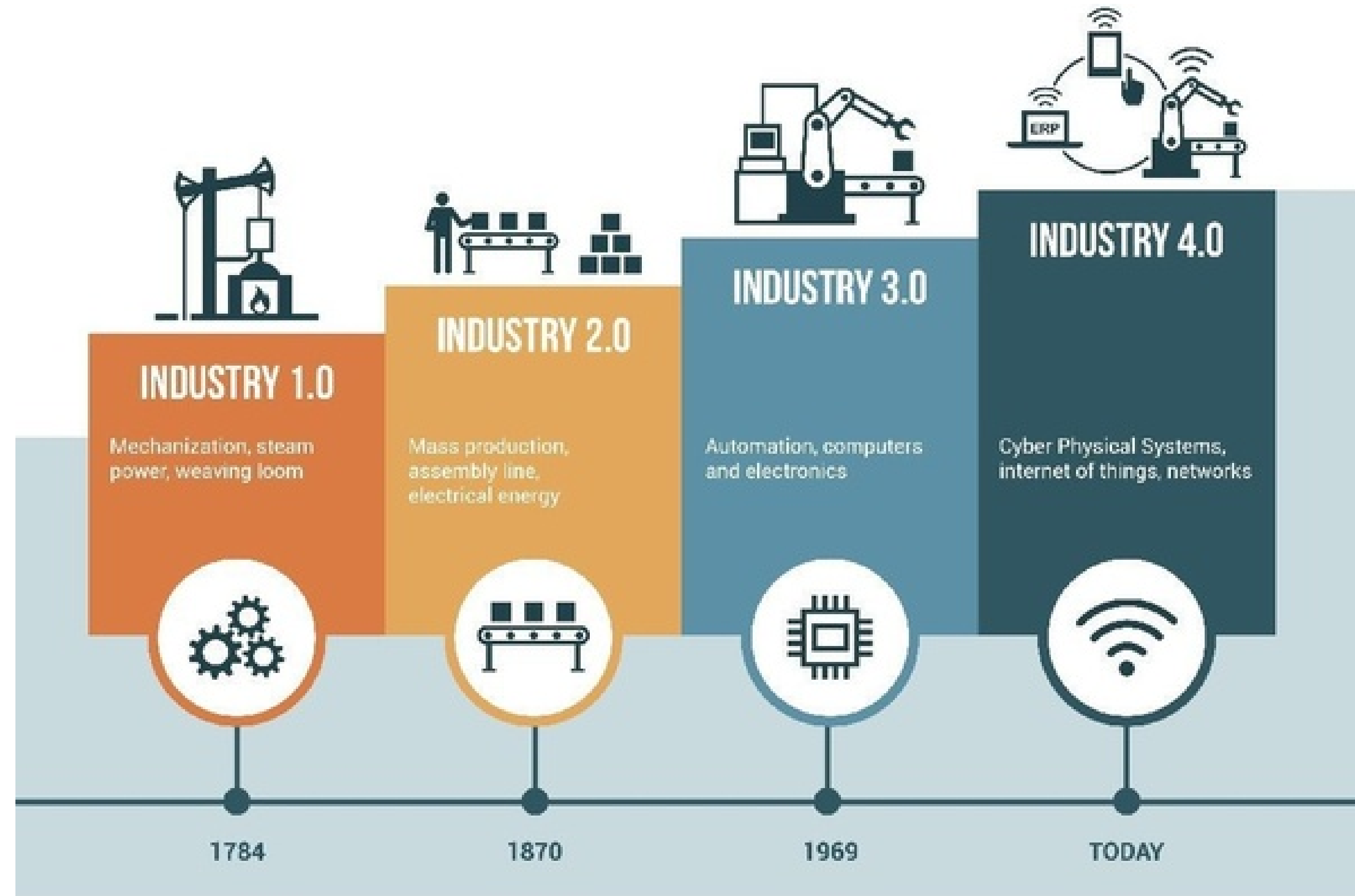
HCI Design



James Gibson

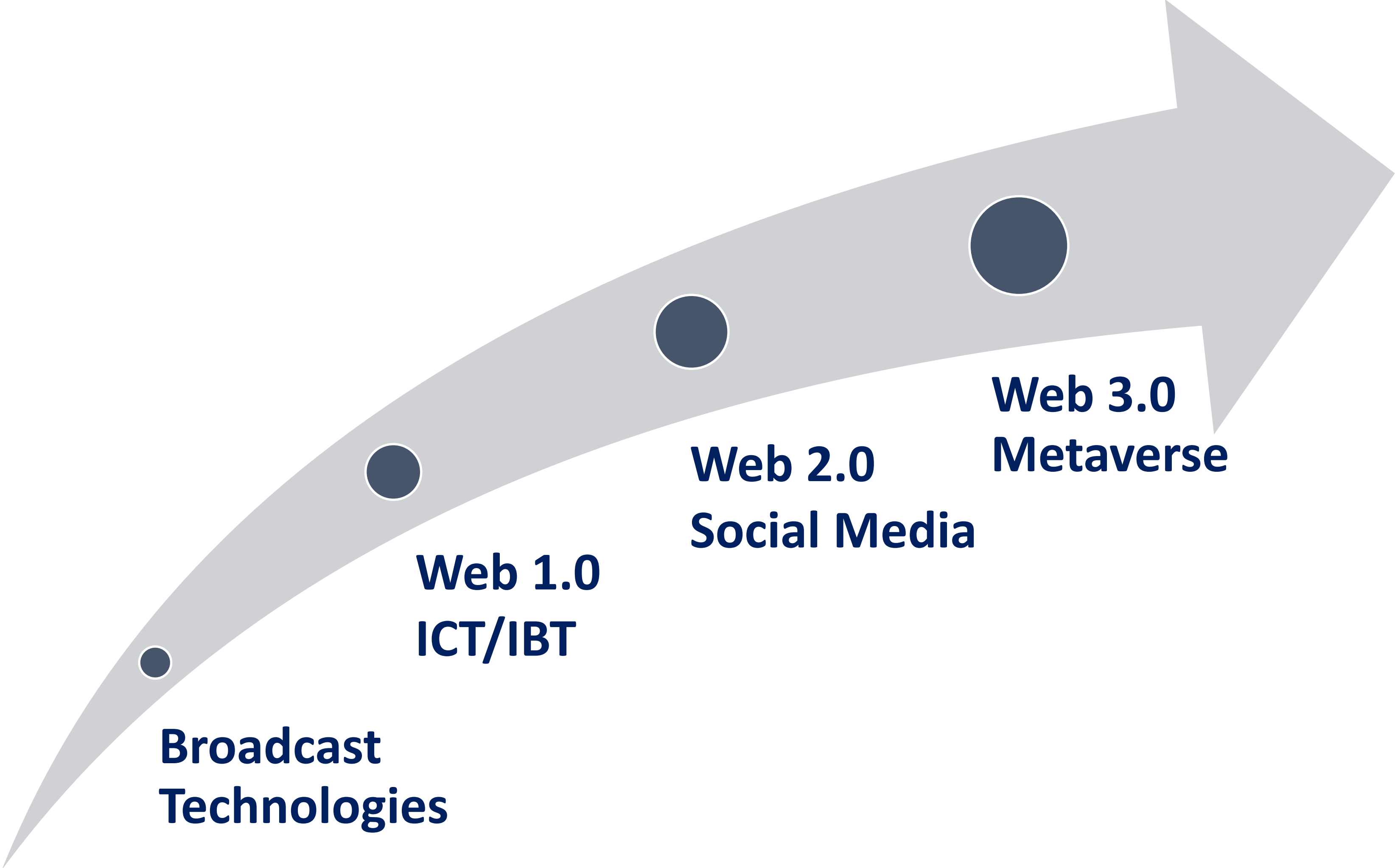
THE FOURTH INDUSTRIAL REVOLUTION

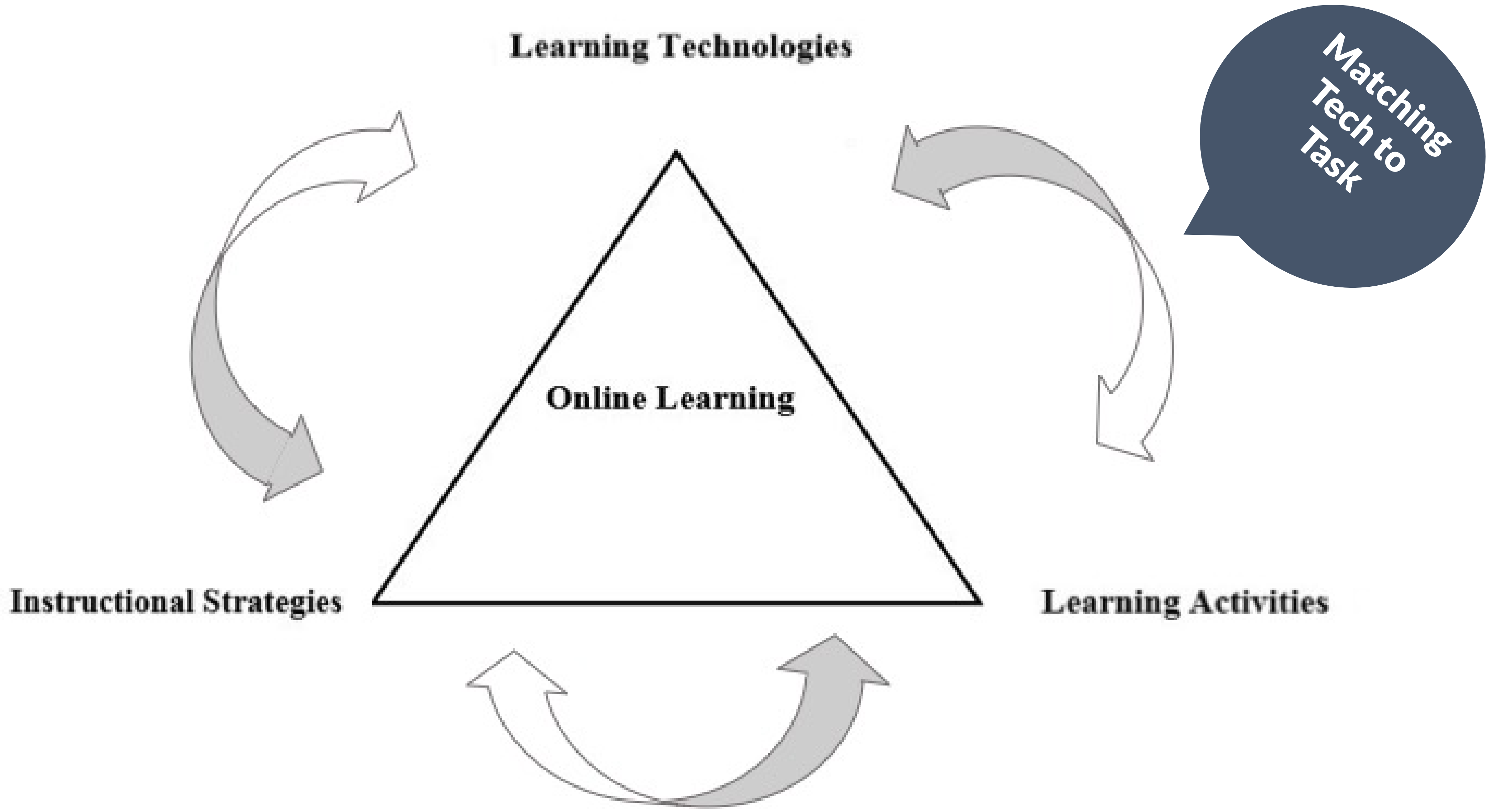
6



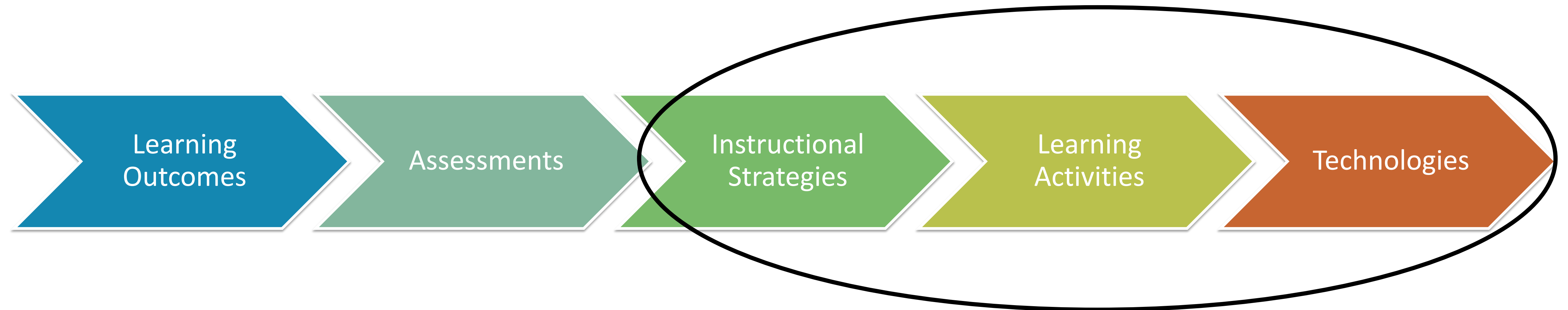
<https://youtu.be/khjY5LWF3tg>

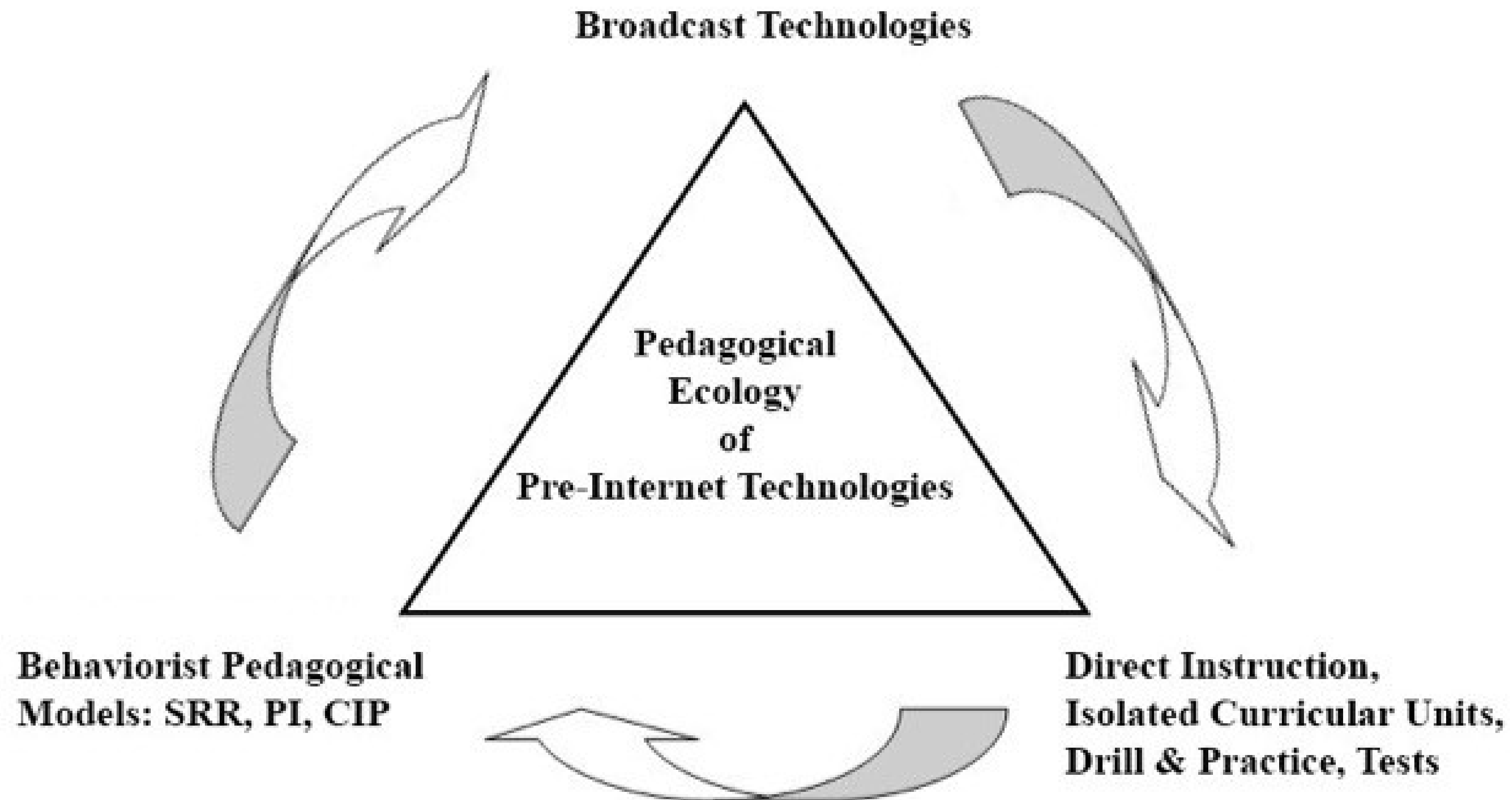
TECHNOLOGY EVOLVES

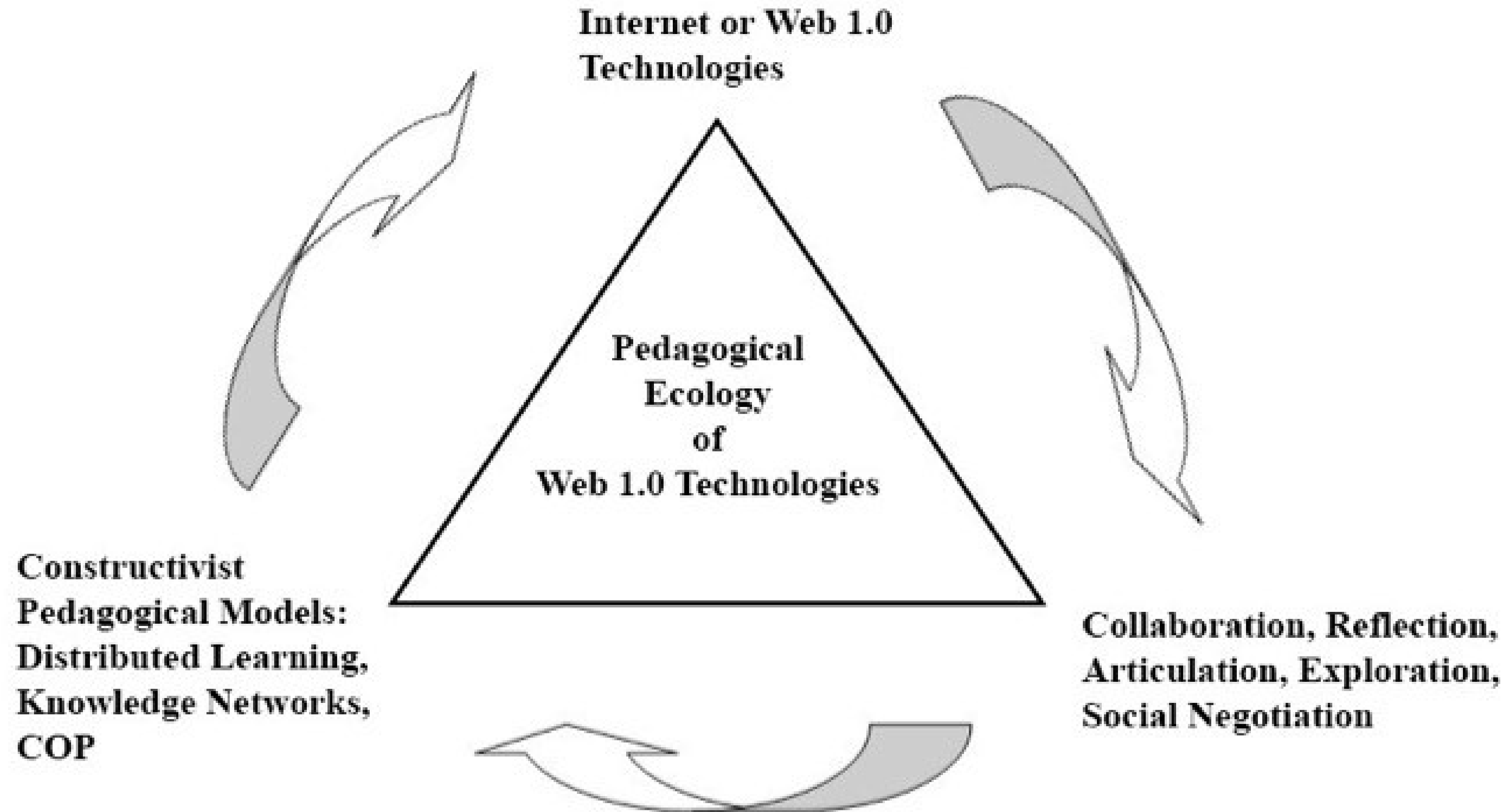


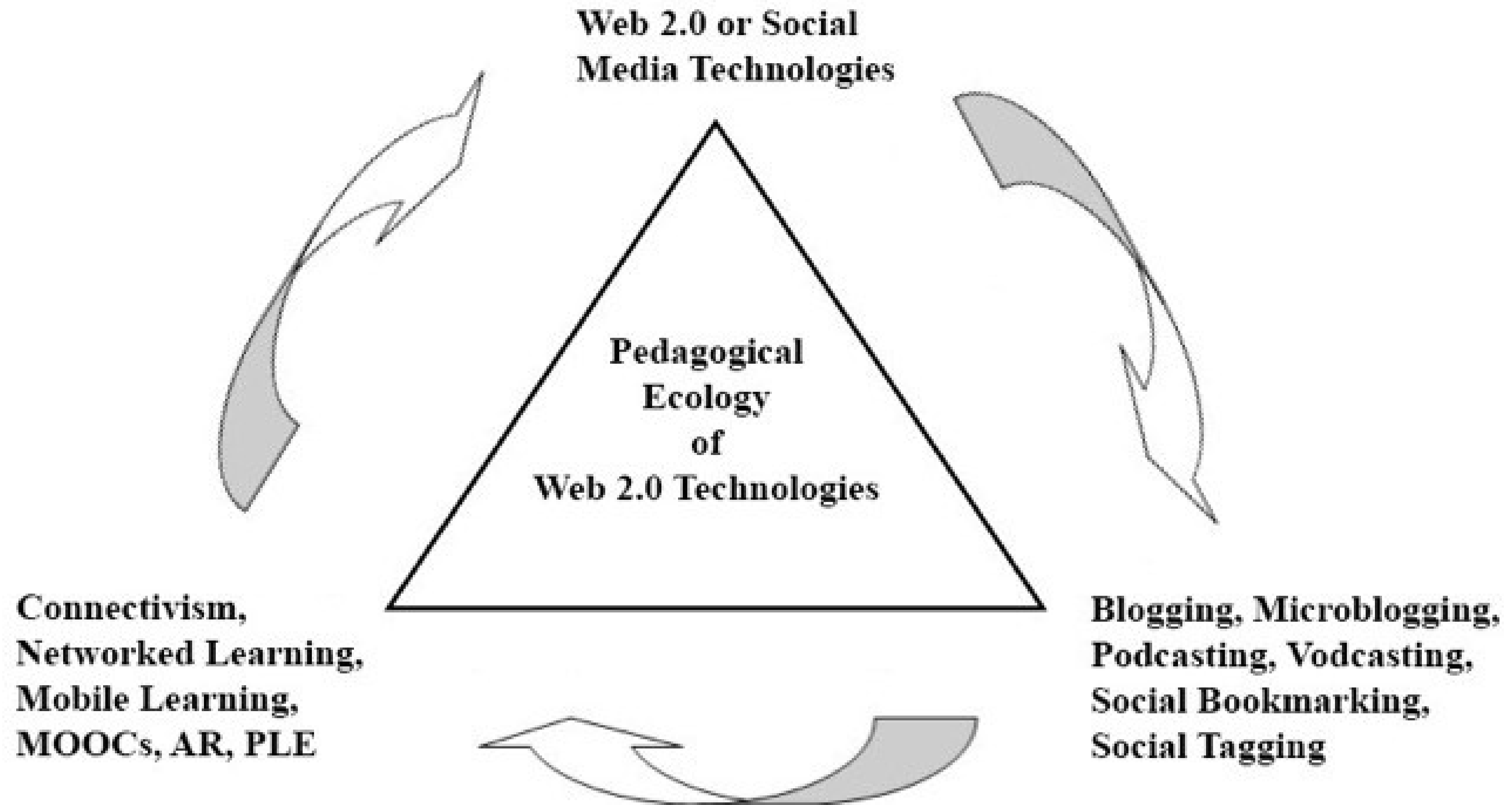


Backwards Design









- Intersection of the technical (material) and the social (human) through thought and action
- Multiagent socio-technical systems, humans and “things”
- Can no longer limit conceptions of the “social” to interactions between persons
- Extend “social” to interactions between persons and things
- Expand learning ecology to study interactions or relationships with communities and tools to create the learning experience

Dabbagh, N., & Castaneda, L. (2020). Beyond personalization: The PLE as a framework for lifelong learning. *Educational Technology Research and Development*, 68(6), 3041-3055.

<https://doi.org/10.1007/s11423-020-09831-z>

- Web 2.0 tools have become an integral part of students' academic journeys
- Students are using these **technologies to create or build personalized digital learning spaces and networks that integrate s formal, non-formal, and informal learning experiences enabling continuous or lifelong learning**
- The value of Web 2.0 can be summarized in 2 words: **participative and collaborative**
 - The social web (inherently social); connecting people; social networking
 - People powered web
 - User generated content
- Learning as a social process and social media technologies are inextricably linked

- PLEs and PLNs are a manifestation of the affordances of social networking possibilities of the current technological environment
- Empower learners to develop agency in lifelong learning and direct their own learning

*The **affordances** of Web 2.0 technologies allow learners to engage in **personal and social learning experiences** and build agency for lifelong learning.*



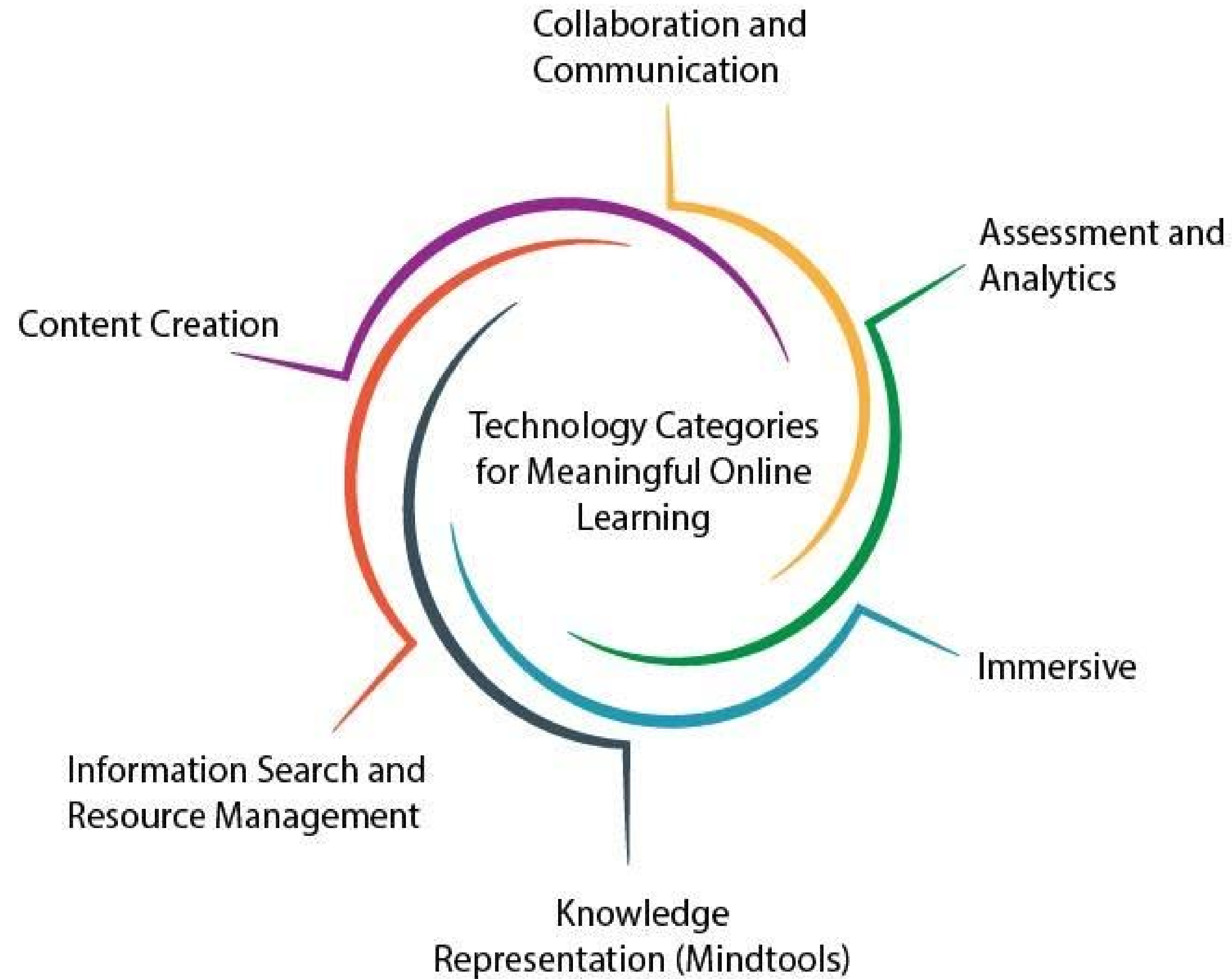
**Above all, digital tools are only as effective as
how *effectively* you use them.**

Steve Glaveski, Harvard Business Review, December 1st, 2021.

Use the right tools in the right manner.

Dr. Kubler, 2022.





MEANINGFUL ONLINE LEARNING

Integrating Strategies, Activities,
and Learning Technologies for
Effective Designs



NADA DABBAGH, ROSE M. MARRA,
AND JANE L. HOWLAND





TECHNOLOGIES USED FOR LEARNING



TECHNOLOGY USED FOR LEARNING

What **technologies** do George Mason University students use most frequently for **learning**?

What **technologies** do George Mason University students value for **learning**?



SURVEY PARTICIPANTS

In October 2017, a survey was sent to a stratified representative sample of 10,928 George Mason University students. The response rate was 6% (N=622).

N=622
out of a sample
of 10,928

**95% reliability (Q5, Q7 – Q11)*

WHAT HARDWARE DO YOU USE TO LEARN?

98% | Laptop

72% | Smartphone

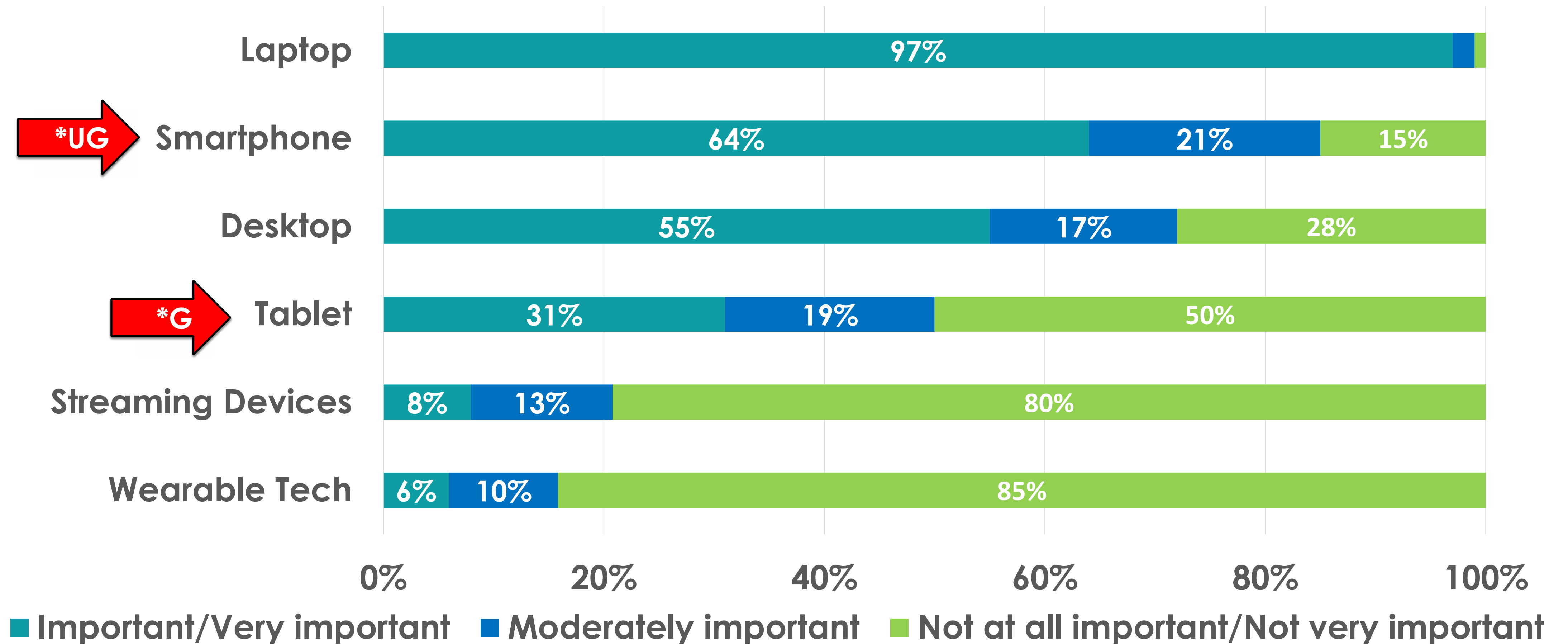
33% | Desktop

26% | Tablet

13%
Other



HOW IMPORTANT ARE EACH OF THE FOLLOWING DEVICES FOR YOUR LEARNING?



GENERATIONAL PERSPECTIVE

Generation Y

Born between 1981 & 2000

Tech Needs

- Heavily dependent on smartphone
- Expects customizable technology & media

Wants

- Anywhere/anytime learning opportunities
- Social networking to be a part of any opportunity

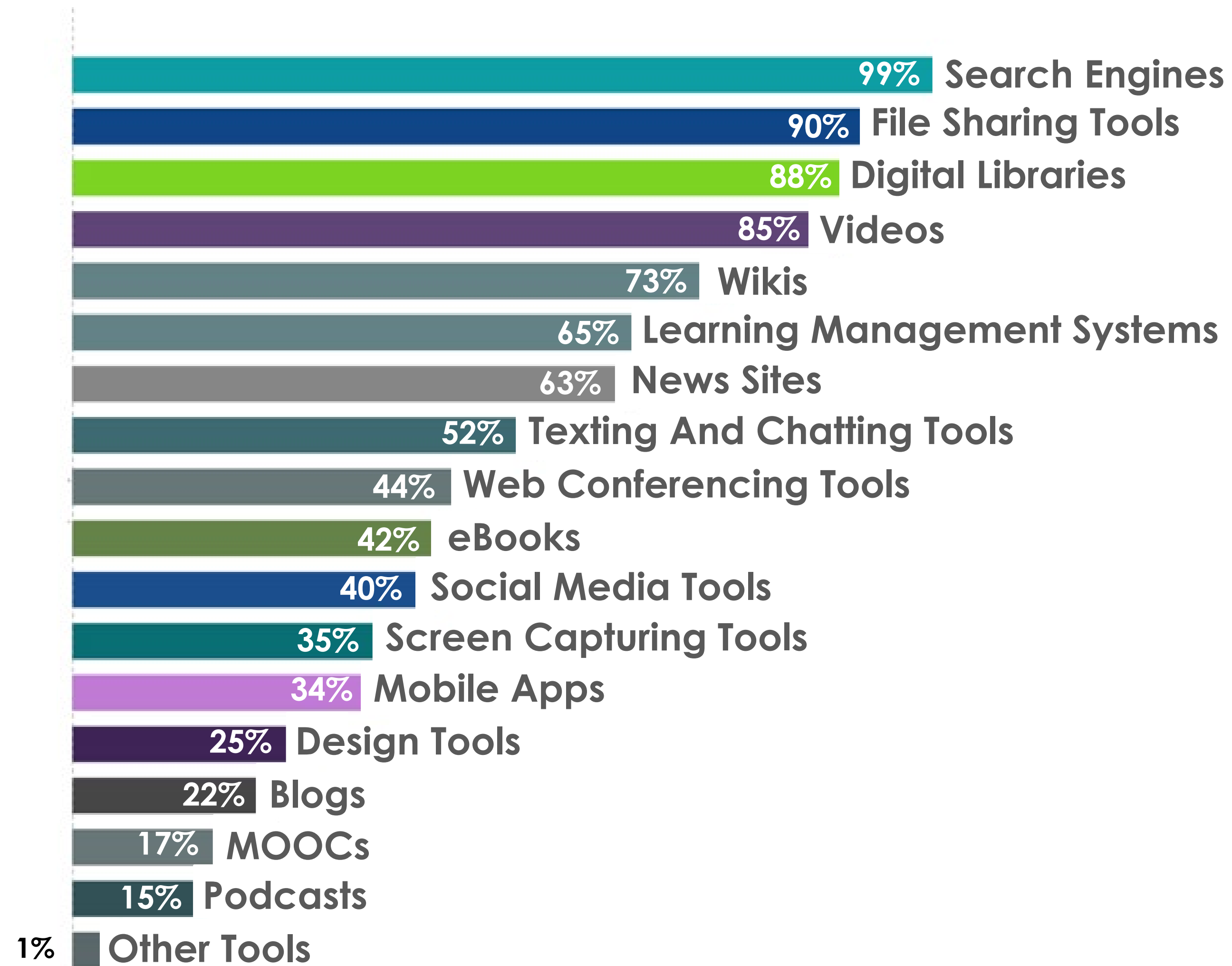
Learning Preferences

- Learns and communicates in short bursts (think texting, Twitter, and Tumblr)
- Enjoys and expects to learn through games and simulations
- Likes discussion, Q&A, and freedom to challenge concepts
- Needs fast-paced environment to prevent multi-tasking and boredom

Skip the laptop

keep it short

WHAT SOFTWARE DO YOU USE TO LEARN?

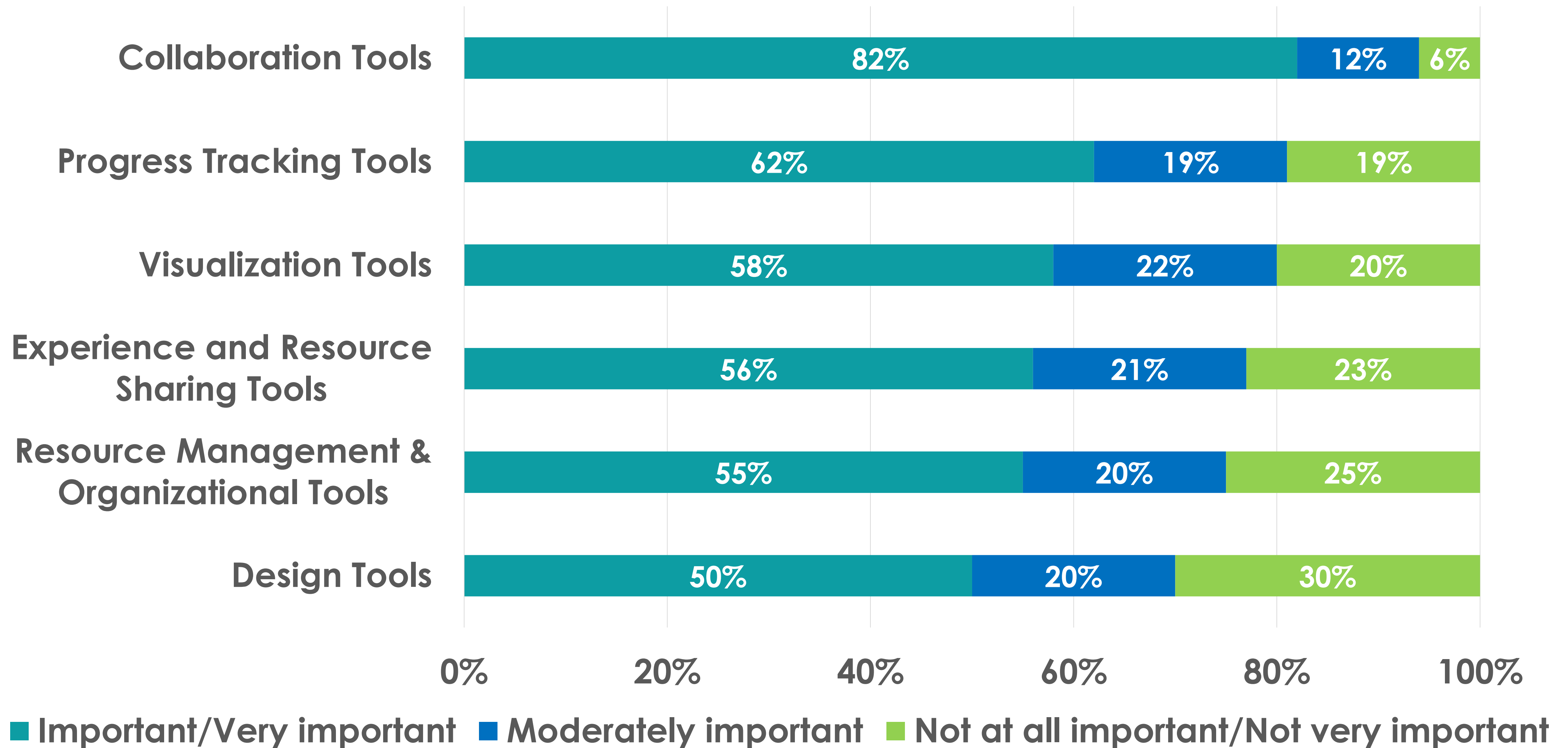


Top 150 Tools for Personal Learning 2021

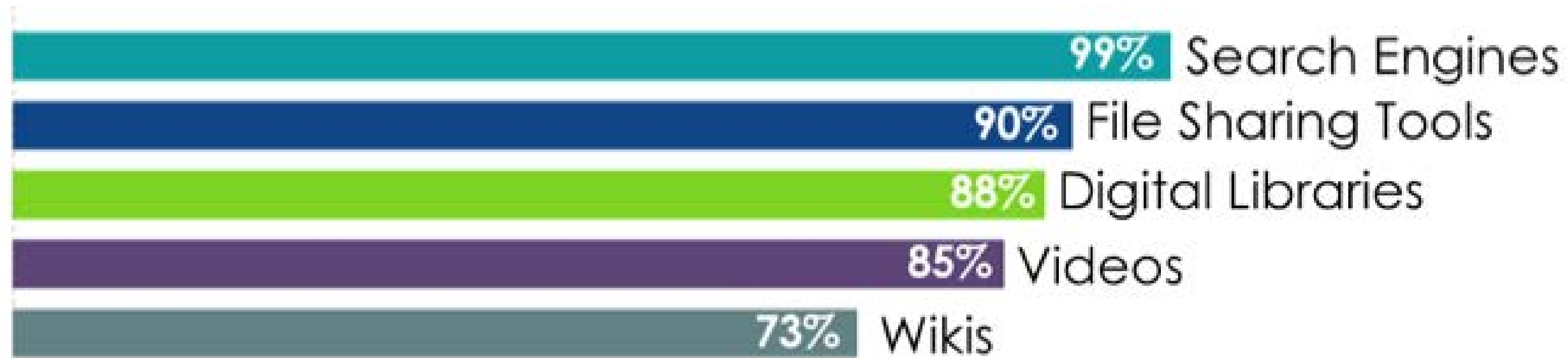
<https://www.toptools4learning.com/pl150/>

PL150	WL150	ED150	TOOL	BRIEF DESCRIPTION	TOP 300
1	5	1	YouTube	video hosting and sharing platform	1
2	3	5	Google Search	search engine	3
3	9	–	LinkedIn	professional social network	7
4	21	–	Twitter	social network	8
5	8	16	Wikipedia	online encyclopaedia	9
6	1	4	Zoom	video meeting platform	2
7	12	15	WhatsApp	messaging app	10
8	7	8	Word	MS word processing tool	12
9	10	2	Google Docs & Drive	office suite/file sharing platform	6
10	–	19	Facebook	social network	14

HOW IMPORTANT ARE EACH OF THE FOLLOWING DIGITAL TOOLS FOR LEARNING?



DESIGNING LEARNING EXPERIENCES

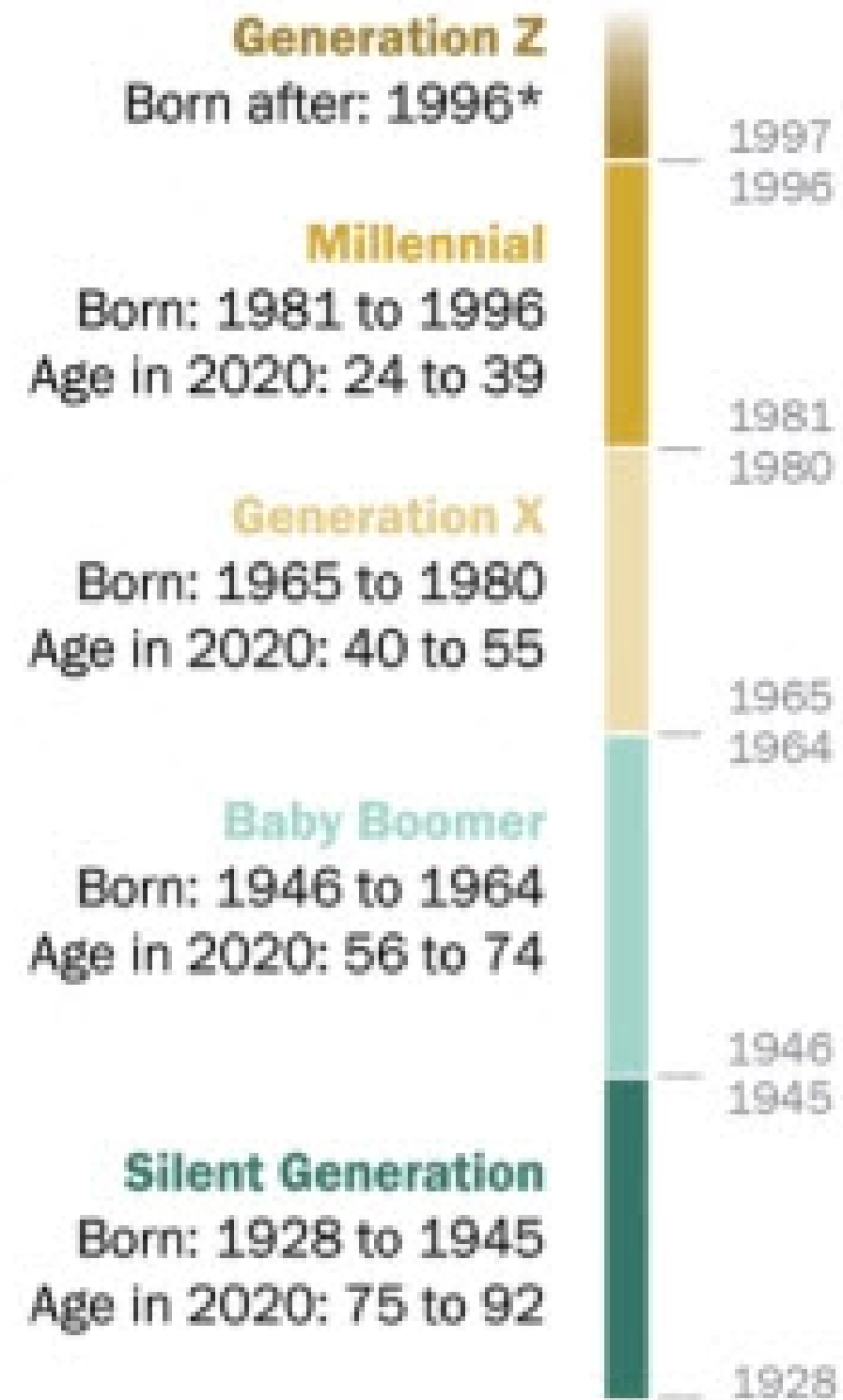


The top five types of software used for learning suggest that:

- Learners are taking **self-directed approaches** to their learning using **information seeking tools**
- Learners choose tools that place them at the **center of the learning process**
- Learners may **need support evaluating** the quality of the resources they find
- ***Should we rethink the LMS? Learning Experience Platforms?***

GENERATIONAL PERSPECTIVE

The generations defined



*No chronological endpoint has been set for this group.
"On the Cusp of Adulthood and Facing an Uncertain Future: What We Know About Generation Z So Far"

PEW RESEARCH CENTER

Gen Z is more racially and ethnically diverse than previous generations

Gen Z on track to be the best-educated generation yet

Gen Zers and Millennials have similar viewpoints on many major issues of the day

Gen Zers are more likely to know someone using gender-neutral pronouns and more likely to say that forms should offer gender options other than 'man' and 'woman'

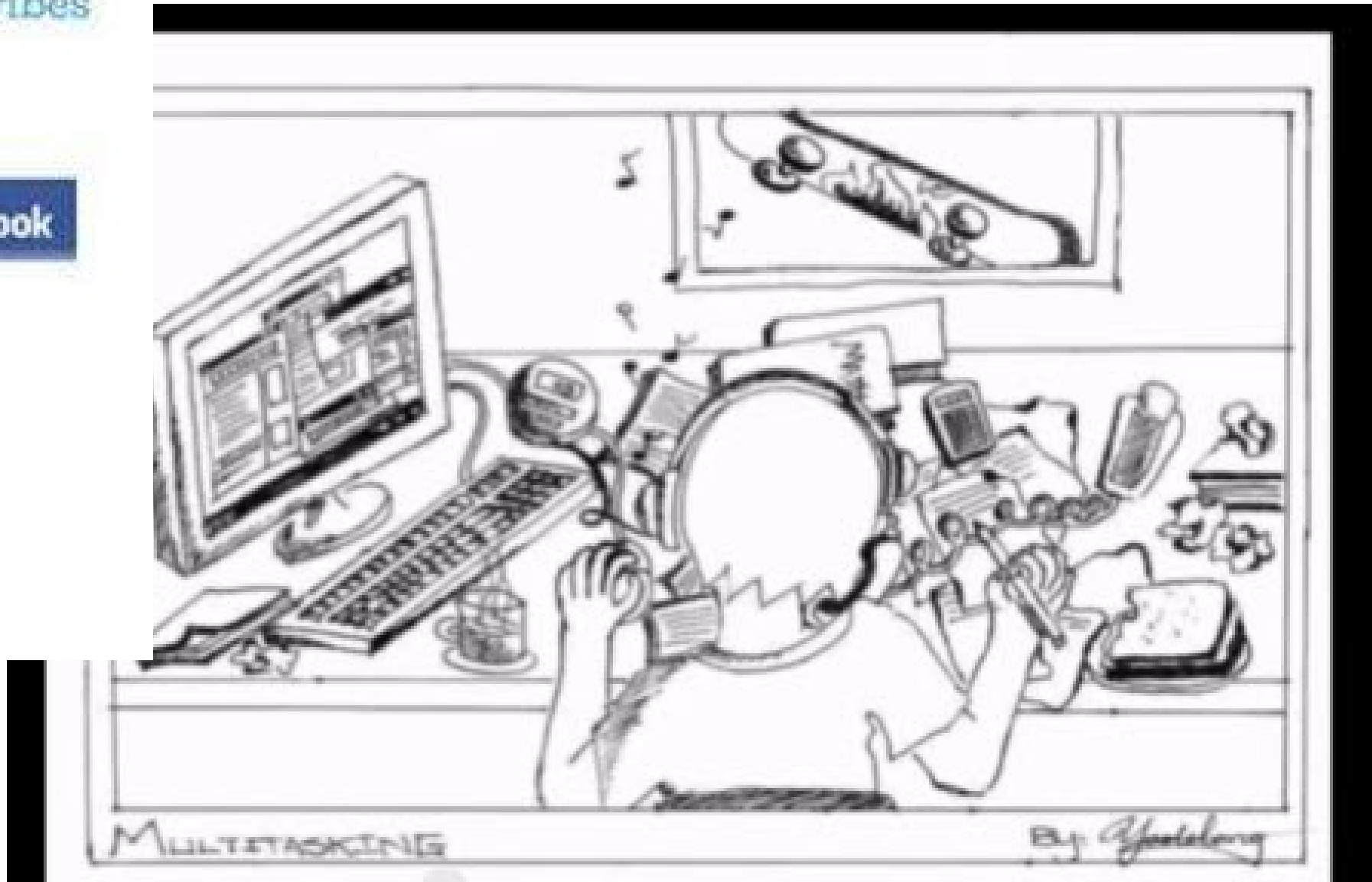
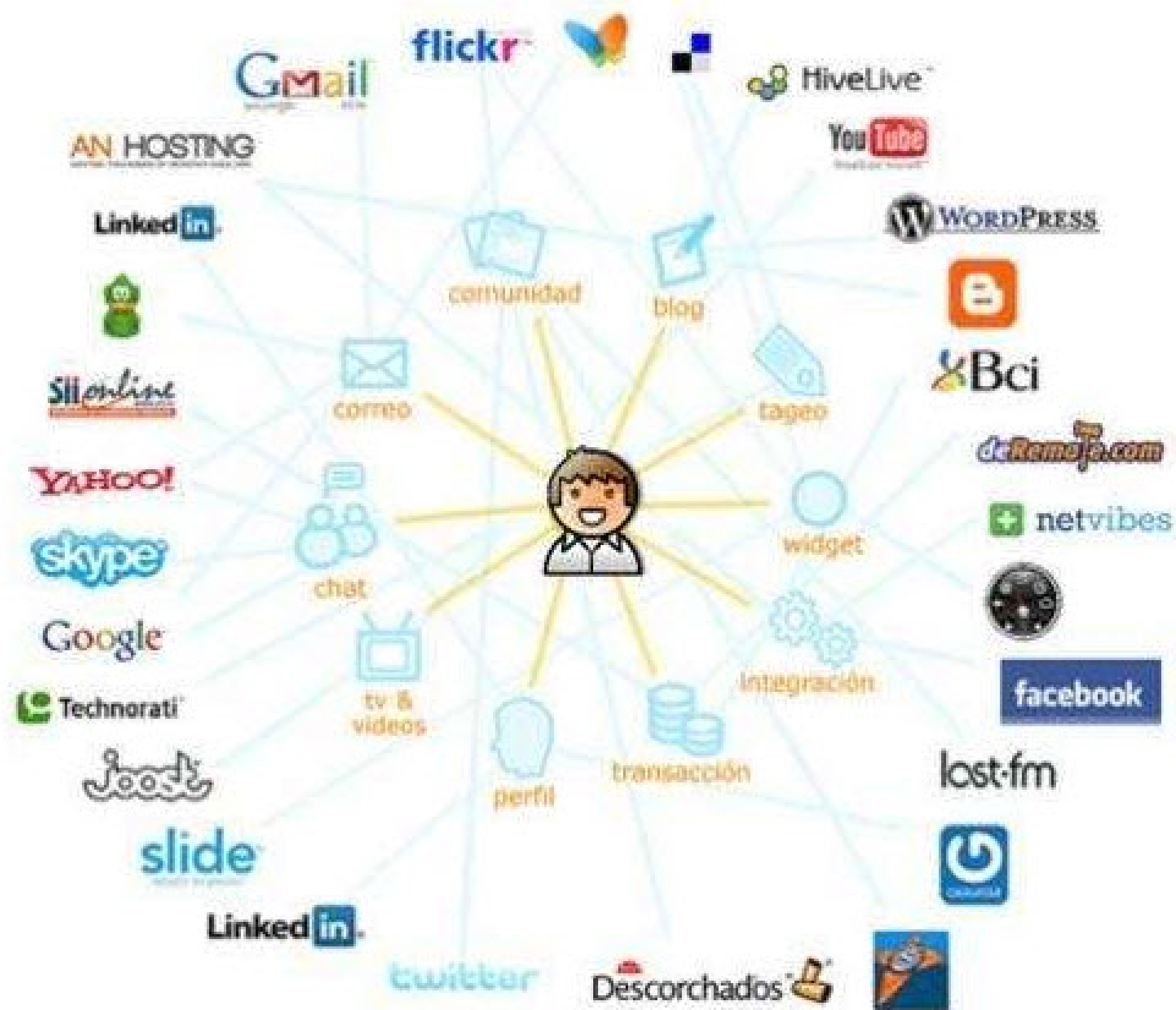
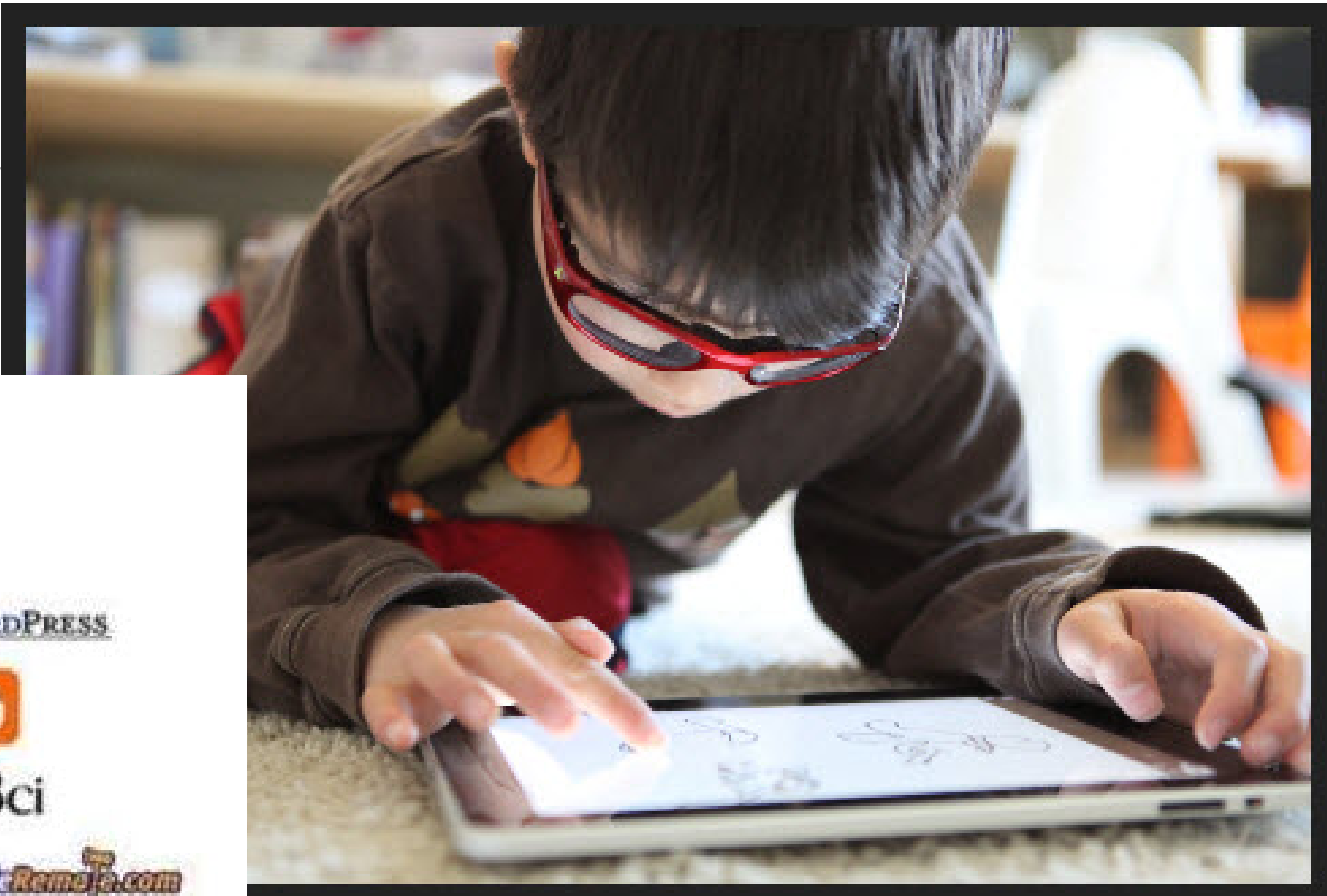
YouTube is their top social media platform (they are constantly online)

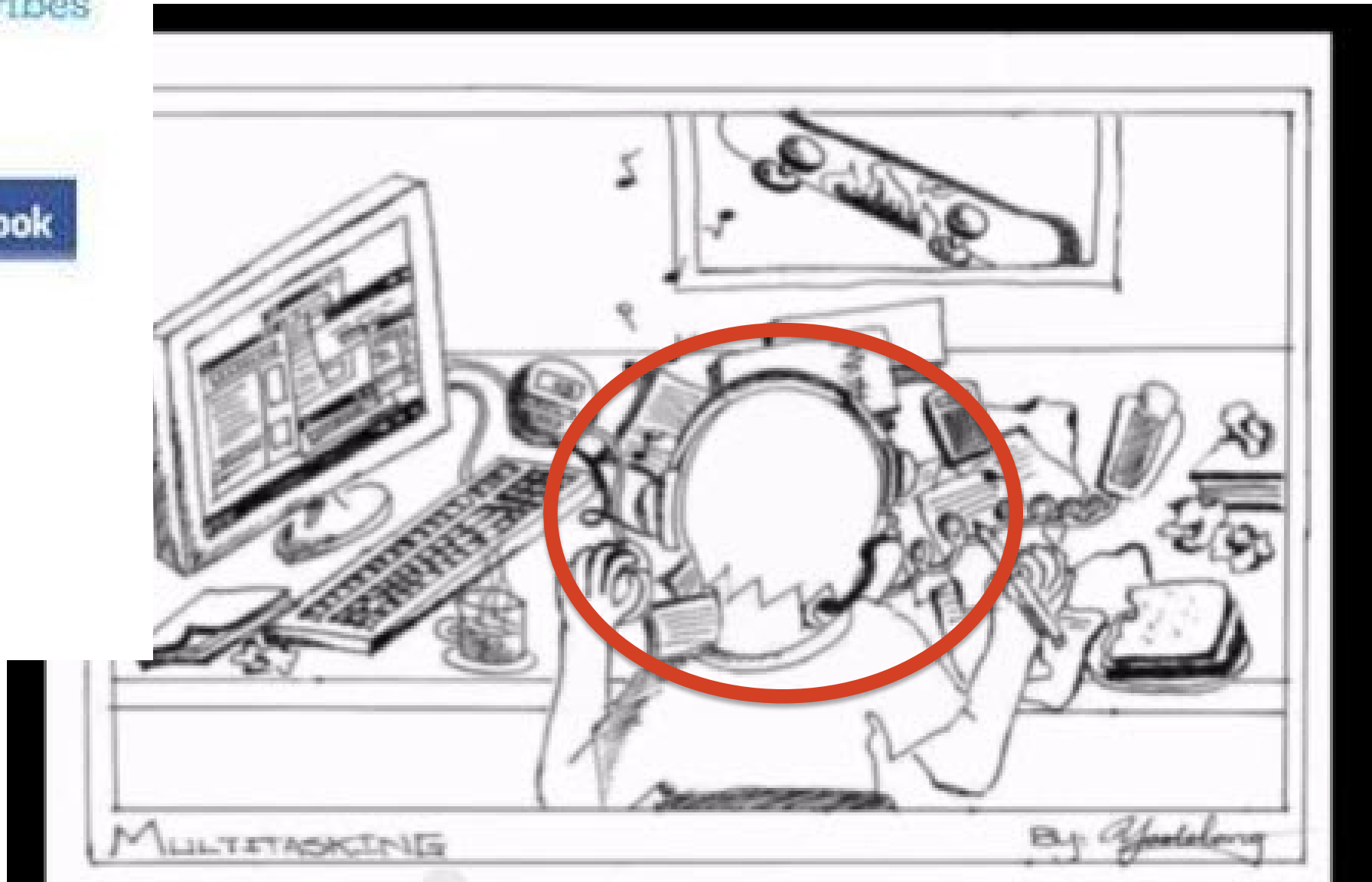
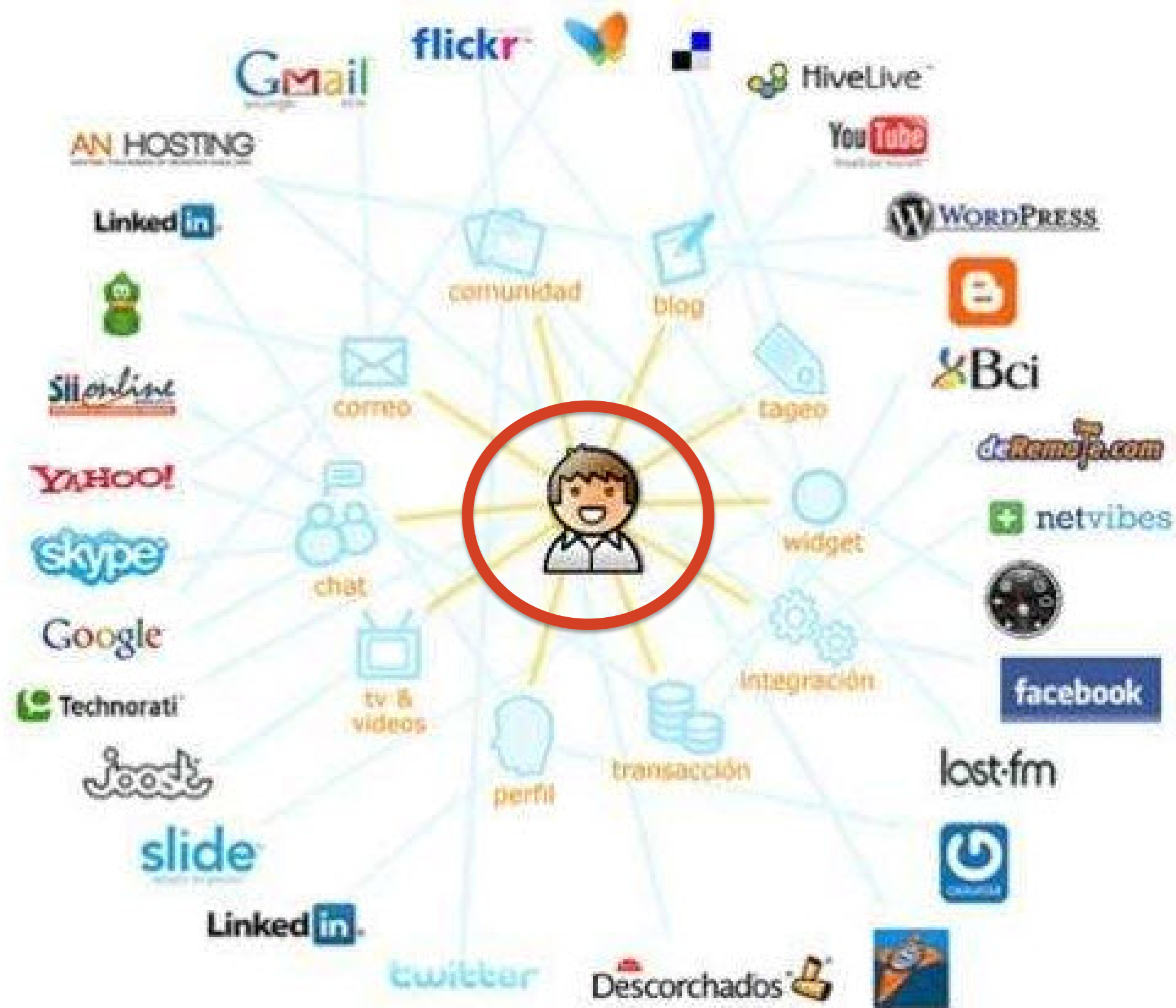
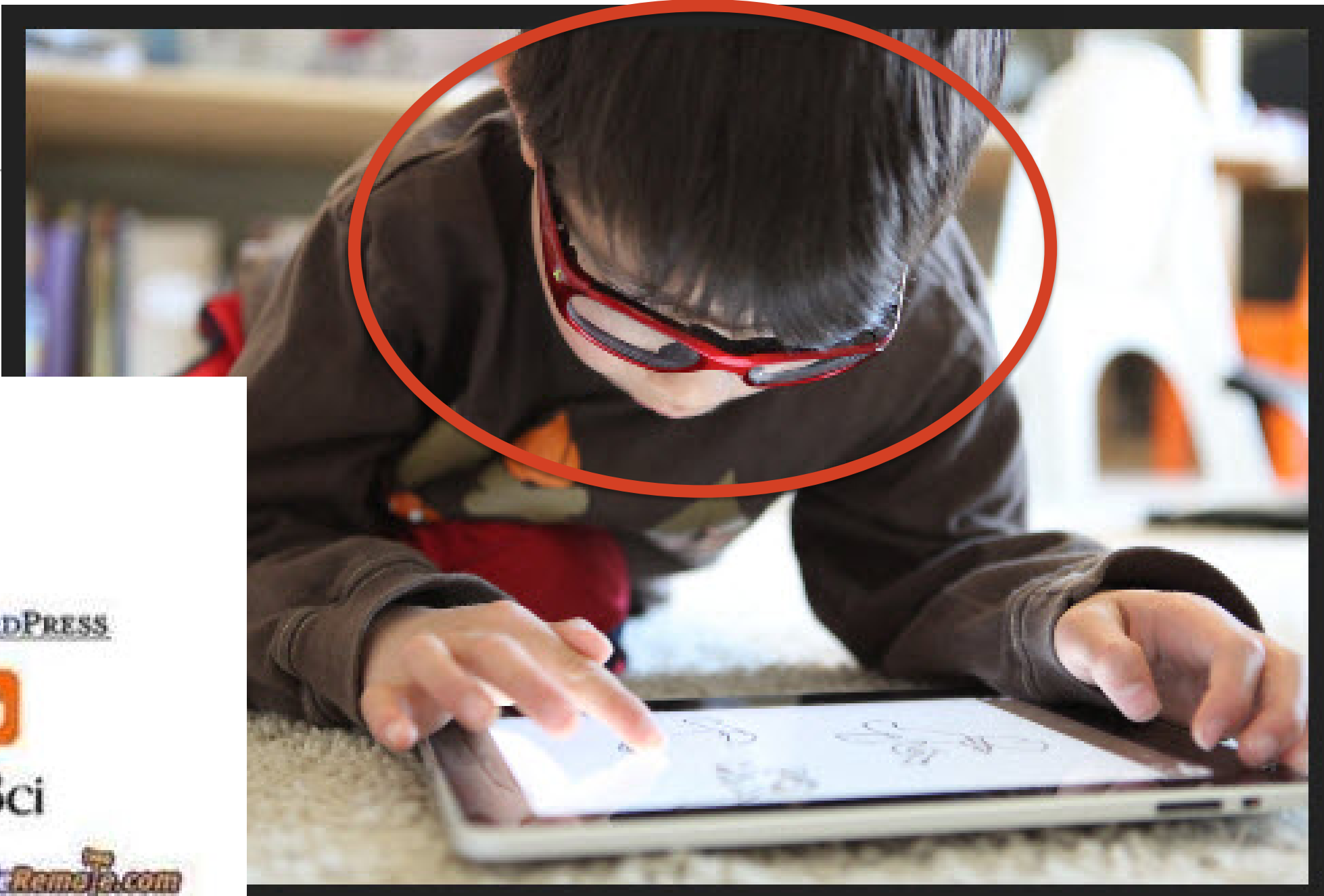
See family, societal change as a good thing

<https://www.pewresearch.org/social-trends/2020/05/14/on-the-cusp-of-adulthood-and-facing-an-uncertain-future-what-we-know-about-gen-z-so-far-2/>



PERSONAL LEARNING ENVIRONMENTS





tools, communities, and services that constitute the individual educational platforms learners use to direct their own learning and pursue educational goals

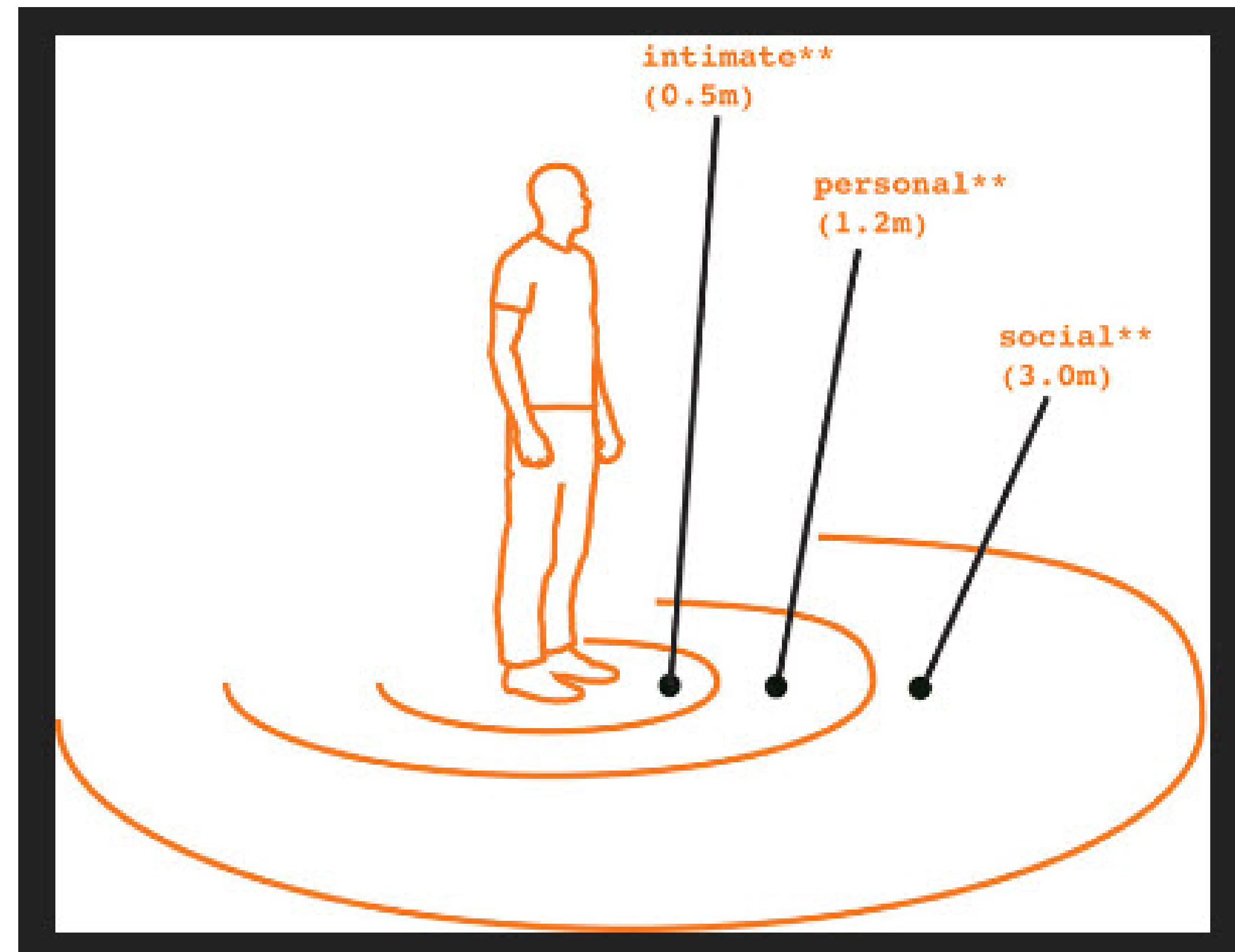
EDUCAUSE Learning Initiative (ELI) (2009)



My Personal Learning Environment PLE

PLE Embedded
in a
Social Media
Experience

PLEs are
built
bottom up
by
the student



LMS



PLE

Chatti (2007): <http://mohamedaminechatti.blogspot.com/2007/03/lms-vs-ple.html>

- **What is our role?**
 - Provide conducive situations that allow students to **engage** in creating effective PLEs by organizing and managing their own learning experiences

- 21st Century Skills:
 - Learning to learn
 - Metacognition
 - Ways of thinking
 - Ways of working
 - Tools for thinking
 - Tools for working
- Self-Regulated Learning
 - Goal setting
 - Self-monitoring
 - Self-evaluating
 - Use of task strategies
 - Help seeking
 - Time planning and management



The Internet and Higher Education

Volume 15, Issue 1, January 2012, Pages 3–8

Social Media in Higher Education



Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning

Nada Dabbagh^a,  , Anastasia Kitsantas^b, 

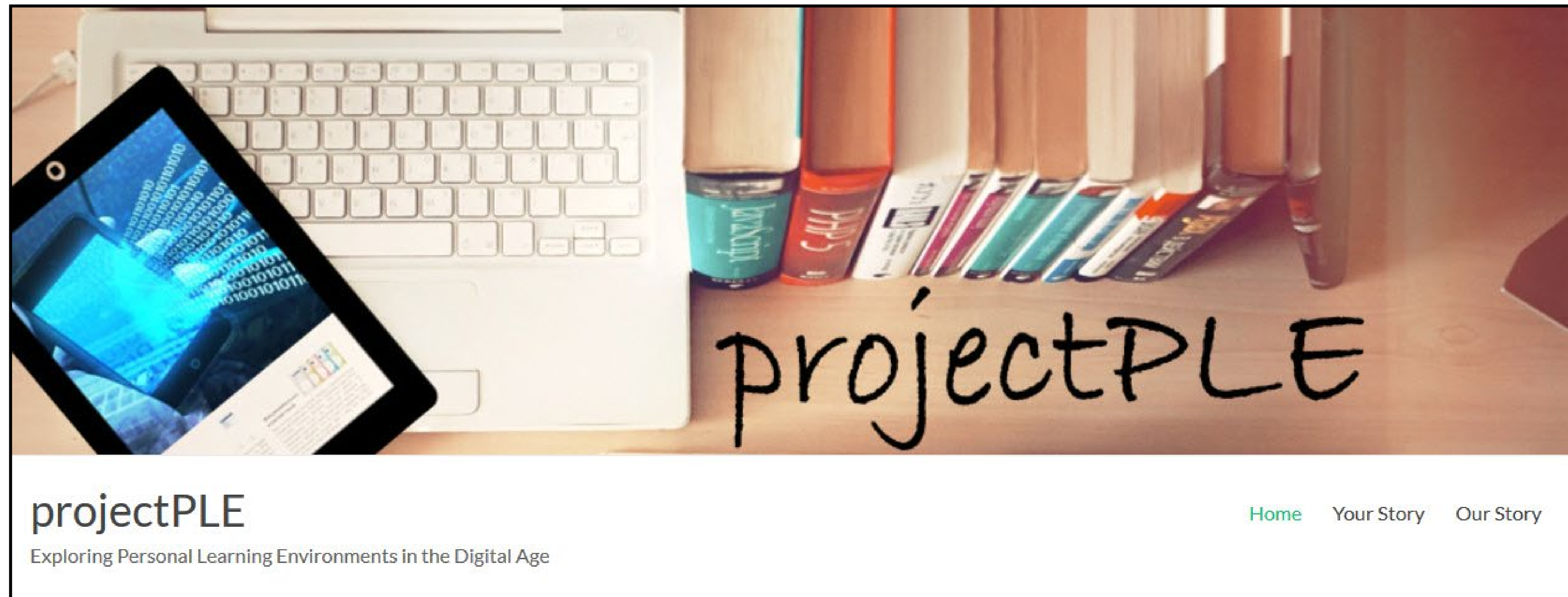
^a Instructional Technology, George Mason University, MSN 5D6, 4400 University Drive, Fairfax, VA 22030, United States

^b Educational Psychology, George Mason University, MSN 4B3, 4400 University Drive, Fairfax, VA 22030, United States

<http://dx.doi.org/10.1016/j.iheduc.2011.06.002>

- **Social media technologies**
 - a set of **networking tools** premised on **Web 2.0 technologies** and enabling the design of **Personal Learning Environments or Experiences (PLEs)** and **Social Learning Environments or Experiences (SLEs)** in which **learning activities** that emphasize *learning how to learn* are supported, and opportunities for personalizing, contextualizing, globalizing, and socializing education are optimized

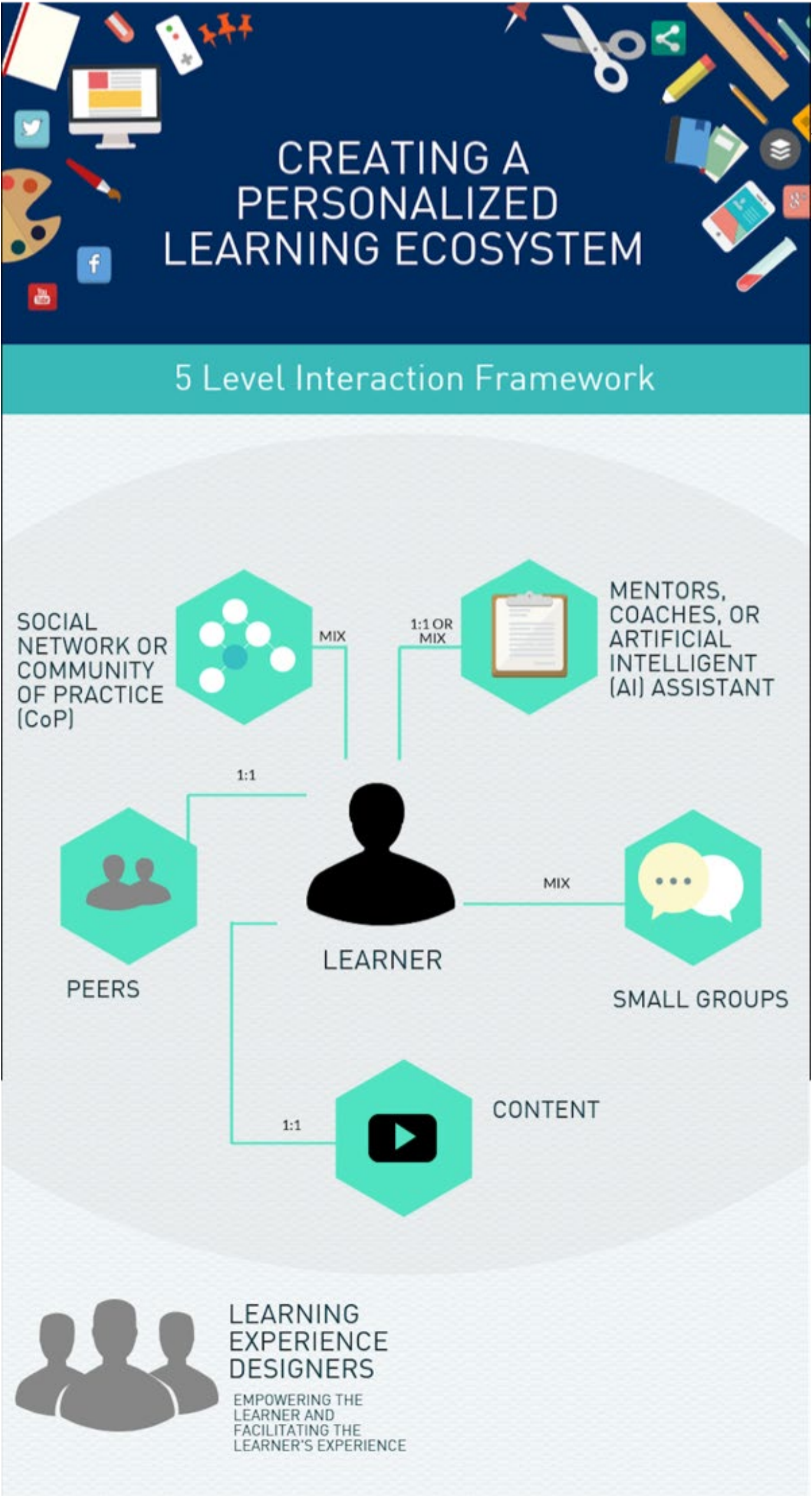
Why projectPLE?



Q5: What is your ideal PLE?



PLEs are
spaces
of
engagement,
interest,
and
passion

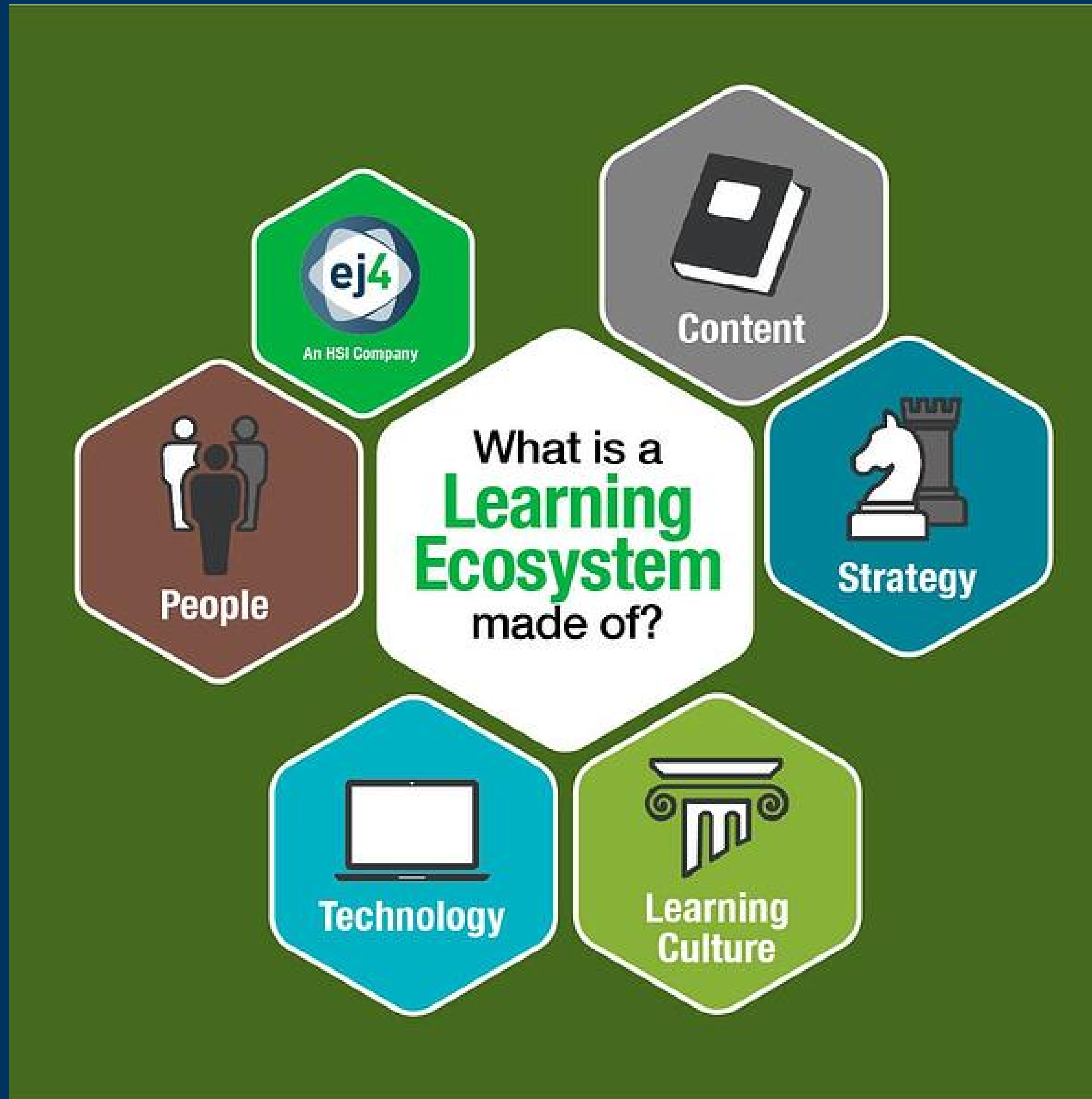


LEARNING ECOSYSTEMS

| WHAT IS A LEARNING ECOSYSTEM?

A **learning ecosystem** is a system of **people, content, technology, culture, and strategy**, existing both within and outside of an organization, all of which has an impact on both the formal and informal **learning** that goes on in that organization.

<https://www.ej4.com/blog/what-is-a-learning-ecosystem>



Lifelong learning and the learning ecosystem

PLEs are
spaces
of
engagement,
interest,
and
passion

PLE Ecosystem



LRS

Learning
Communities

Education
Providers

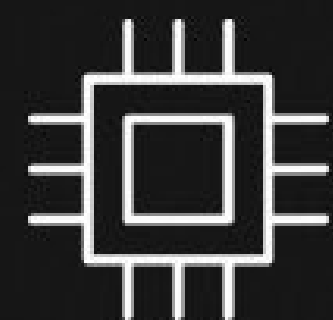
Open Educational
Resources

Informal
Learning

Formal
Learning

Recognition
and Open
Credentials

Employment
Networks



xAPI

Learner Driven PLEs

Lifelong Learning Skills

Learner Goals

Self-Directed Learning

Mastery

Self Regulation

Self Evaluation

Knowledge Construction

Offer **untethered, on-demand, collaborative, empowered technologies**

Deliver a more **personalized and data-driven learning experience** using seamless technologies similar to consumer-like technologies (natural)

Distributed Learning Platforms

Discover and embed aspects of technologies that support **collaboration, experiential learning, and resource management**

Q&A

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Division of Learning Technologies

ndabbagh@gmu.edu

