OnlineHE project

A practical toolkit for integrating eLearning in Higher Education Curricula

Building the capacity of HE teaching staff, academics, and learning designers in integrating eLearning into their educational programmes

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Module 1: The field of e-learning, state-of-the-art: e-Learning Theoretical Framework / pedagogies for the design and development of online courses

Overview of Module 1

This axis discusses distinct features of e-Learning, its benefits to higher education as well as the challenges, and how e-Learning theories can be use in online courses.

- ***Theoretical part***: 3 Topics – about 50’
- ***Practical part***: scenario activity in groups – about 40’

Learning outcomes

Knowledge

- define e-Learning, its advantages and disadvantages of e-Learning
- name types of students and instructors in an online environment
- list theories of learning

Skills

- explain different elements of e-Learning
- identify different types of learners to decide which is most appropriate for your subject area
- describe in broad terms the main theories of learning and discuss their implications for e-Learning

Attitudes

- instruct trainees by using e-learning to obtain the best courses
- act independently in finding the type of learners to use and combine them in designing online courses
- instruct trainees how to determine the learning theories for clarifying curriculum development and delivery

Overview of Topics

- Topic 1: **What is e-Learning? Benefits and Challenges**
- Topic 2: **The role of students and the role of instructors in an online environment**
- Topic 3: **Learning Theories and the Online Environment**

Topic 1: What is e-Learning? Benefits and Challenges

What is e-Learning?

E-learning is education achieved through electronic networks and through the involvement of new communication and multimedia technologies to access educational curricula outside of traditional classrooms.

Topic 1: What is e-Learning? Benefits and Challenges

E-Learning Advantages

- Real-time access to knowledge from anywhere, anytime.
- Student centered design.
- No travel expenses or interruption of normal professional activity are required.
- Participants collaborate and learn to work together.
- Retention is much higher than traditional education.
- Learning is a social act and we learn better by working together.
- The material is customized to the previous knowledge and experience of the learner.
- Teacher can address a much larger number of students than in traditional education.

Topic 1: What is e-Learning? Benefits and Challenges

E-Learning Disadvantages

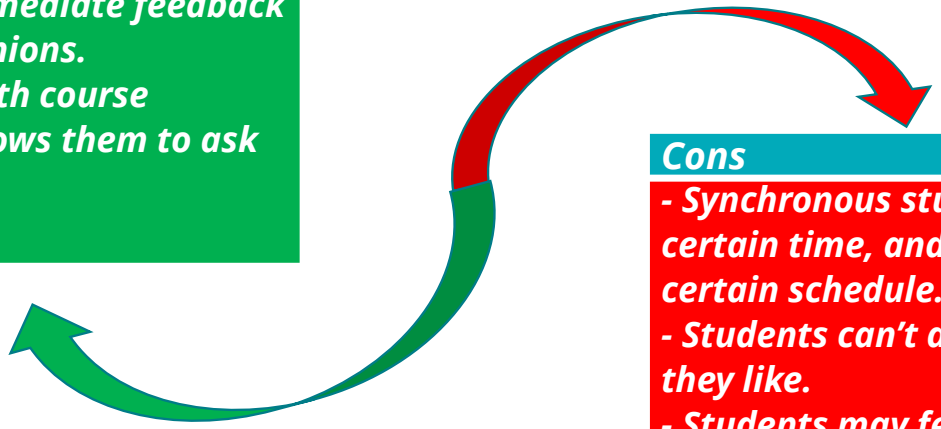
- Preparing an online course is more expensive than a traditional course.
- Lack of high-performance technology resources and optimal, low-performance network connections.
- There are some issues with face-to-face contact, which are often essential for socializing.
- Not every course can be delivered via eLearning platforms.
- Students must have computer skills
- Students need to be highly motivated to take part in online courses

Topic 1: What is e-Learning? Benefits and Challenges

Synchronous learning

Pros

- students can easily interact with teachers and other learners, making group activities possible.
- Synchronous learning takes place in real time, which means students can get immediate feedback and can share their ideas and opinions.
- If students are having trouble with course content, synchronous learning allows them to ask questions and get answers



Cons

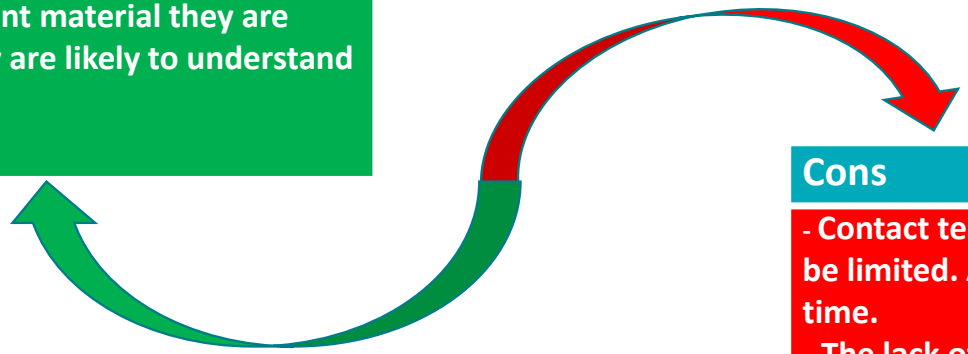
- Synchronous students have to be online at a certain time, and therefore they must follow a certain schedule.
- Students can't access content where and when they like.
- Students may feel they are not receiving attention
- Students understanting depends more on the teacher involvment than the students themselves

Topic 1: What is e-Learning? Benefits and Challenges

Asynchronous learning

Pros

- Asynchronous learning offers flexibility.
- Asynchronous students can learn at their own pace and access their course at any time they choose and from any place.
- With asynchronous learning, students have more time to reflect on the content material they are learning, which means they are likely to understand it more thoroughly



Cons

- Contact teacher through asynchronous learning may be limited. Answers to queries cannot be given in real time.
- The lack of interaction with teacher and with other students can create a sense of isolation. This could lead to a lack of motivation and engagement in courses

Topic 2: The role of students and the role of instructors in an online environment

Type of learners

1. **The auditive learner**: ***learn through listening*** to what others have to say and ***talking*** about what they are learning.
2. **The visual learner** ***learn through seeing***
3. **The tactile/ kinesthetic learner** ***learn best through doing*** and ***movement***

Topic 2: The role of students and the role of instructors in an online environment

The auditive learner

Characteristics

- they benefit from listening to lecture and participating in group discussions.
- they benefit from listening to audio recordings.
- to remember something, they often repeat it aloud
- they learn best when interacting with others in a listening/speaking activity.

How to make online classes more accessible to the auditive learner

- although most information is presented visually (charts, graphs, and images), group participation and collaborative activities are accomplished well online. Establish a study group.
- add weave streaming audio and synchronous web-conferencing into an online course.
- create classroom "lectures" using multimedia framework as QuickTime, capable of handling various format of digital video, picture, sound and upload the lectures to YouTube.

Topic 2: The role of students and the role of instructors in an online environment

The visual learner

Characteristics

- they prefer instructors who use visual aids (i.e. black board, PowerPoint presentation) or materials such as film, video, maps and diagrams.
- they relate well information from images and charts to written texts
- they benefit from information obtained from textbooks and class notes.
- they like to study by themselves in quiet environments

How to make online classes more accessible to the auditive learner

- include charts, images, in lessons, announcements, and forums
- use bulleted instructions, listing the weekly assignments. This helps visual learners "see" what is due each week instead of having to read explanations of the weekly requirements
- use bullets also in assignment to give step-by-step instructions
- post a PowerPoint presentation with visual images of each step of the assignment.
- create a forum where students outline a reading and/or assignment and allow them to color-code their outlines to help visual learners organize their thoughts

Topic 2: The role of students and the role of instructors in an online environment

The tactile/ kinesthetic learner

Characteristics

- they prefer to learn new materials in lab setting where they can touch and move materials
- they learn best in physically active learning situations
- they benefit from instructors who use in-class demonstrations

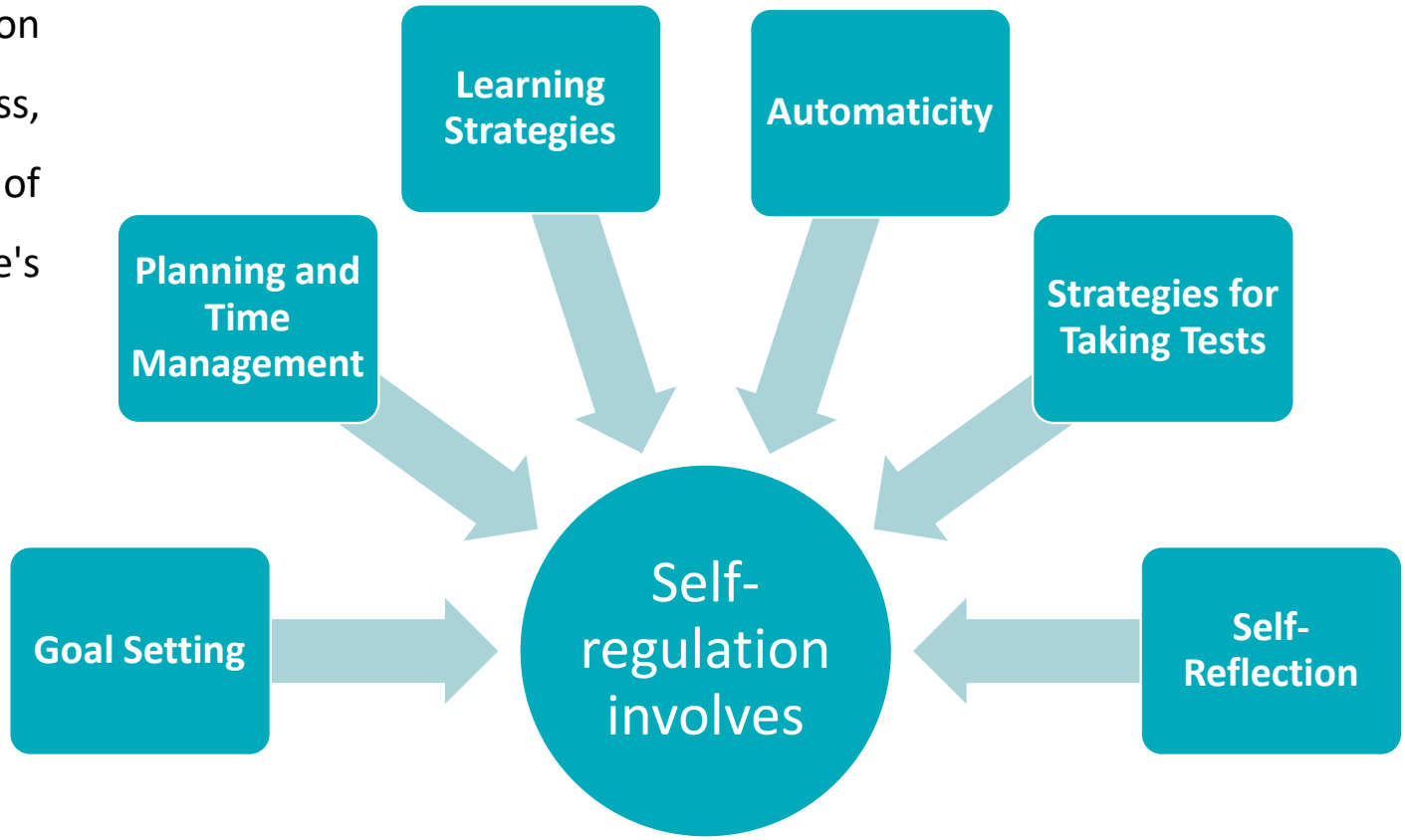
How to make online classes more accessible to the auditive learner

- simulations with 3-Dimensional graphics can replicate physical demonstrations.
- create online videos that show students how to navigate the classroom, or create a video when you conduct a lab session, then discuss them online
- replace a written assignment with an auditory/video speech
- ask students to create audio or video forum responses

Topic 2: The role of students and the role of instructors in an online environment

Self-regulation

What is self-regulation? Self-regulation is an integrated learning process, consisting of the development of a set of constructive behaviors that affect one's learning.



Topic 2: The role of students and the role of instructors in an online environment

The role of instructors

Pedagogical Role	Social Role	Managerial Role	Technical Role
• Providing feedback and instruction • Asking questions • Stimulating the discussion • Synthesizing students' comments • Referring to outside resources or experts in the field	• Affective support • Interpersonal communication • Setting a positive tone • Keeping the communication flowing	• Coordinating the learning units • Coordinating grading assignments • Overseeing course structure	• Guiding in the use of technology • Assisting learners in finding needed technical assistance • Make the technology transparent

Topic 3: Learning Theories and the Online Environment

1. Behaviorism

As its name implies, behaviorism focuses on how people behave. It evolved from a positivist worldview related to cause and effect. A stimulus (e.g. food, bell) is followed by a reaction. In education, *behaviorism examines how students behave while learning*. More specifically, behaviorism focuses on observing how students respond to certain stimuli that, when repeated, can be evaluated, quantified, and eventually controlled for each individual

Topic 3: Learning Theories and the Online Environment

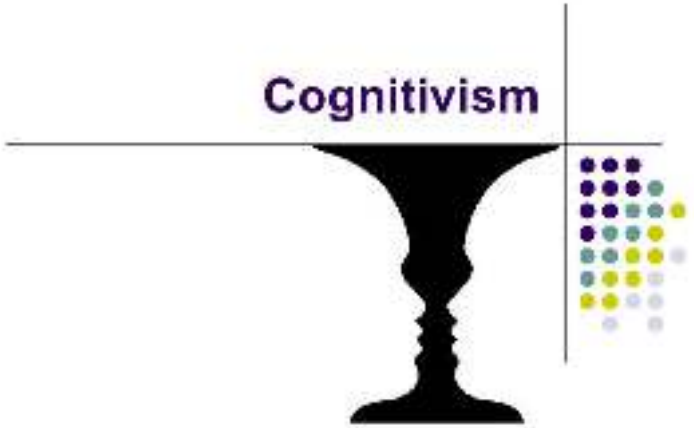
How can you use Behaviorism in online courses?

- apply positive stimuli;
- compliment students individually for all the obstacles they overcome when studying and all the progress they make;
- show the students of your course, that you are glad they take part. Also try to show your own excitement about the subject;
- motivate the students and create a friendly environment in your course.

Topic 3: Learning Theories and the Online Environment

2. Cognitivism

Cognitivism has a wider perspective on the learning process of humans than Behaviourism. Cognitivism says, that there are not only stimuli to consider but also internal processes (“cognitive processes”). Is promoted the concept that the mind has an important role in learning and try to focus on what happens between the environmental stimulus and student response.Cognitivists are using words like short term memory, long term memory and stimuli. Cognitivism is about collecting, adapting, and integrating information.



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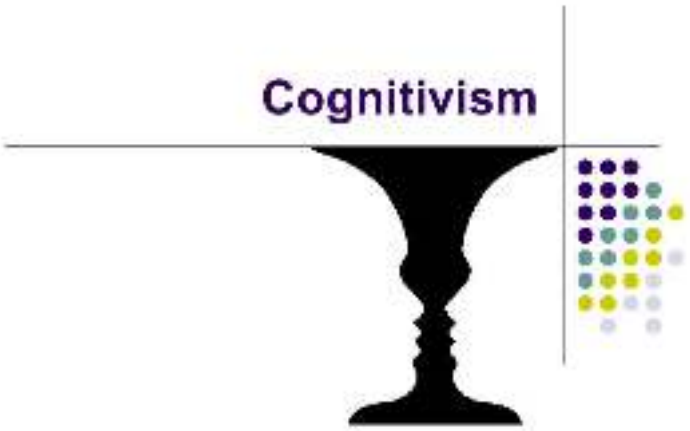


How can you use Cognitivism in online courses?

- perceive and attend to information
- rediscover existing information from long-term memory
- apply information in real life
- support student motivation
- use different learning strategies and ways to adapt to diverse learning styles

Topic 3: Learning Theories and the Online Environment

3. Constructivism

In constructivism learning is more active than in behavioral and cognitivist theories. The main idea of constructivism is that human knowledge is built through exploration, with individuals building new knowledge based on prior learning. The social constructivist underlines that knowledge and new ideas are constructed through social interactions.

Online learning is derived from a Constructive perspective.

Topic 3: Learning Theories and the Online Environment

How can you use Constructive in online courses?

- Use of visualization tools, concept map tools, internet resources
- Incorporate multimedia tools, spreadsheets, simulations
- Support social interaction and collaboration through forums, web conferencing

Topic 3: Learning Theories and the Online Environment

Principles of e-learning theory

Multimedia principle

Modality principle

Coherence principle

Contiguity principle

Segmenting principle

Signaling principle

Learner control principle

Personalization principle

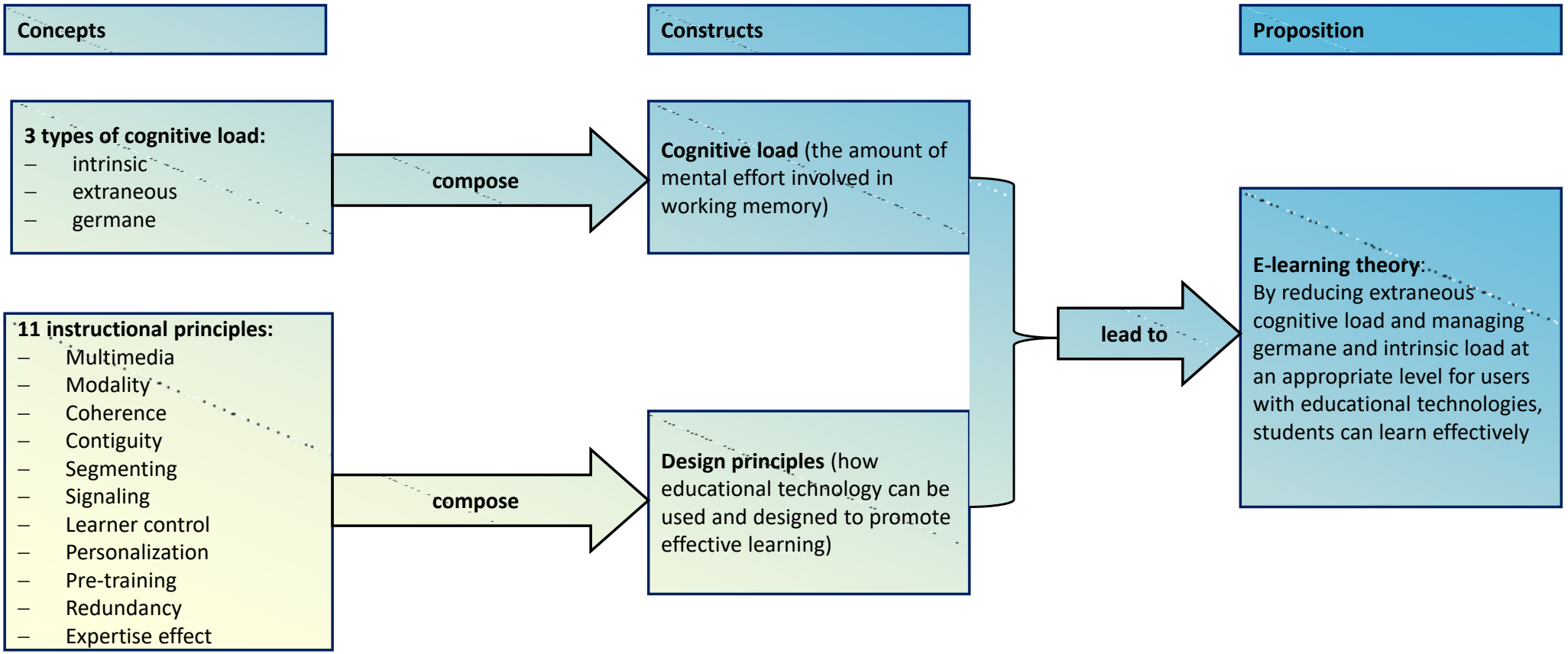
Pre-training principle

Redundancy principle

Expertise effect

Topic 3: Learning Theories and the Online Environment

A model of E-Learning Theory based on Mayer



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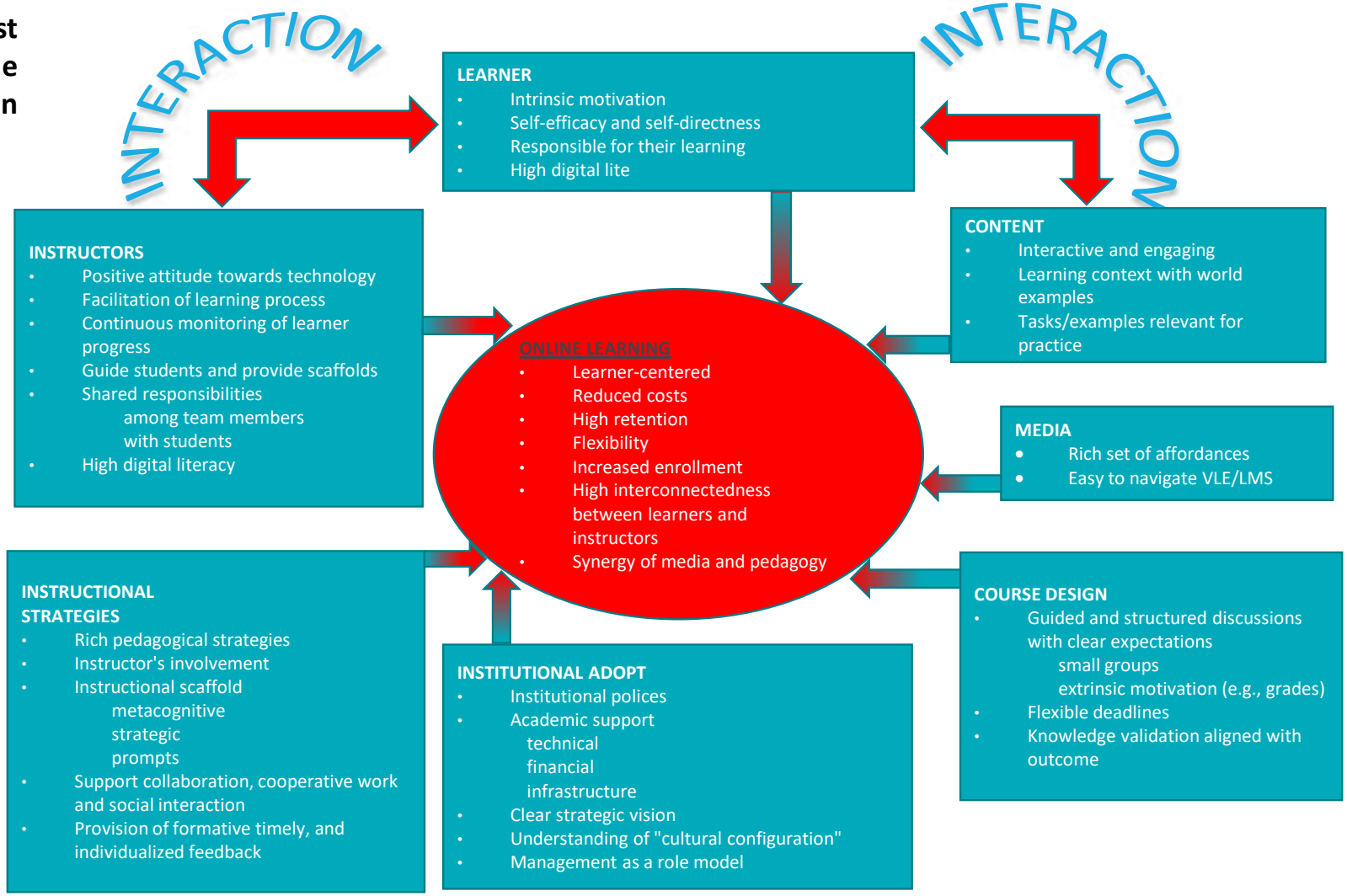
Conceptual diagram of the most significant factors that frame educational experience in online learning