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

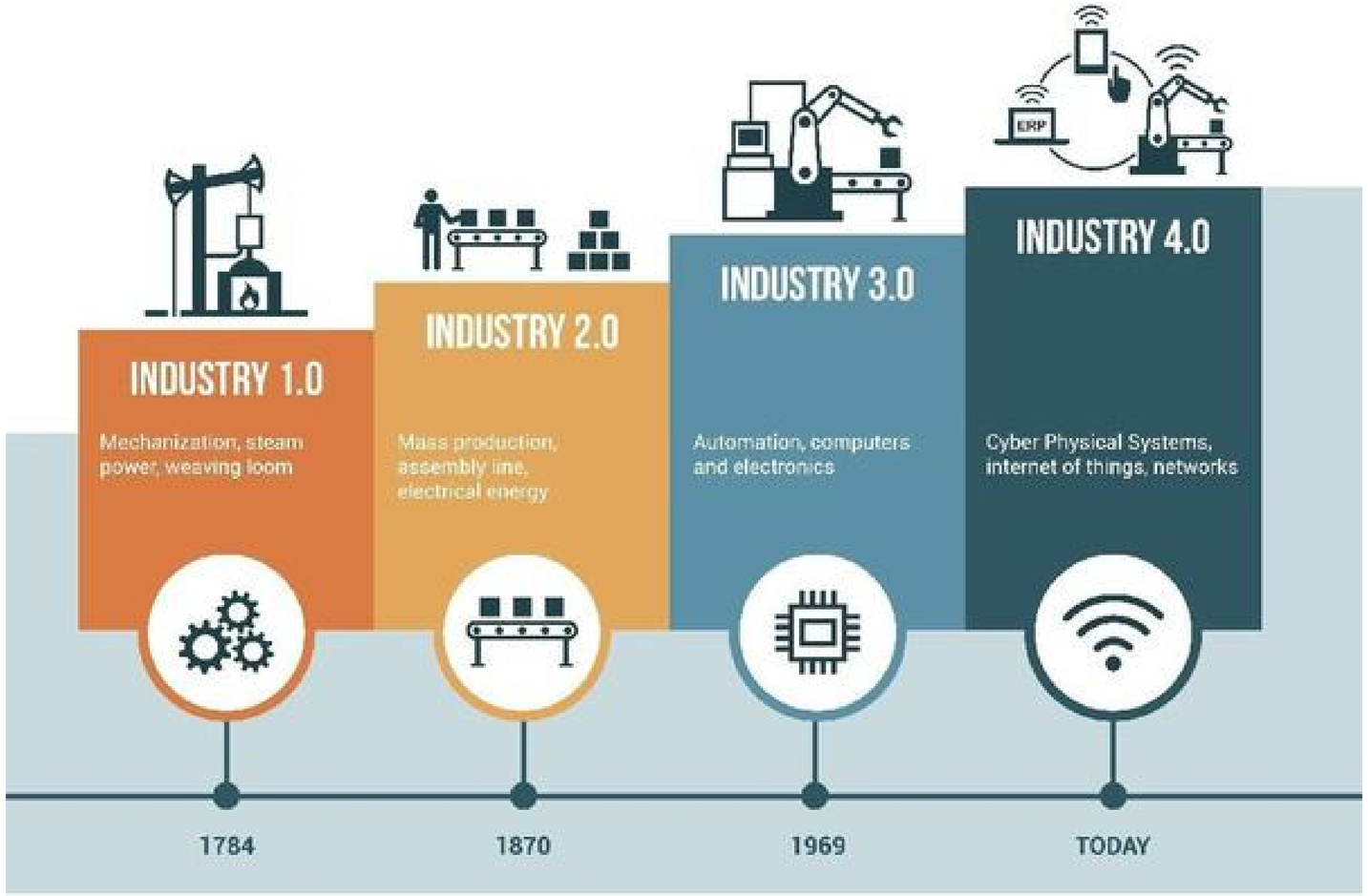
Theory of Affordances

Perception vs Information Processing

HCI Design

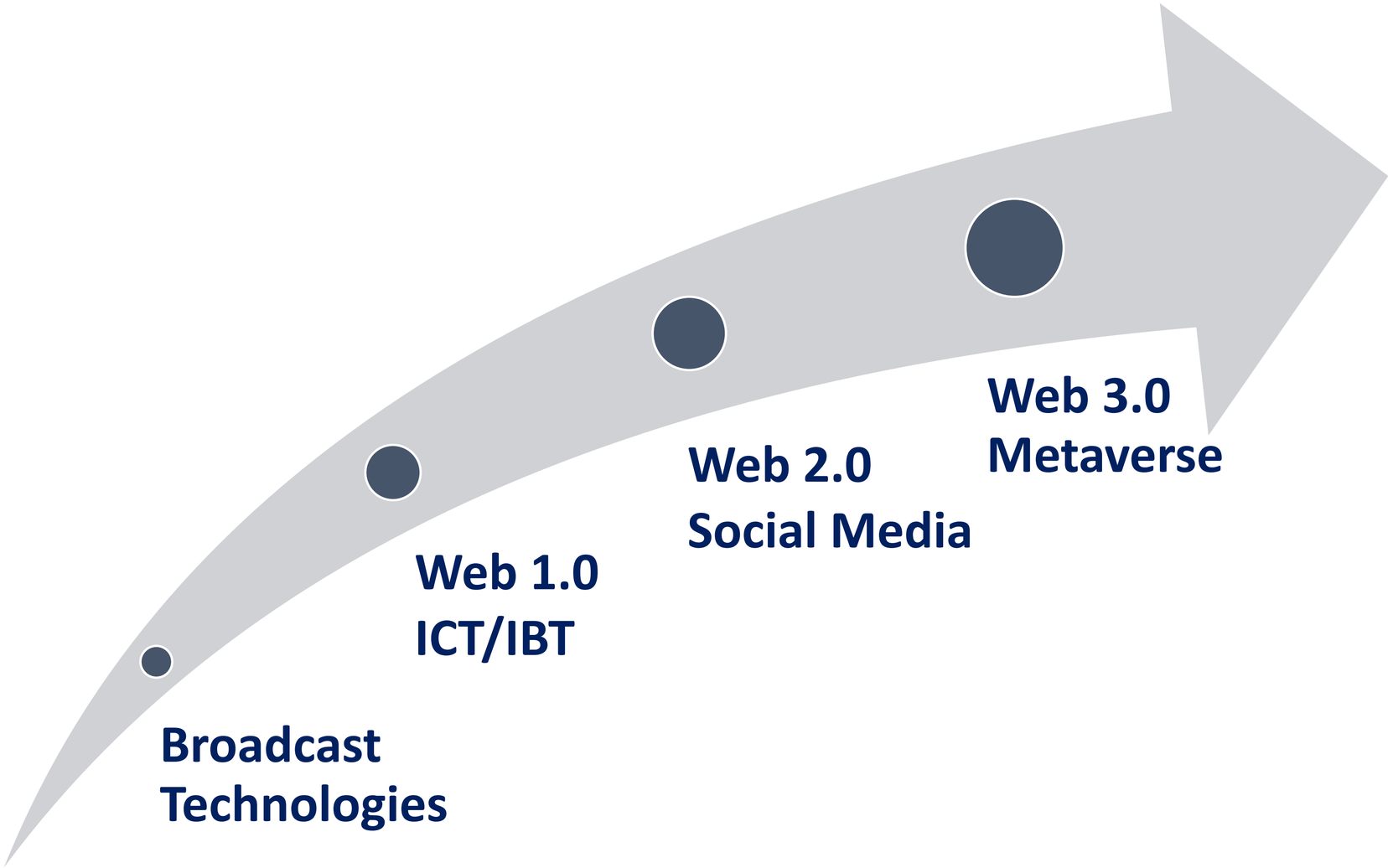
James Gibson

THE FOURTH INDUSTRIAL REVOLUTION

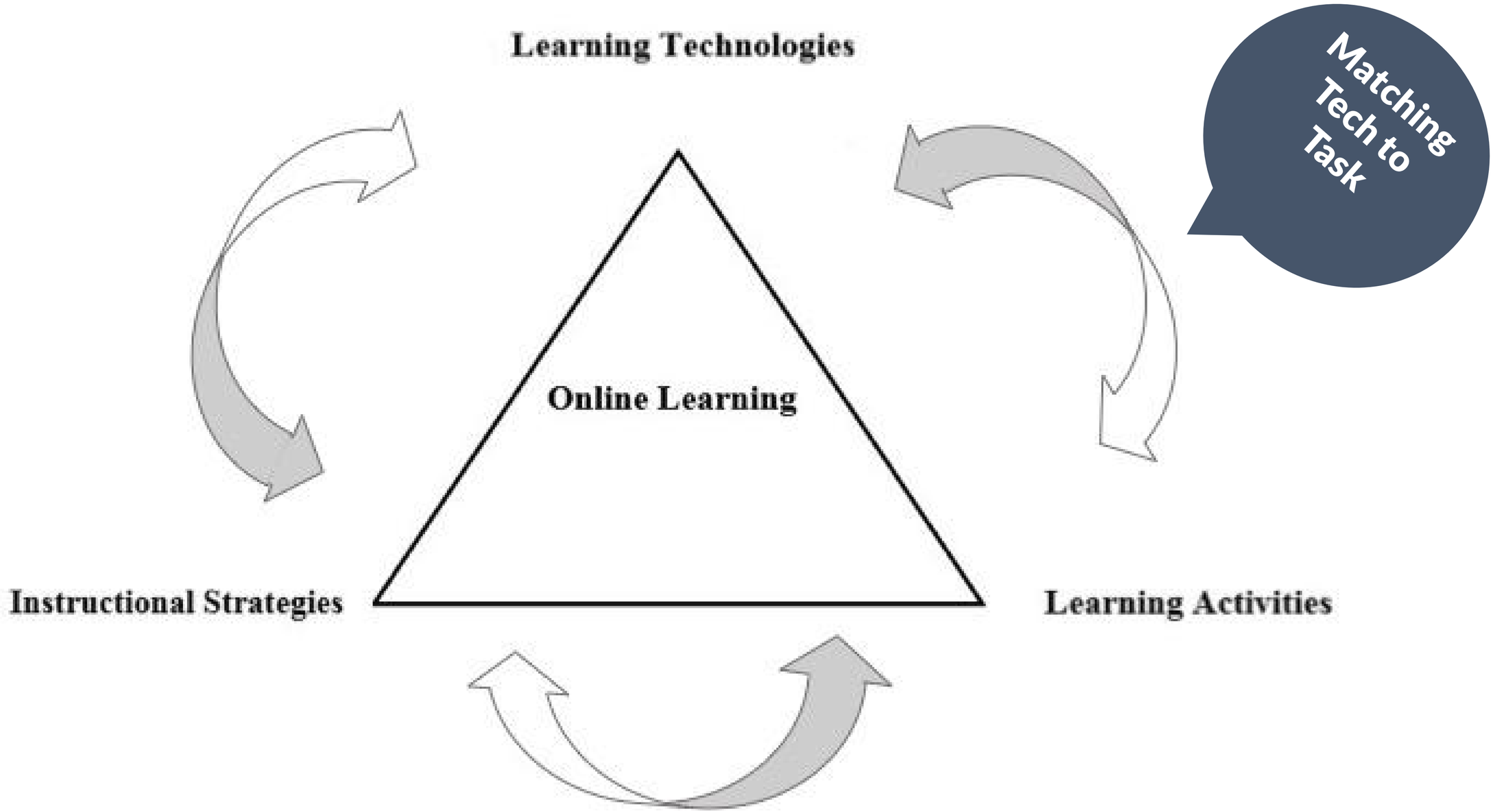


https://youtu.be/khjY5LWF3tg

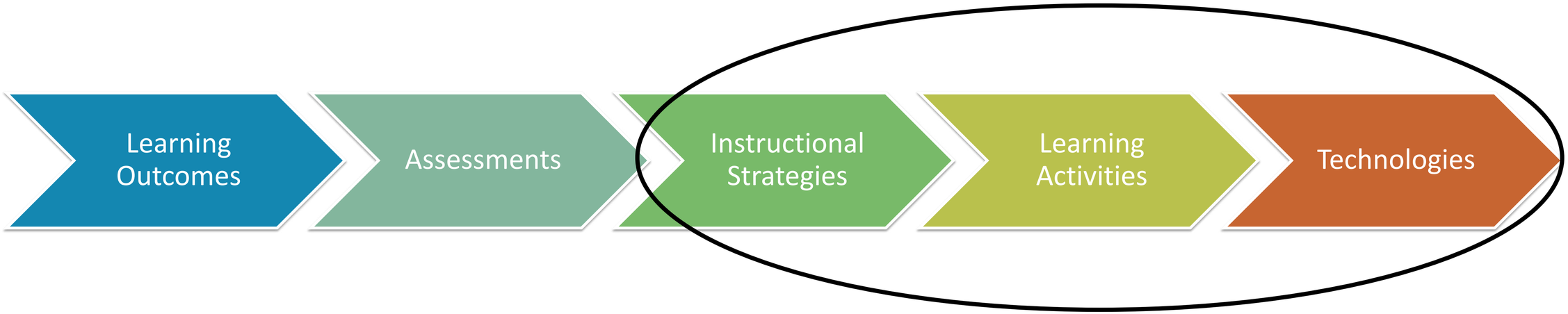
TECHNOLOGY EVOLVES

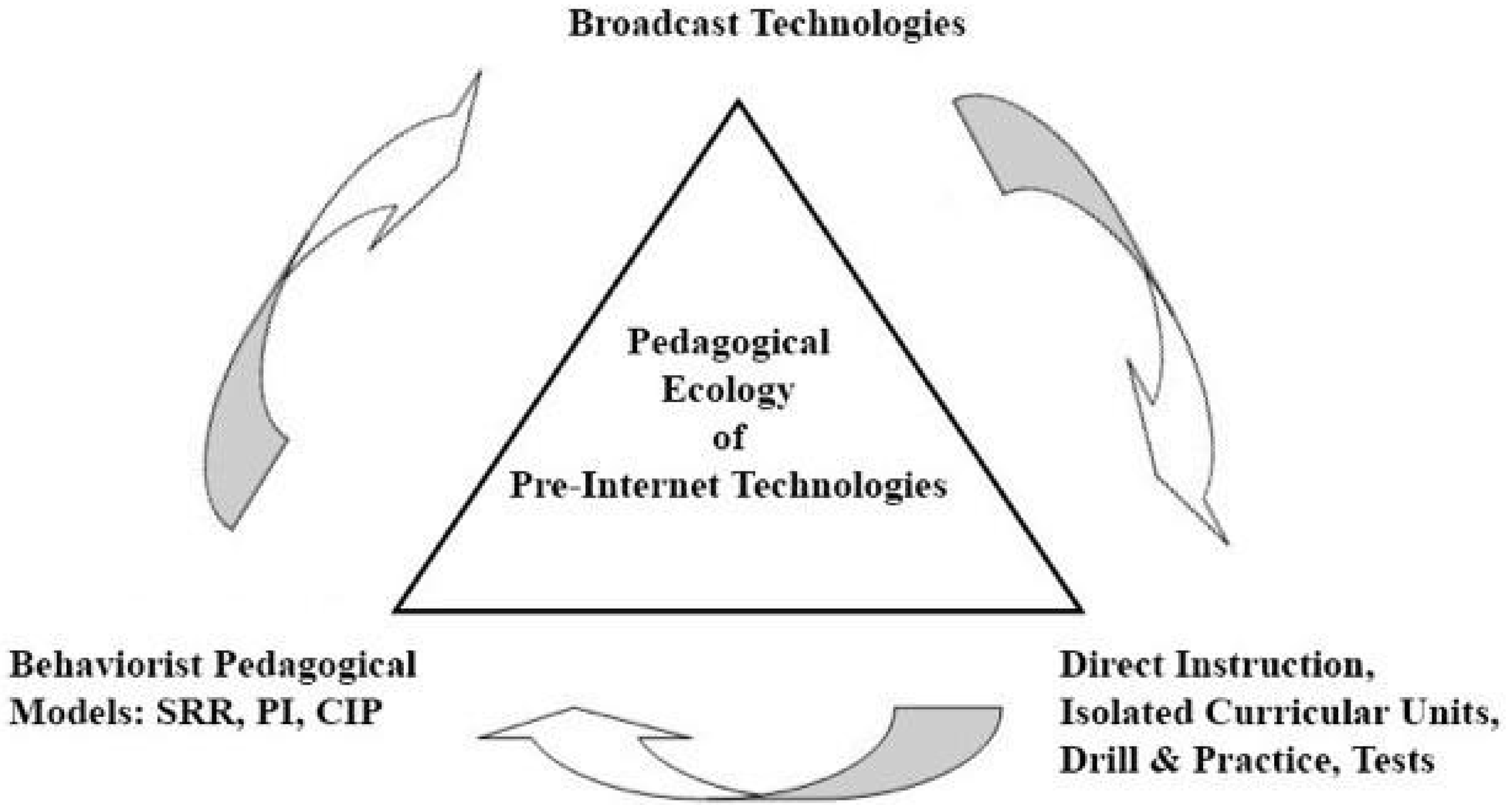


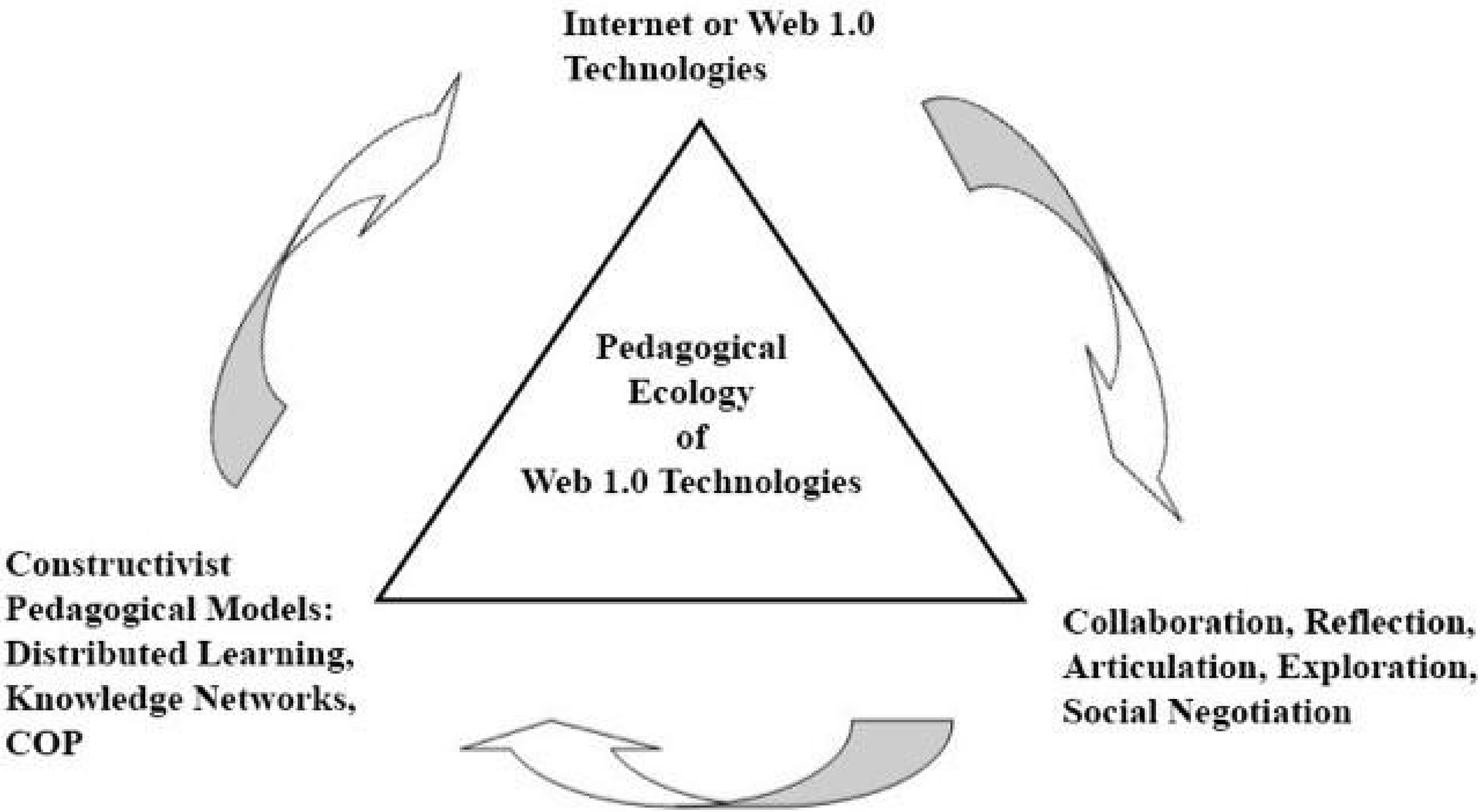
PEDAGOGICAL ECOLOGY OF LEARNING ENVIRONMENTS

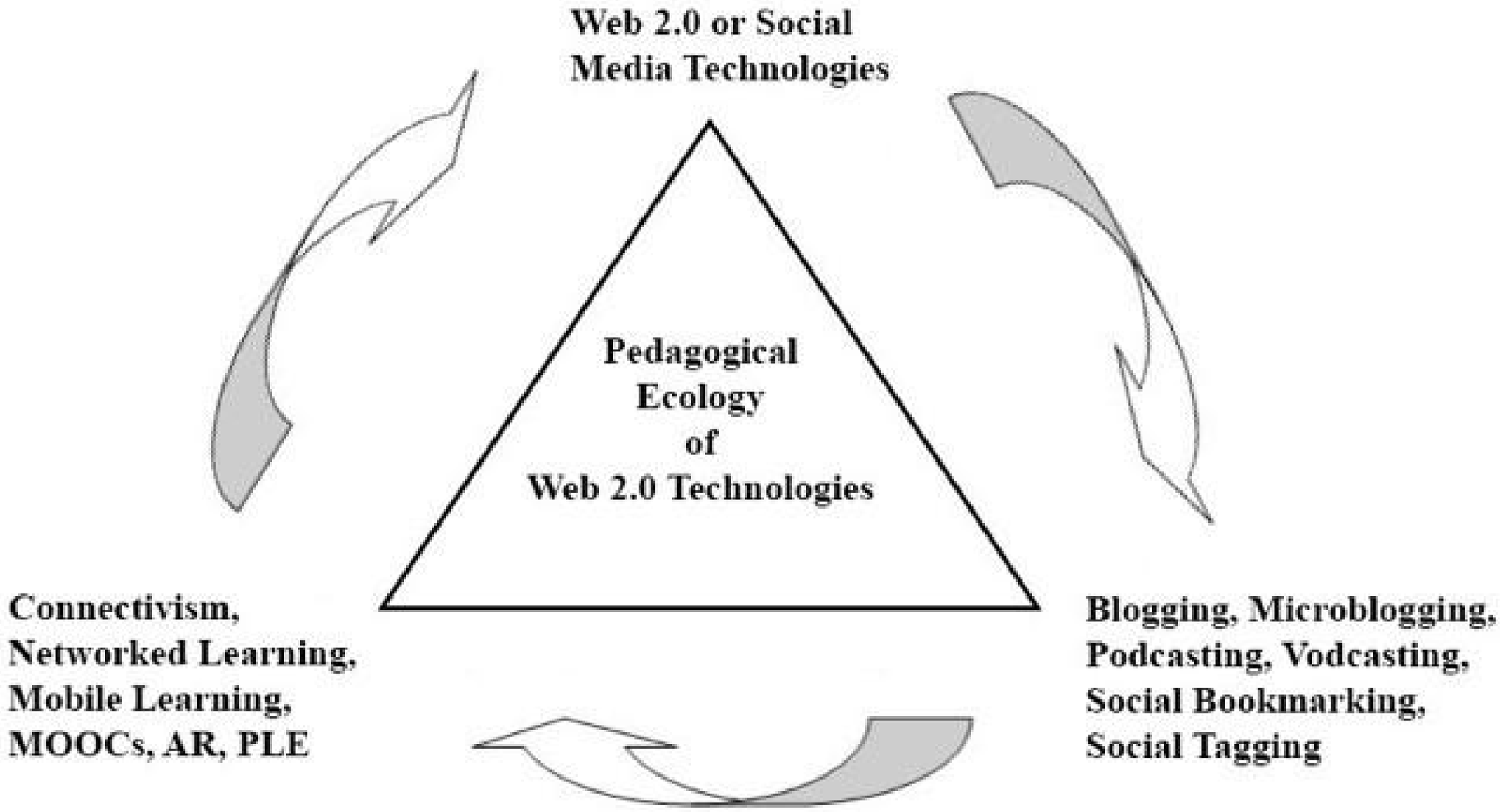


Backwards Design




Broadcast Technologies
Pedagogical
Ecology
of
Pre-Internet Technologies
Behaviorist Pedagogical
Models: SRR, PI, CIP
Direct Instruction,
Isolated Curricular Units,
Drill & Practice, Tests


Internet or Web 1.0
Technologies
Pedagogical
Ecology
of
Web 1.0 Technologies
Constructivist
Pedagogical Models:
Distributed Learning,
Knowledge Networks,
COP
Collaboration, Reflection,
Articulation, Exploration,
Social Negotiation


Web 2.0 or Social
Media Technologies
Pedagogical
Ecology
of
Web 2.0 Technologies
Connectivism,
Networked Learning,
Mobile Learning,
MOOCs, AR, PLE
Blogging, Microblogging,
Podcasting, Vodcasting,
Social Bookmarking,
Social Tagging

Sociomaterial Entanglement

- 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 Technologies

- 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.*

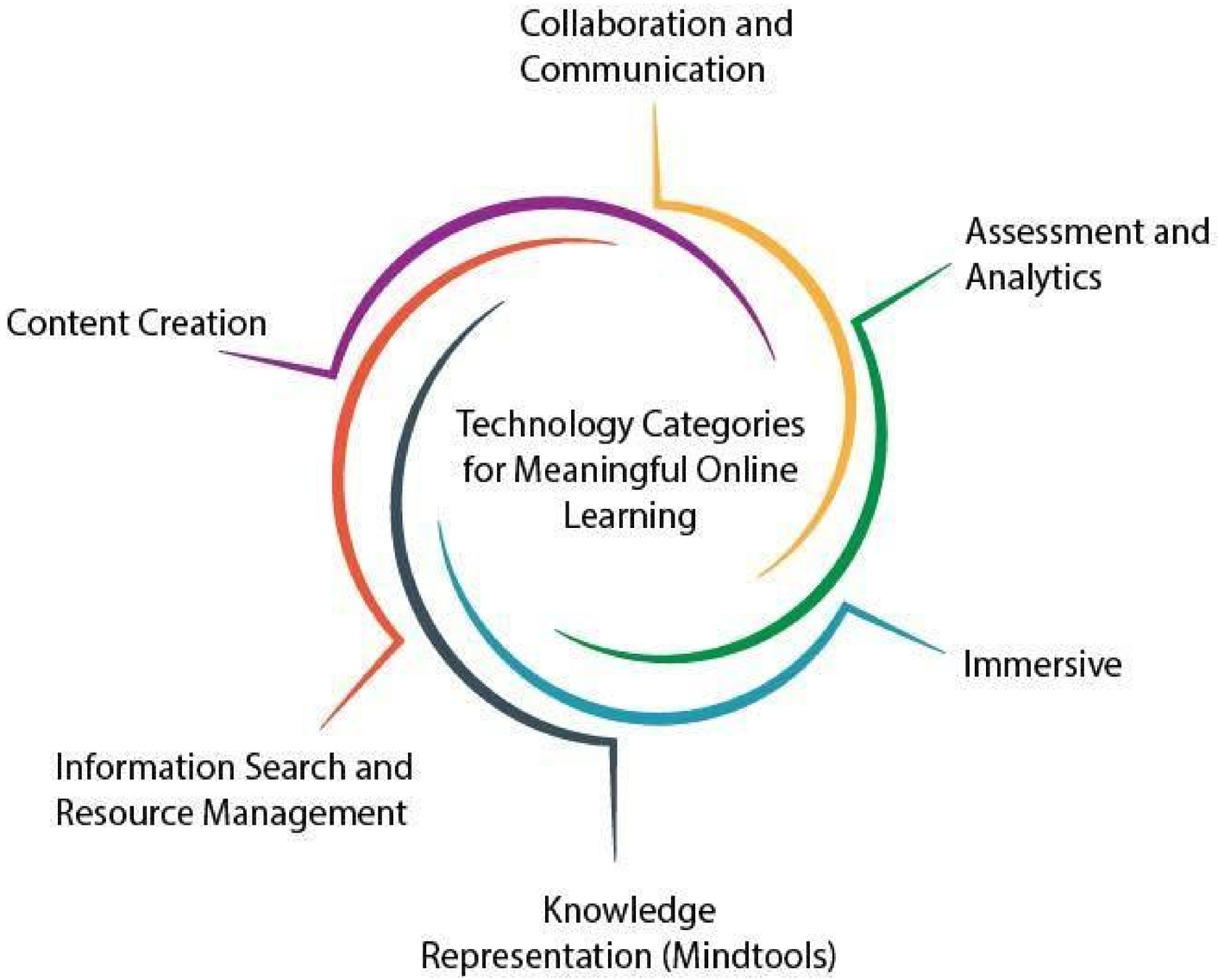
Above all, digital tools are only as effective as how *effectively* you use them.

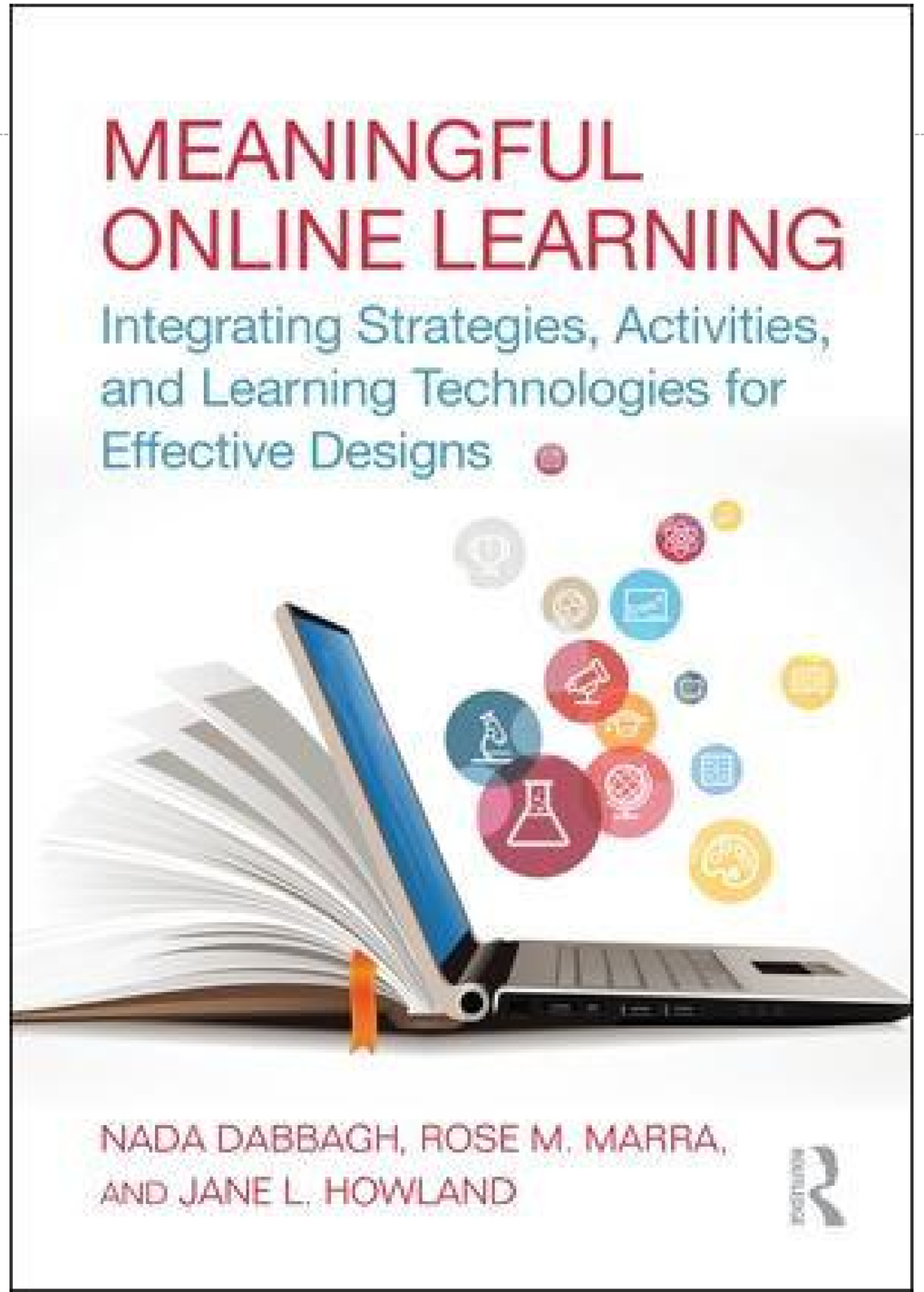
Steve Glaveski, Harvard Business Review, December 1st, 2021.

Use the right tools in the right manner.

Dr. Kubler, 2022.

TECHNOLOGY USE PERSPECTVE



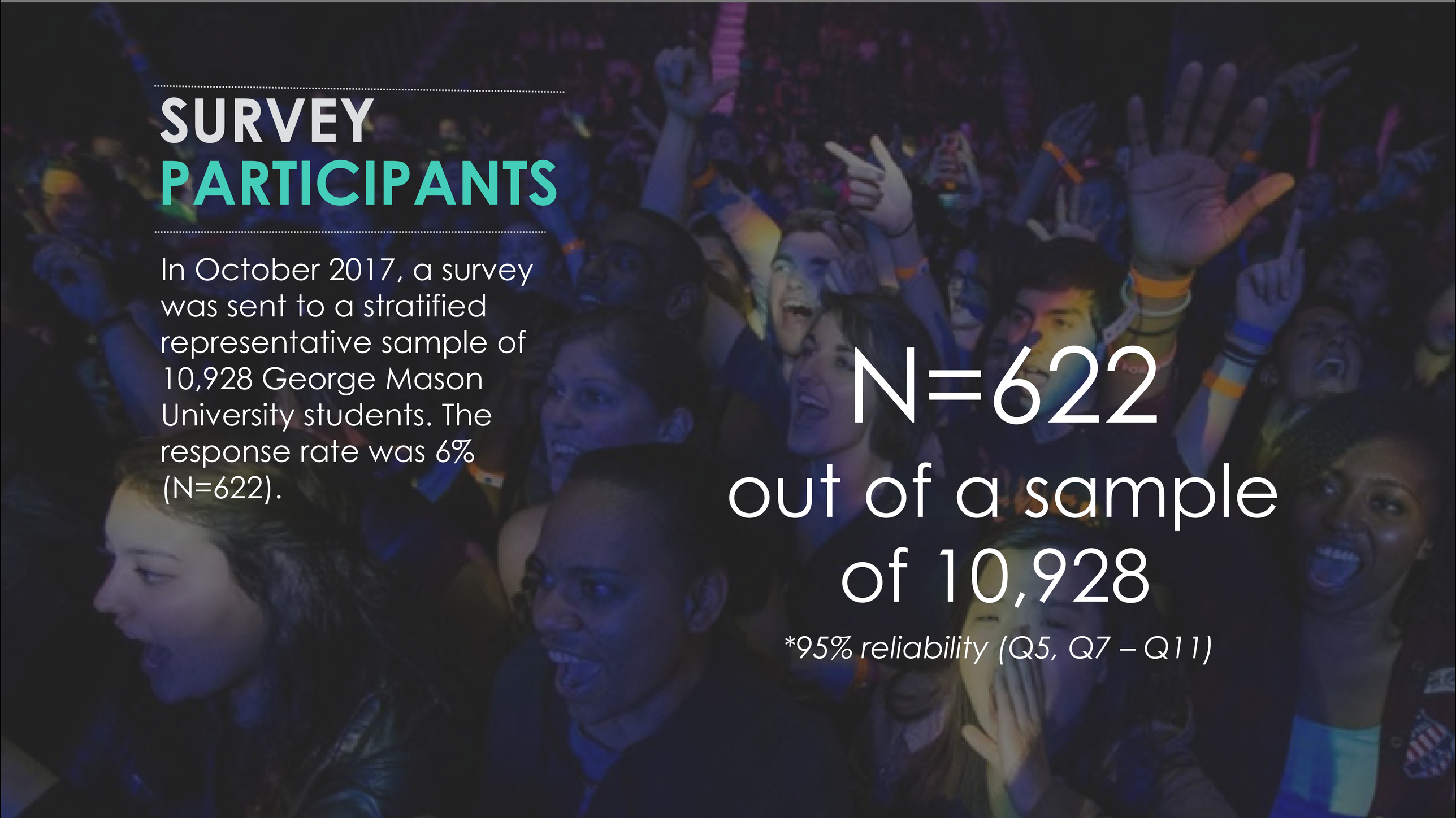

MEANINGFUL
ONLINE LEARNING
Integrating Strategies, Activities, and Learning Technologies for Effective Designs
NADA DABBAGH, ROSE M. MARRA, AND JANE L. HOWLAND

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).

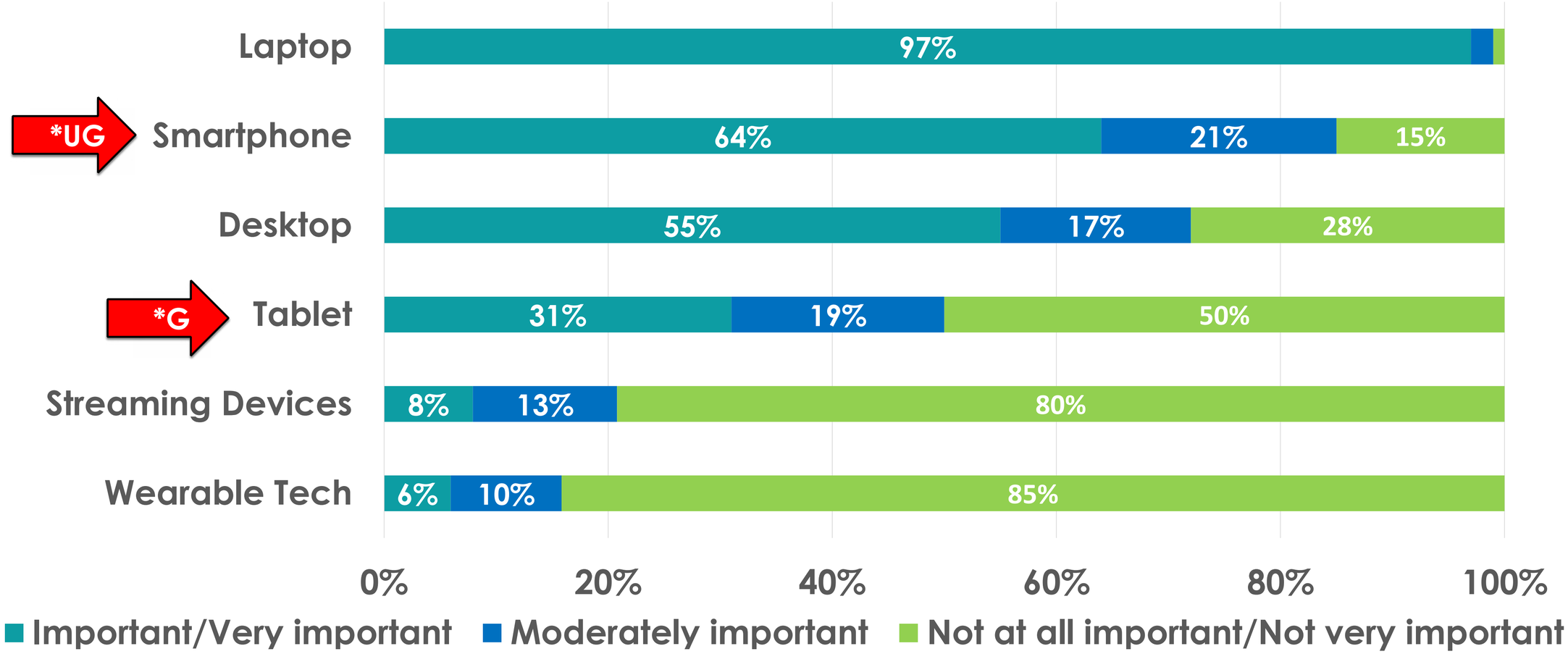
N=622
out of a sample of 10,928

**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

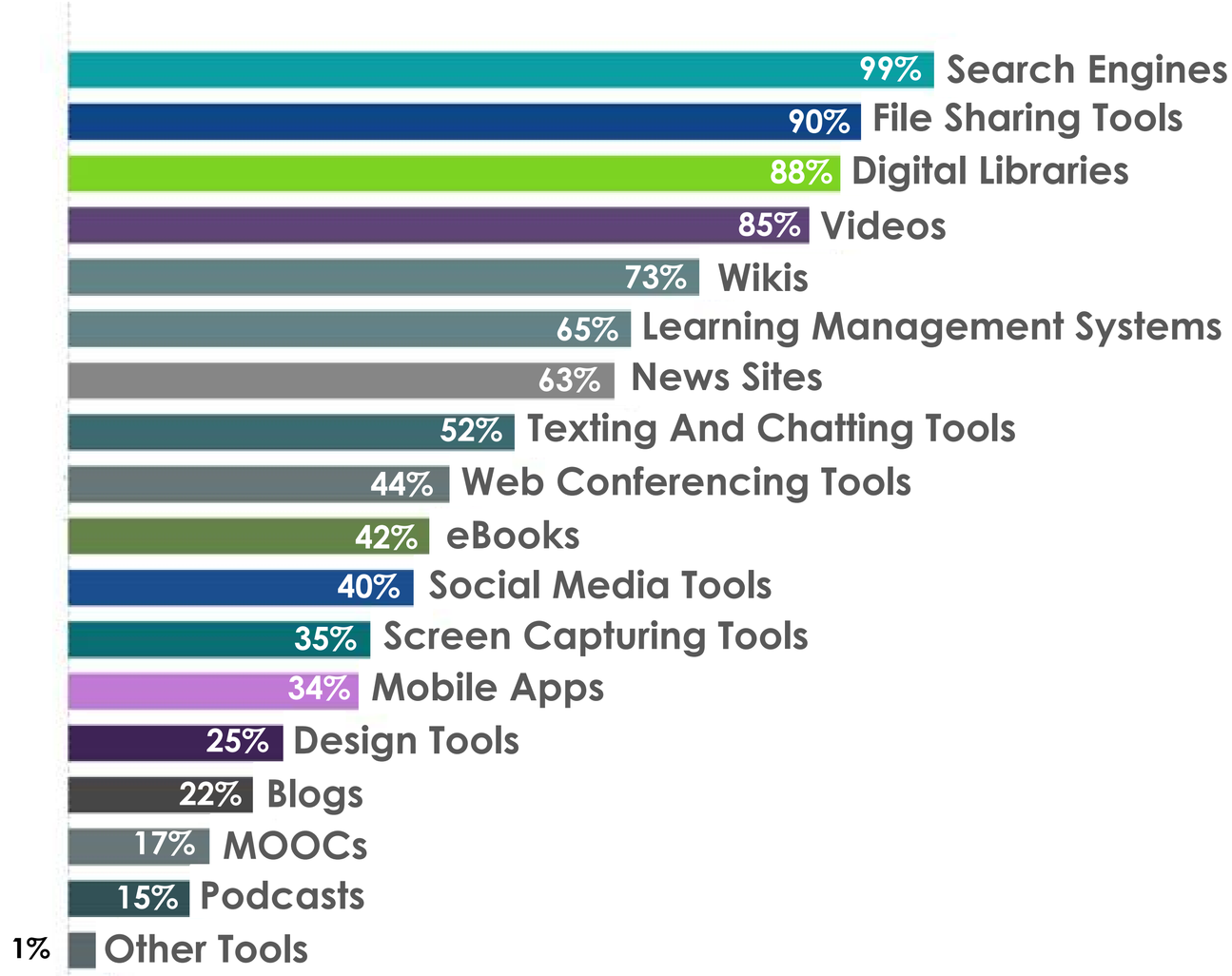
Wants

- 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

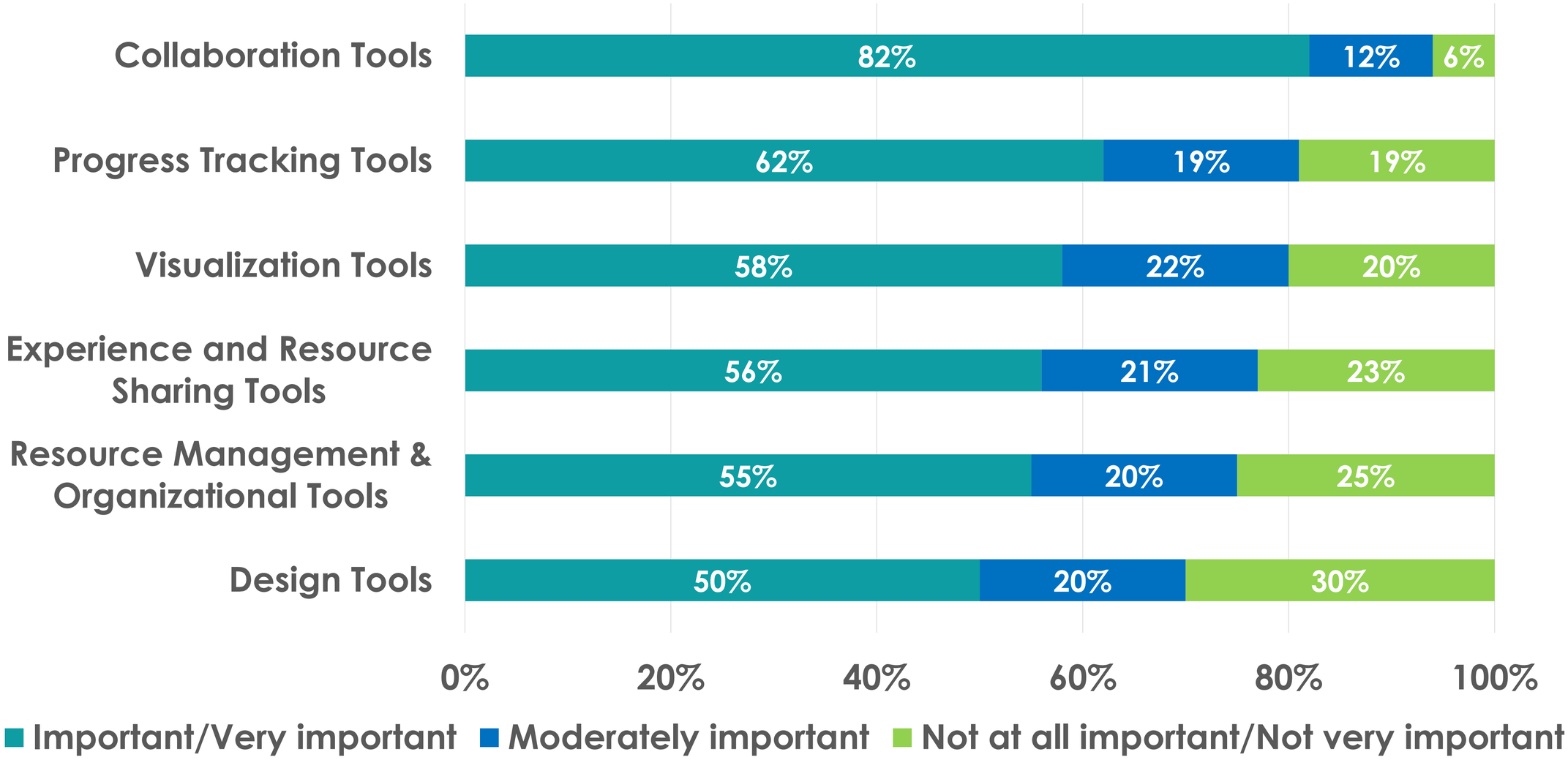
WHAT SOFTWARE DO YOU USE TO LEARN?



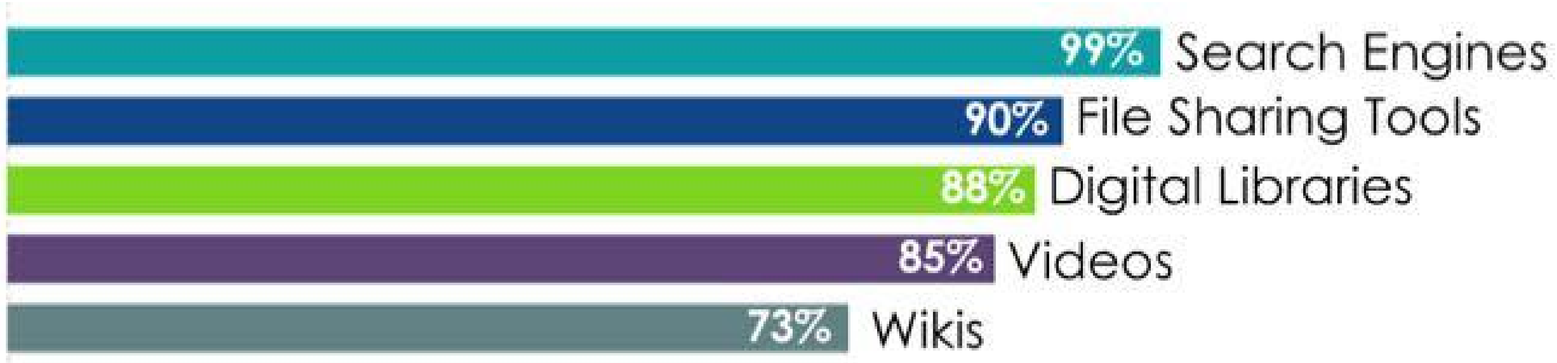
Top 150 Tools for Personal Learning 2021 **https://www.toptools4learning.com/pl150/**

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?



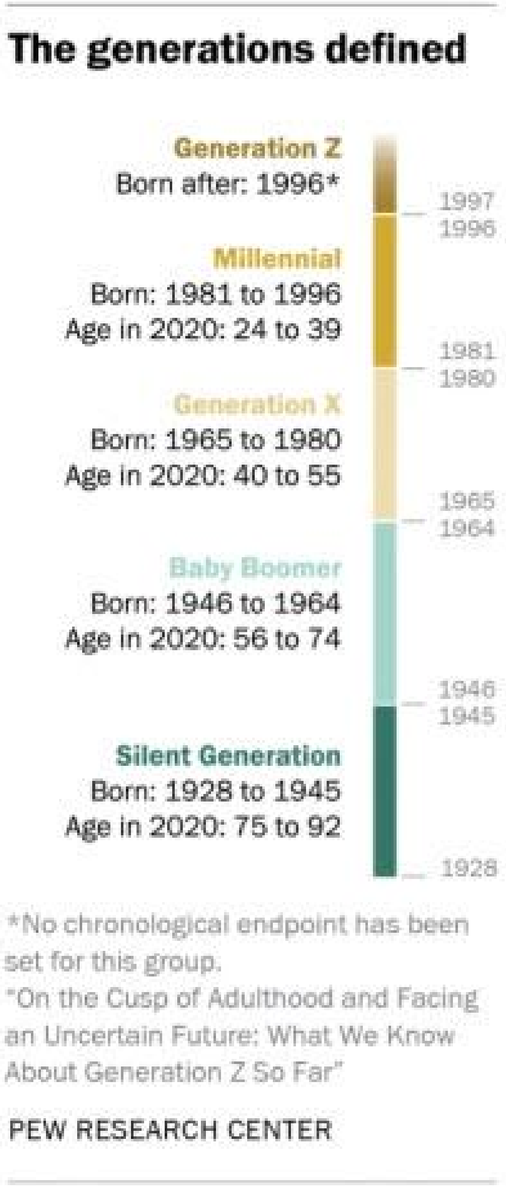
DESIGNING LEARNING EXPERIENCES



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



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

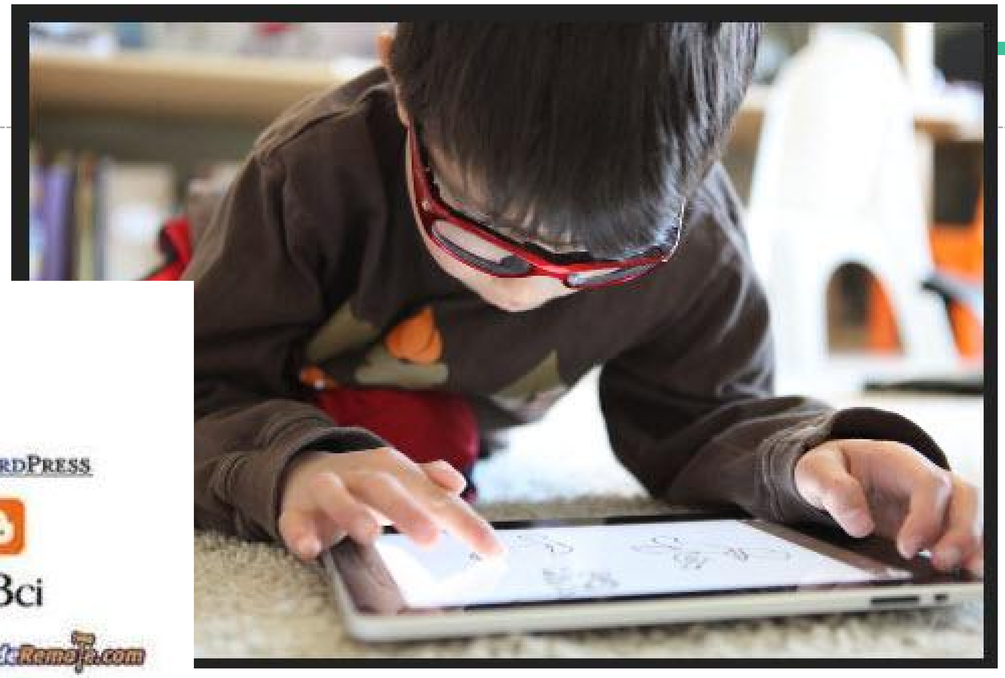
Gen Zers are more likely to know someone using gender-neutral pronouns and more likely to say that forms should offer gender options other than 'man' and 'woman'

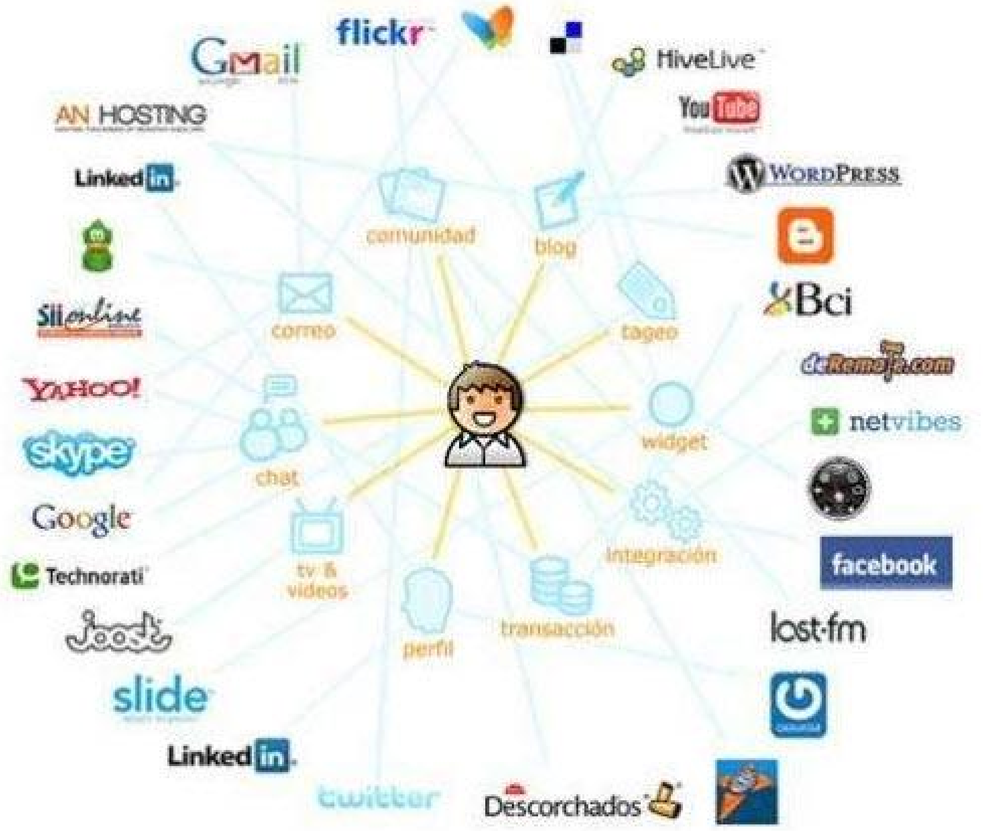
YouTube is their top social media platform (they are constantly online)

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




Gmail
flickr
HiveLive
YouTube
AN HOSTING
LinkedIn
WordPress
comunidad
blog
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YAHOO!
netvibes
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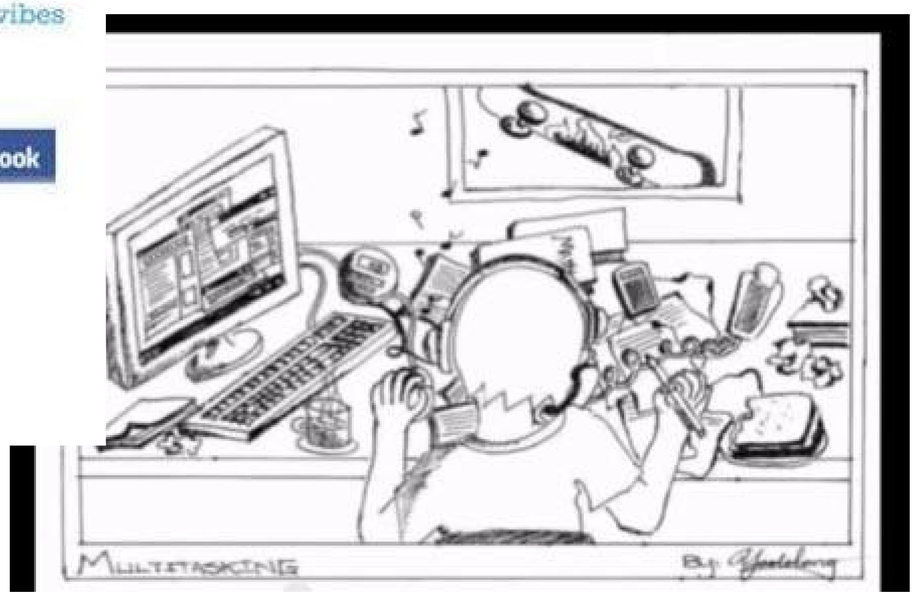
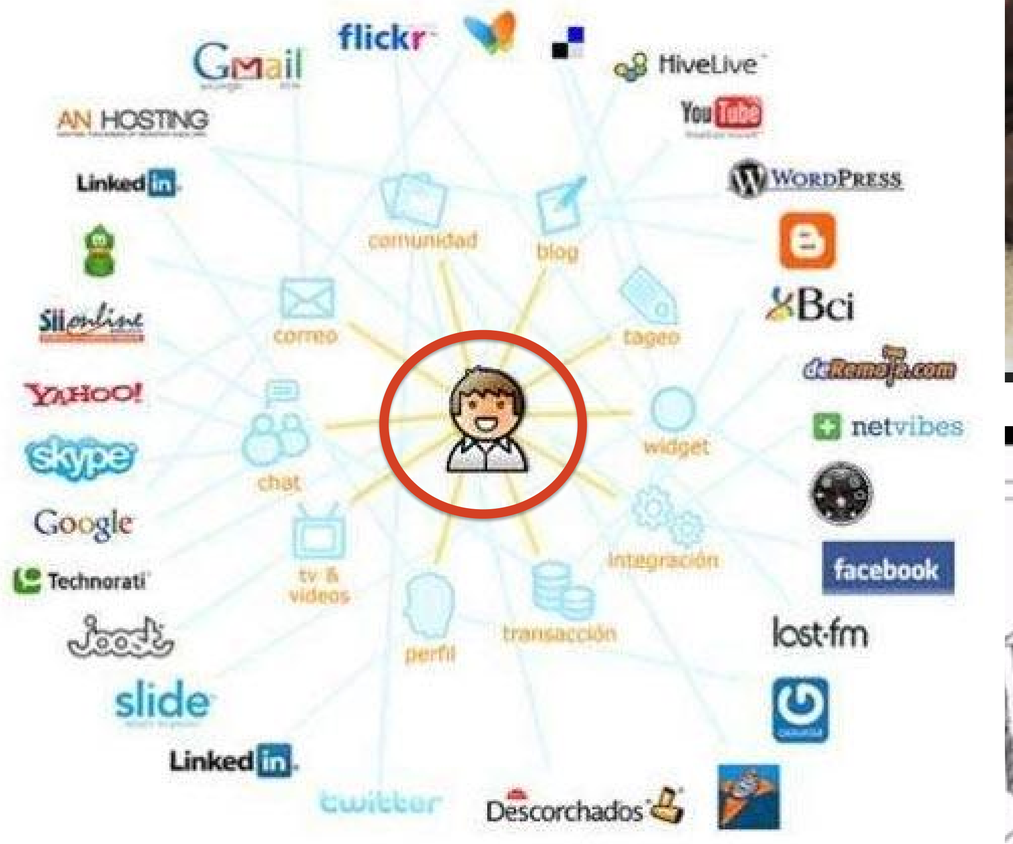
LinkedIn
twitter
Descorchados


MULTITASKING


Gmail
flickr
HiveLive
AN HOSTING
YouTube
LinkedIn
WordPress
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Bci
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tageo
YAHOO!
widget
netvibes
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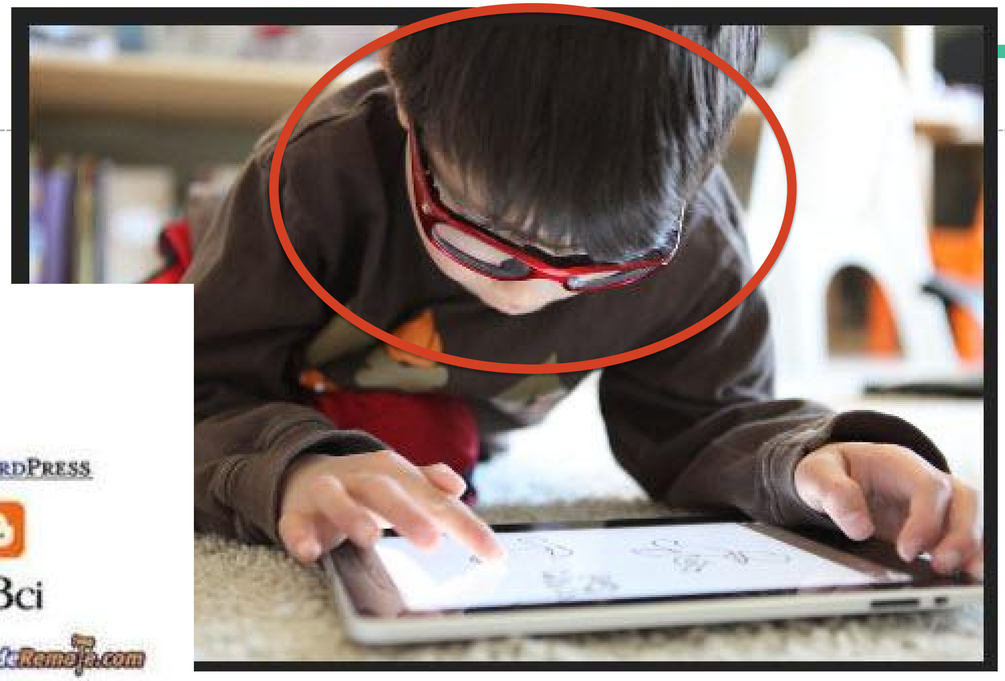
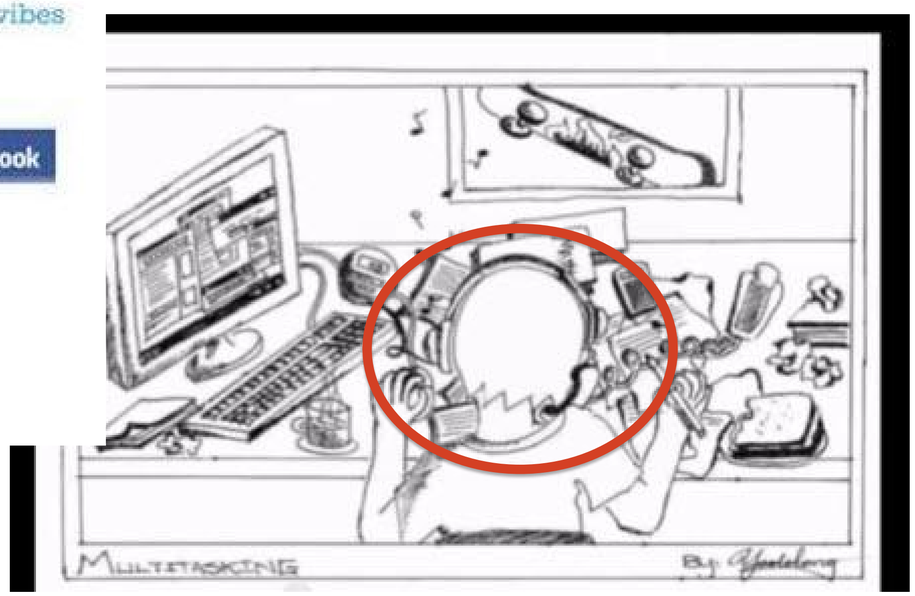



MULTITASKING

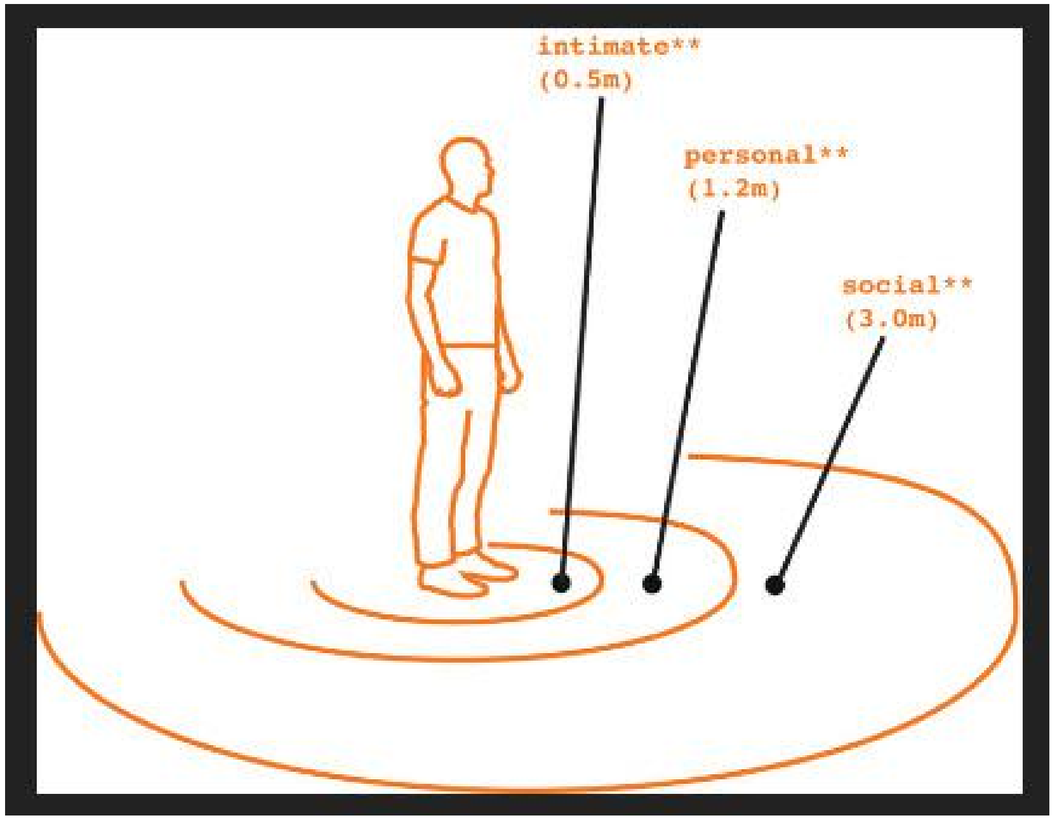
tools, communities, and services that constitute the individual educational platforms learners use to direct their own learning and pursue educational goals

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]

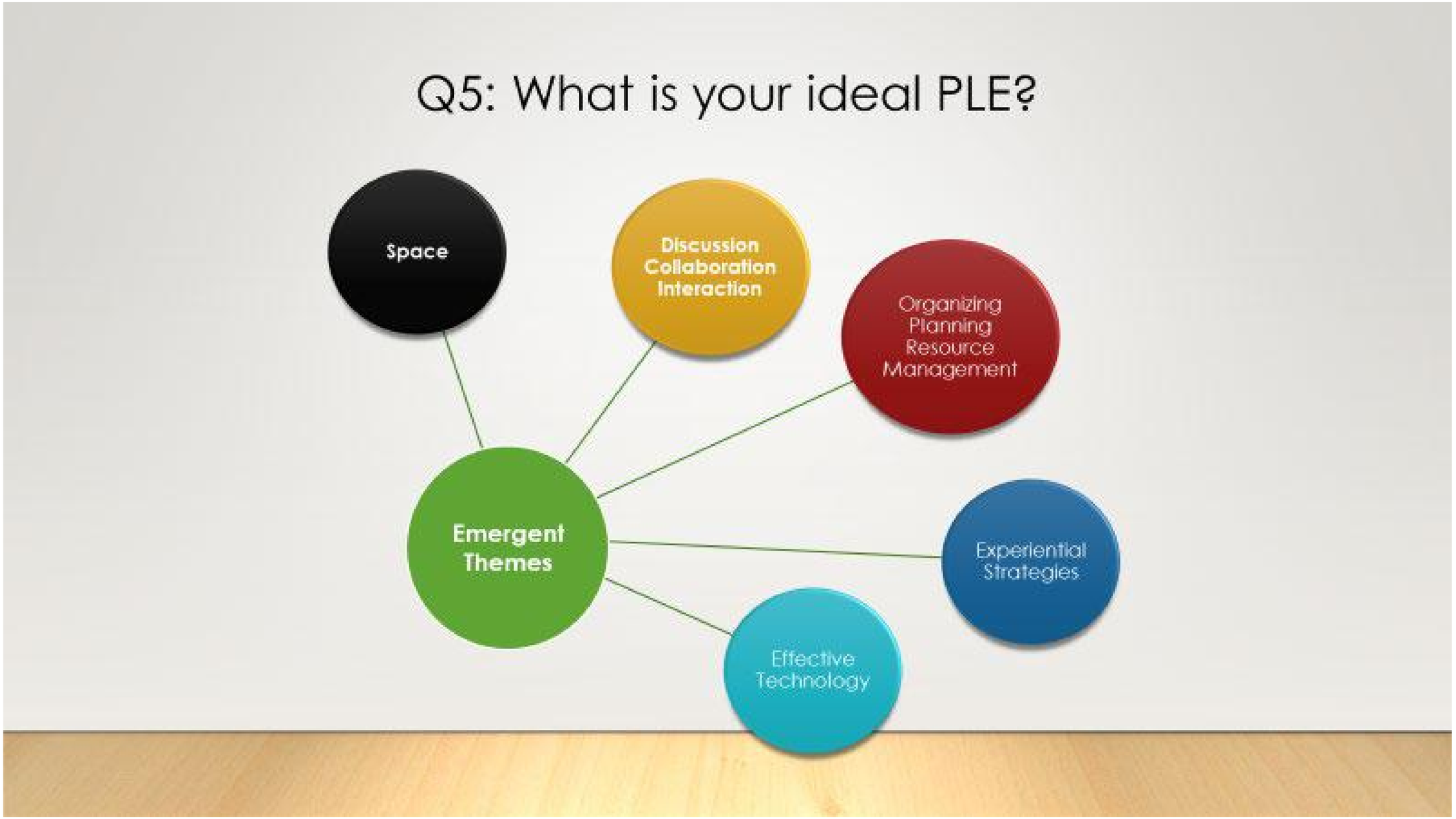
[a] Instructional Technology, George Mason University, MSN 5D6, 4400 University Drive, Fairfax, VA 22030, United States

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

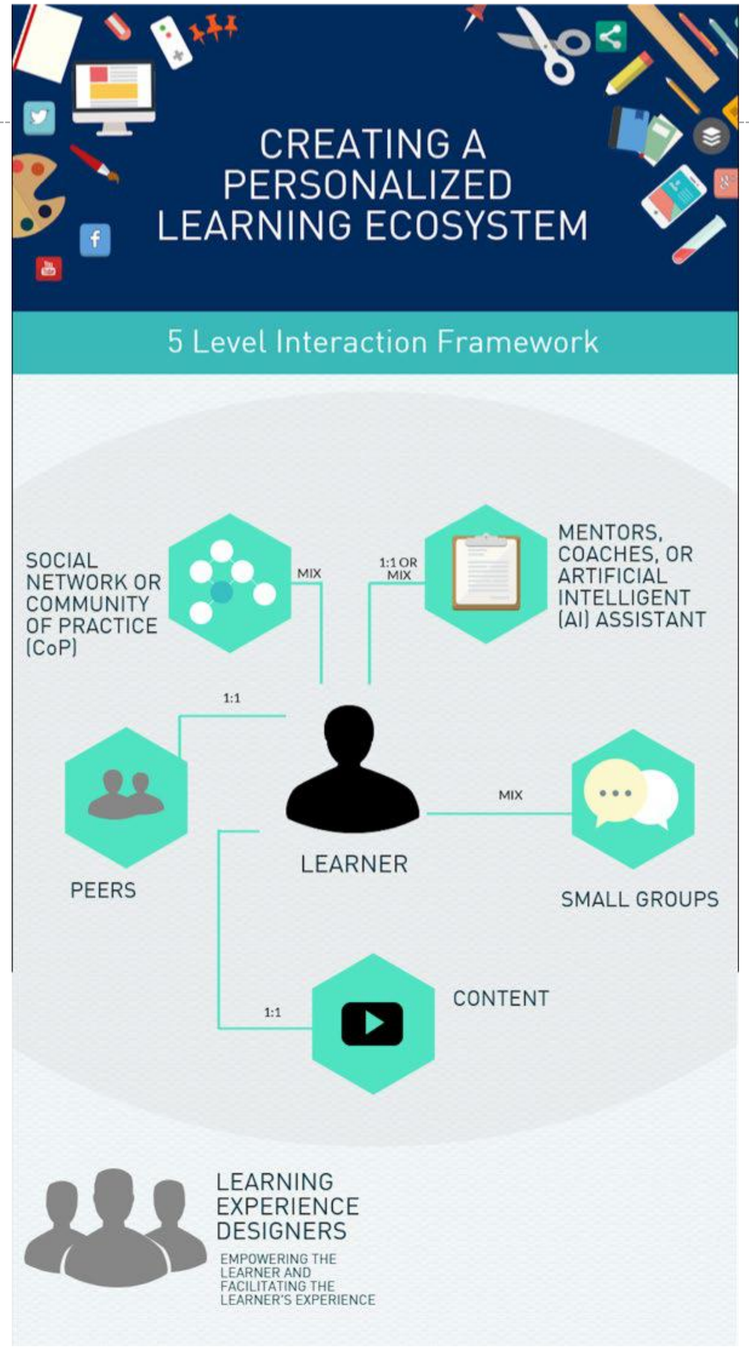
http://dx.doi.org/10.1016/j.iheduc.2011.06.002

- **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?
Space
Discussion
Collaboration
Interaction
Organizing
Planning
Resource
Management
Emergent
Themes
Experiential
Strategies
Effective
Technology

PLEs are
spaces
of
engagement,
interest,
and
passion


CREATING A PERSONALIZED LEARNING ECOSYSTEM
5 Level Interaction Framework
SOCIAL NETWORK OR COMMUNITY OF PRACTICE (CoP)
MIX
1:1 OR MIX
MENTORS, COACHES, OR ARTIFICIAL INTELLIGENT (AI) ASSISTANT
1:1
PEERS
LEARNER
MIX
SMALL GROUPS
1:1
CONTENT
LEARNING EXPERIENCE DESIGNERS
EMPOWERING THE LEARNER AND FACILITATING THE LEARNER'S EXPERIENCE

LEARNING ECOSYSTEMS

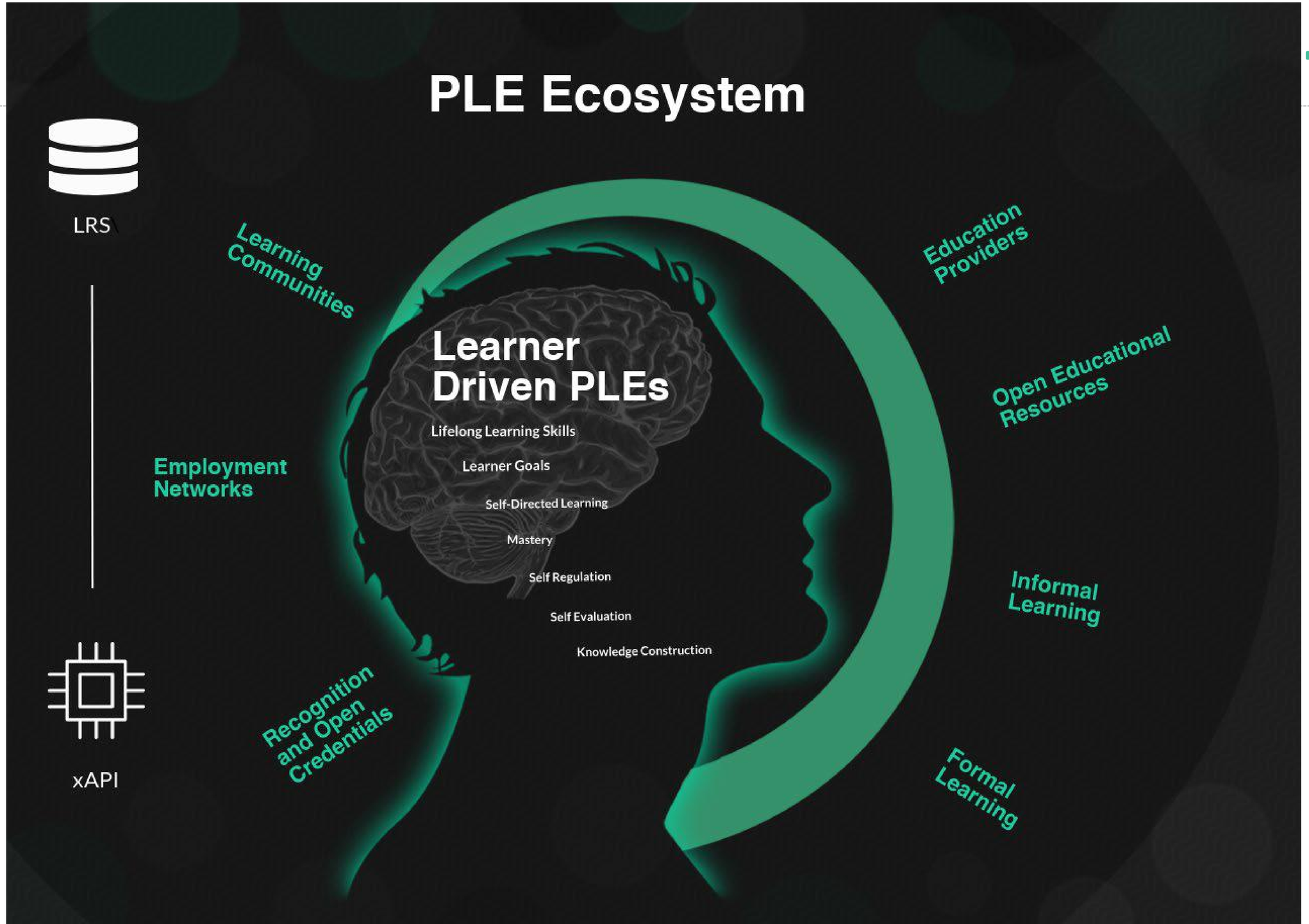
WHAT IS A LEARNING ECOSYSTEM?

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
xAPI
Learning Communities
Education Providers
Open Educational Resources
Informal Learning
Formal Learning
Recognition and Open Credentials
Employment Networks
Learner Driven PLEs
Lifelong Learning Skills
Learner Goals
Self-Directed Learning
Mastery
Self Regulation
Self Evaluation
Knowledge Construction

NEW LEARNING LANDSCAPE

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

Nada Dabbagh
Professor & Director
Division of Learning Technologies

ndabbagh@gmu.edu