



21 century learning trends



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VOCAL - Vocational Online Collaboration for Active Learning

KA2 Strategic Partnerships – 2016-1-HU01-KA202-022916

Assoc. prof. dr. Airina Volungevičienė,
Prof. dr. Margarita Teresevičienė
Dr. Virginija Bortkevičienė,
Danutė Pranckutė
Vytautas Magnus University



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Innovative learning pedagogies trends

On the threshold of the 21st century, higher education is faced with the challenge of preparing itself to fulfill its mission adequately in a changing world. As we are moving into the new millennium, there are a number of factors that are affecting institutions of higher education. How these institutions approach these challenges will determine whether they will remain competitive in the future, or lose the status which they had held for several centuries.

Resource: Yusep Rosmansyah, Herdi Ashaury, "A 3D multiuser virtual learning environment and learning management system", *Electrical Engineering and Informatics (ICEEI) 2017 6th International Conference on*, pp. 1-6, 2017, ISSN 2155-6830.



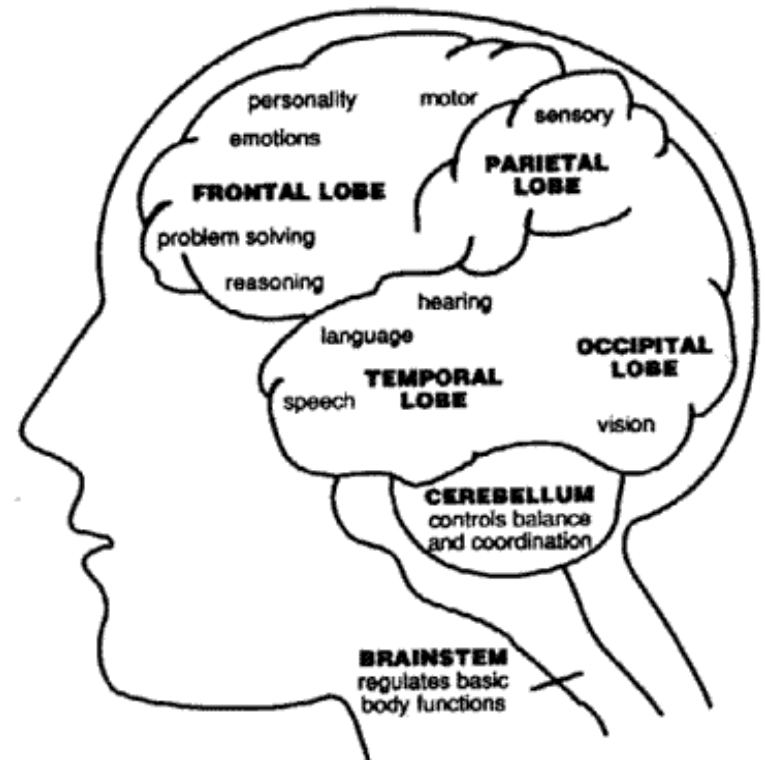
Innovative learning pedagogies trends

- distributed cognition
- personalisation of learning
- openness
- student generated content
- connected learning
- interactive learning



Distributed cognition approach

- From the Society of Mind: *"...each brain contains hundreds of different types of machines, interconnected in specific ways which predestine that brain to become a large, diverse society of partially specialized agencies."*
- Implication: the cognition of an individual is also distributed
- Social organization in a ship: there is a captain, navigators, radio operators, engine engineers, etc., all working to move the ship



Resource: <https://pin.it/qv7v57ae644skd>



Distributed cognition approach

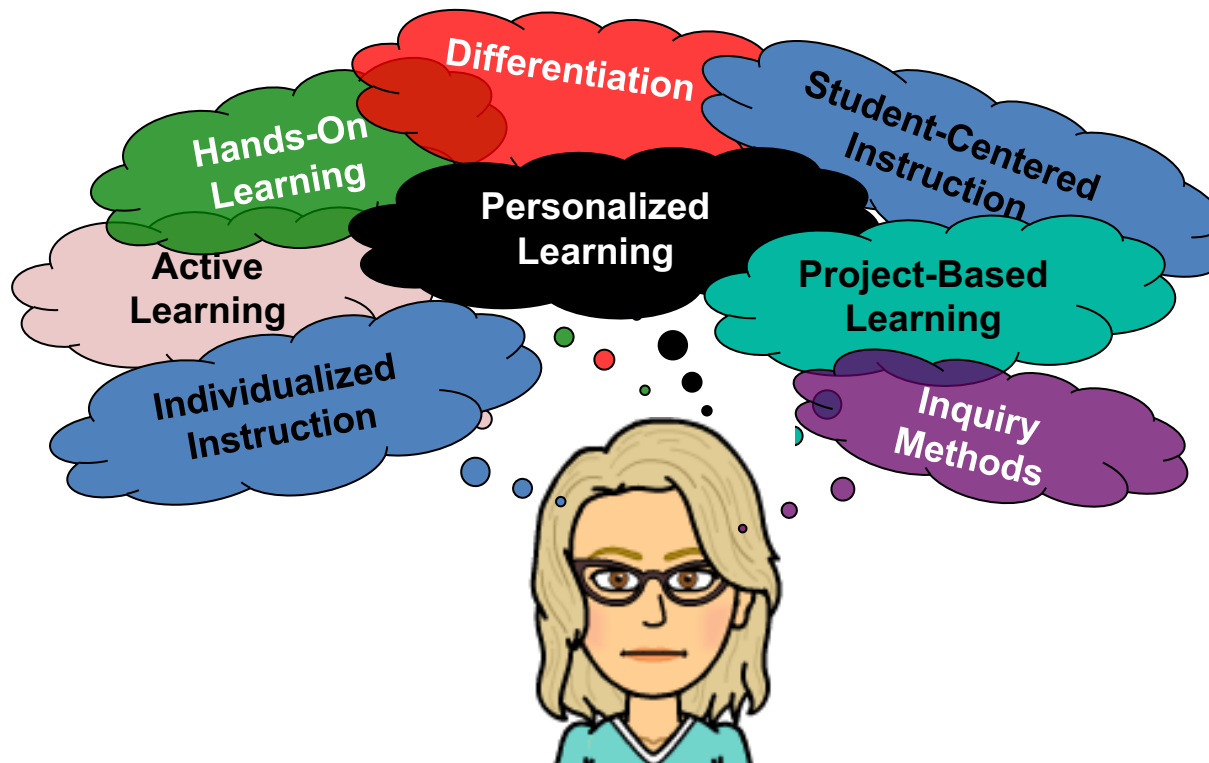
- Socially Distributed Cognition
 - Anthropologists and sociologists studying knowledge and memory, AI researchers building systems that do distributed problem solving, social psychologists studying small group problem solving, etc., have all arrived at the same idea
 - Social organization is itself a form of cognitive architecture
- Cognitive processes involve trajectories of information transmission and transformations, so the patterns of these information trajectories reflect some underlying architecture
- Rationale: Since social organization – plus the structure added by the context of activity – largely determines which way information flows through a group, then social organization may itself be viewed as a form of cognitive architecture
- Distributed cognition means more than that processes are socially distributed across members of a group, rather, it encompasses the group members as well as their interactions with other people as well as with their environments

Based on: <http://www.ics.uci.edu/~kobsa/courses/ICS205/06F/Distributed-Cognition>



Personalisation of learning

What is Personalized Learning?



Resource: <http://slideplayer.com/slide/10675208>

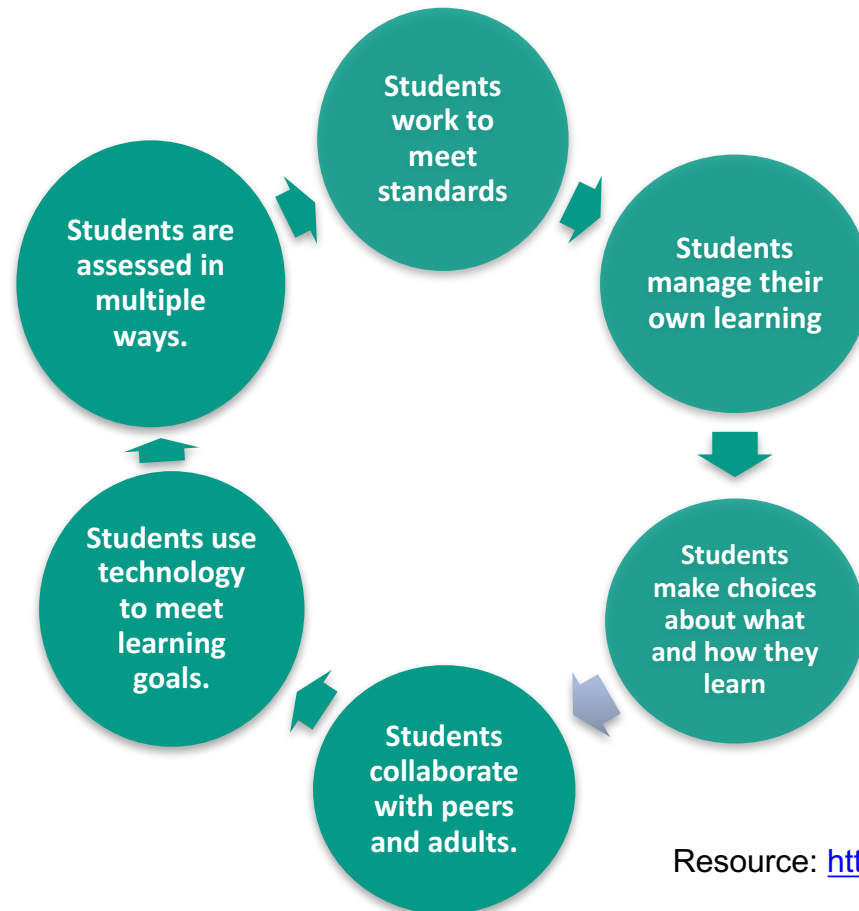


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Characteristics of a Personalized Learning Environment



Resource: <http://slideplayer.com/slide/10675208>



Personalized Learning and Technology Integration

- Students have access to online resources that enable them to make choices about content.
- Mobile devices allow students to access resources and complete tasks any time and anywhere.
- Online tools and apps expand the ways in which students can demonstrate their learning.
- Working with technology prepares students for life and work in the 21st century.

Resource: <http://slideplayer.com/slide/10675208>



Just the Facts about Personalized Learning

| Fiction | Fact |
|--|--|
| Students decide what they want to learn. | All students meet standards but make choices in addition to and within those standards. |
| All students work individually on tasks designed for them. | Students work with small and large groups, as well as alone. |
| Students do not receive grades. | Students participate in a variety of formative and summative tasks, in addition to grades. |
| Students are free to take the easiest path to learning. | Self-directed learning and meeting challenges are important components of personalized learning. |



Resource: <http://slideplayer.com/slide/10675208>



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Benefits of Personalized Learning

- Support for student-centered instruction
- Student engagement and ownership
- Development of 21st century skills such as collaboration and self-direction
- Student interest in and proficiency with technology
- Access to student data that can drive teaching and learning.

Resource: <http://slideplayer.com/slide/10675208>



Students generated content

Student generated content (SGC) promotes a digital learning environment where students are prosumers; that is, both content producers and consumers, co-creating, collaborating and sharing their work with other students.

Resource: <http://slideplayer.com/slide/10675208>



Students generated content

Meanwhile, the tutor takes on the role of facilitator encouraging students to search for a deeper understanding of the subject matter via discussion & analysis in seminars. For students, a wide range of cognitive disciplines are needed to successfully filter subject reading material and to identify content useful for: presentation to their peers; peer assessment; and course examination.

Resource: <http://studentgeneratedcontent.weebly.com>



Purpose and Benefits of Student Generated Content (SGC)

When you have students create, or generate, content you moved them from being consumers to being prosumers (producers + consumers)

of content as they create, collaborate, and share with other students and the instructor.

The content students create can even be used for future offerings of the course or in real world projects.

The benefits of SGC for your students are far reaching and valuable:

- move them from watching or reading content (passive) to creating it (active),
- ensuring better content retention and richer understanding
- give students ownership over their learning
- provide real world audiences and applications for their work
- allow them to produce work of lasting value
- help them build project management skills

Resource: <http://www.css.edu/administration/information-technologies/academic-technology-and-online-learning/teaching-guide/student-generated-content.html>



Connected learning

Interactive Learning is a pedagogical approach that incorporates [social networking](#) and [urban computing](#) into course design and delivery. Interactive Learning has evolved out of the hyper-growth in the use of digital technology and virtual communication, particularly by students. The use of interactive technology in learning for these students is as natural as using a pencil and paper were to past generations.

Resource: https://en.wikipedia.org/wiki/Interactive_Learning



Why Connect?

- A. Because connection underpins basic communication
- B. Because we are curious beings
- C. Because it allows us to expand boundaries
- D. Because technology affords us the ability to connect
- E. All of the above

Other reasons to connect?

Rise you questions for discussion!

Resource: <https://library.educause.edu/~media/files/library/2013/4/live1308-pptx.pptx>



“Always on” Devices

- Previous – devices when used by people
- Current – devices in preparation of being used by people
- Future – user less device connections



Resource: <https://www.digitaltrends.com/home/demoing-the-app-controlled-samsung-smart-washer-and-dryer>



Resource: <https://ecoosfera.com/2012/09/lifx-bulb-el-foco-eco-amigable-que-dura-mas-de-20-anos-y-cambia-de-color/>



Connected Learning Framework



Resource: <https://clrn.dmlhub.net>

1. Values
2. Learning Principles
3. Design Principles



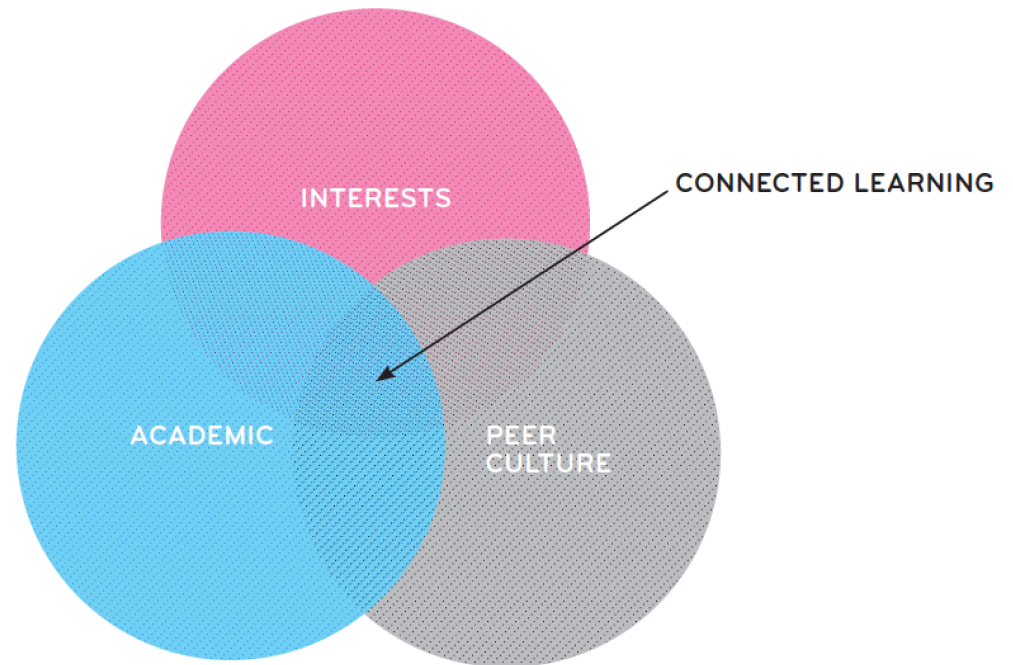
Connected Learning Values

- Equity
- Full participation
- Social Connection



Connected Learning Principles

- Interest-powered
- Peer-supported
- Academically oriented



Resource: Ito et al., *Connected Learning*, 63.

Based on: <https://youtu.be/zFdzz26g-EE>



Learning Connections Examples

1. Reality Ends Here: USC School of Cinematic Arts Card Game
2. Traditional vs. Online Learning Environments



References

- Yusep Rosmansyah, Herdi Ashaury, "A 3D multiuser virtual learning environment and learning management system", *Electrical Engineering and Informatics (ICEEI) 2017 6th International Conference on*, pp. 1-6, 2017, ISSN 2155-6830.
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- <http://www.css.edu/administration/information-technologies/academic-technology-and-online-learning/teaching-guide/student-generated-content.html>
- https://en.wikipedia.org/wiki/Interactive_Learning
- <https://library.educause.edu/~media/files/library/2013/4/live1308-pptx.pptx>
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- <https://youtu.be/zFdzz26g-EE>

