

Towards a circular economy of learning environments

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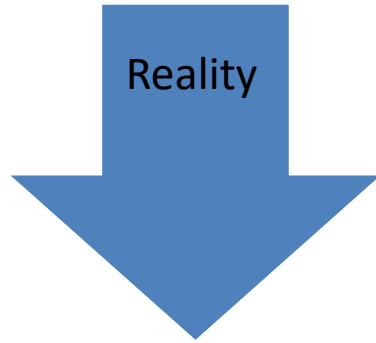
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How can we design courses
in which individuals learn
while participating in the
commons ?

1. Motivation
2. Confluences
3. Reflection on our practice
4. Propositions for discussion

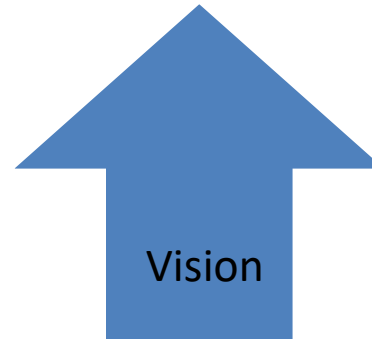
1. MOTIVATION



train people to contribute to
knowledge (Scardamalia &
Bereiter, 2003),
be useful (Stokes, 1997),
reduce costs (re-use/mix)



ignore what
learners can build
and produce

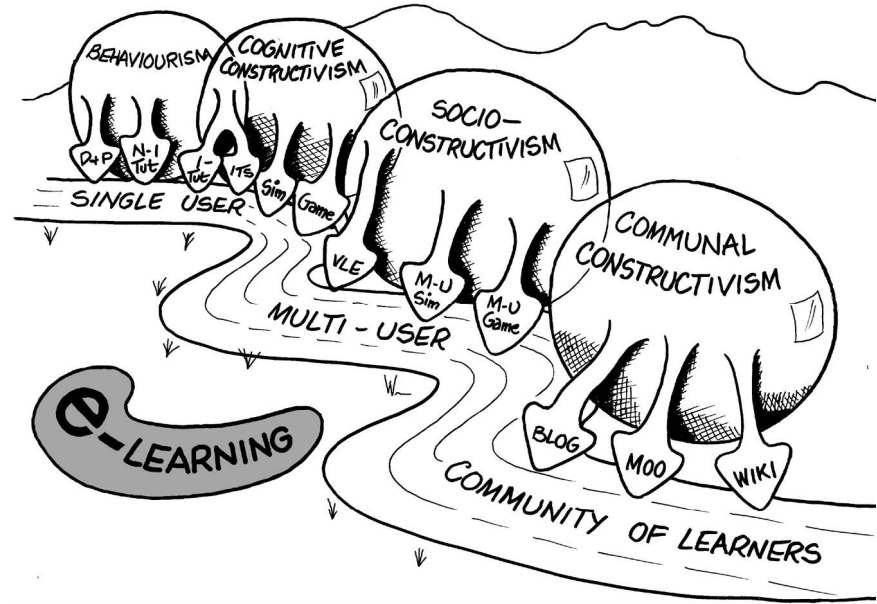


2. CONFLUENCES

Communal constructivism

In the **traditional learning model** **students pass through a learning programme like water flowing through a pipe**, with the tutors simply determining a goal, giving its direction and applying the pressure to get there.

In a **communal constructivist learning environment**, **students contribute to the communal knowledge in a permanent form – like a river enriching its flood plain each year by adding nutrients and minerals to the soils.** (Holmes et al., 2006:86)



Water in a river model of communal constructivism,

Copyright Holmes and Gardner 2006, reproduced with permission by Bryn Holmes

Contribution-oriented pedagogy

“Learners contribute to the learning materials via contributions made available to others in a Web-based system.

The others may be others in the same group or others at other times. The others may be at the same or different locations.”

Collis & Moonen (2004)

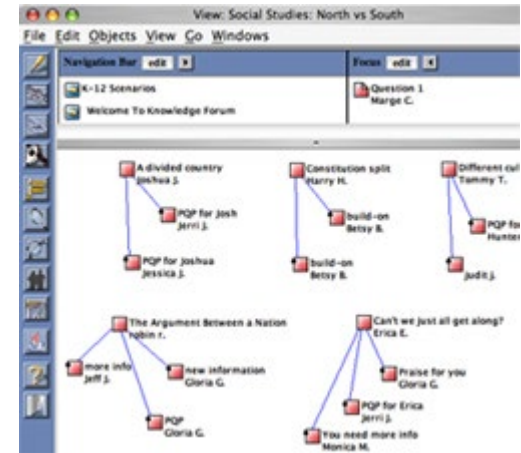
U. Twente (Holland)



- **Learning from** the work of other learners
- Using the work and experiences of other students **as model answers** or as a basis
- Increase of motivation, since submissions are **meaningful** for the course experience
- **Expanding the range** of examples and resources available for the course and the following
- Dialogue and **interaction** (typical benefits of collaborative learning)

- **Intentional learning**: Students actively try to achieve cognitive objectives (own their learning process)
- **Expertise as a process**: reinvestment of mental resources, available as a result of learning, into increasing levels of complexity.
- Restructuring schools as **knowledge-building communities** (Scardamalia & Bereiter, 1994)

Knowledge Forum provides university students and teachers with a **collaborative space** in which to organize course materials, analyze research results, discuss texts, and cite reference material.



OER, Creative Commons, Open source, ...

Standardization of e-learning content (remixing of **learning objects**) (Wiley, 2002).

Open educational resources:

- Open courseware and content;
- Open software tools;
- Open material for e-learning capacity building of faculty staff;
- Repositories of learning objects;
- Free educational courses. ([OECD](#), n.d.)

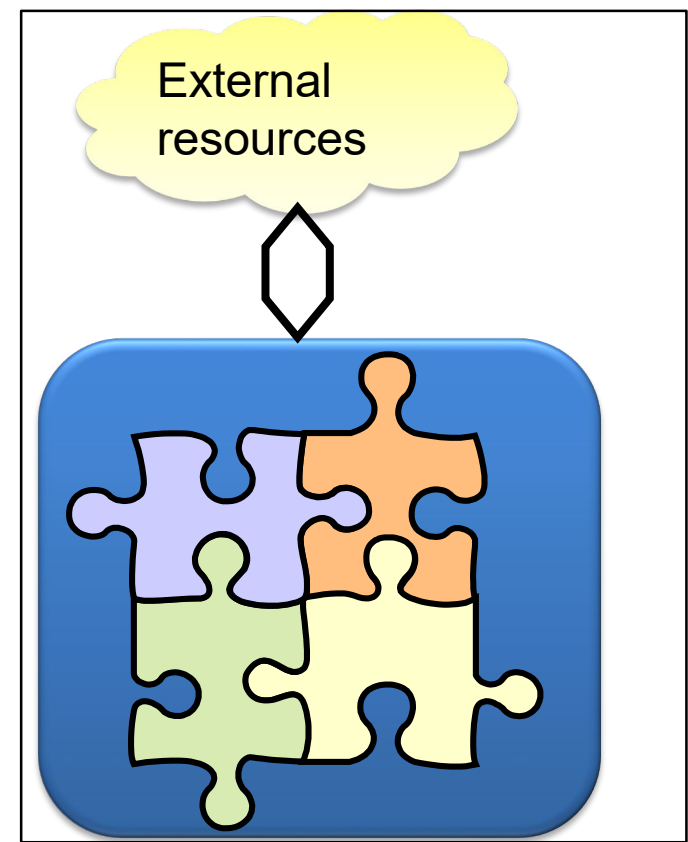
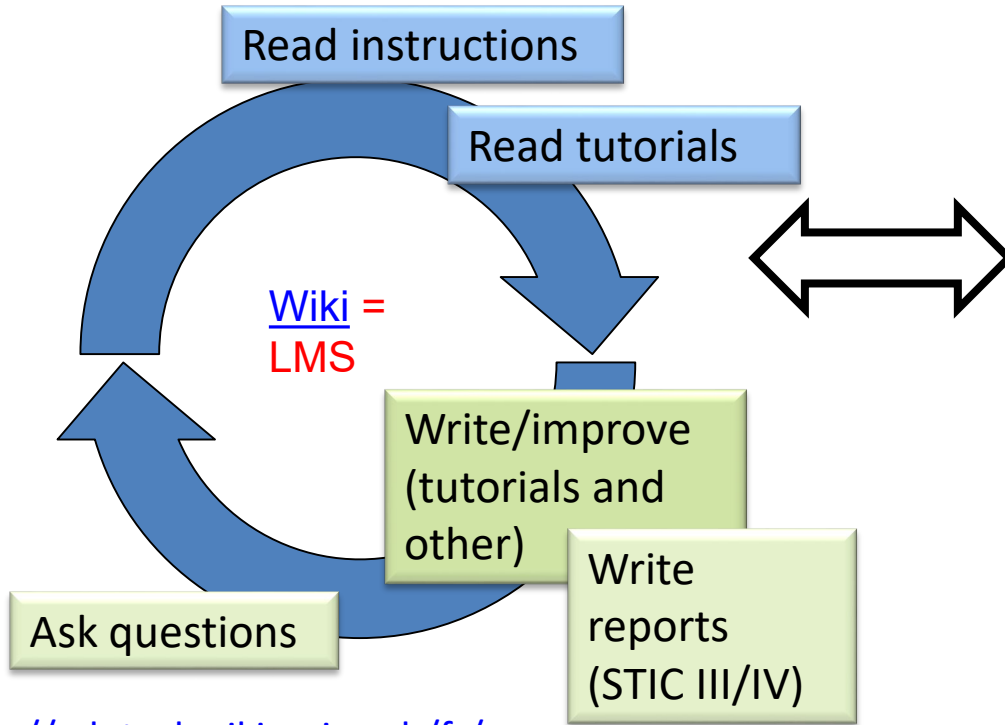
“OER are materials that meet the criteria of free plus permissions – they are (1) freely available and (2) come with an irrevocable grant of permission to engage in the 5R activities – **retain, reuse, revise, remix, and redistribute.**” (David Wiley, 2017)

3. REFLECTION ON OUR PRACTICE

Experience (> 25 years of teaching educational technology at master level)

		Reusing learner productions - dissemination			
		Internal and external	Internal	Transversal internal	External
Courses (Master MALTT, MOOC)	VIP (serious gaming)	Case analysis, technical information & tutorials		Authoring tools tutorials	Serious Games, bibliography, project descriptions
	BASES (foundations)	Concept maps, screen casts, revisions of wiki contents		Peer evaluations, MOOC modules	
	STIC-I (comp.thinking)	Online wiki book contributions		Projects and reports	
	STIC-III/IV (making)	Manuals, designs, project reports			Pediapress books
	Qualitative method	Wiki pages on methodological issues	Intermediate results	Academic summaries	Research results (article)
	“Kit” MOOC (Chinese)		User contributions in forums		

Technology learning
(STIC I/II/III/IV)



Online productions (public web sites)

<http://edutechwiki.unige.ch/fr/>

Objectives:

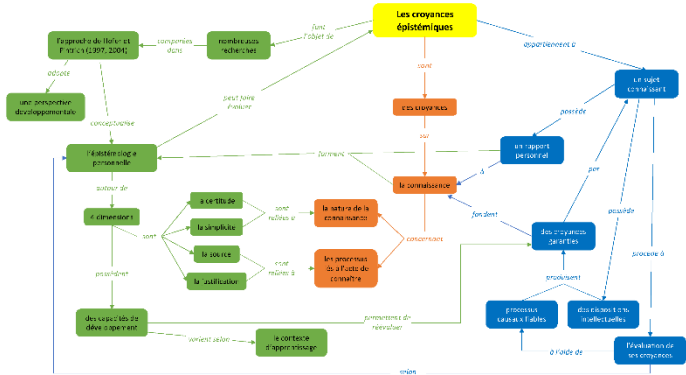
- Recall **theories and concepts** from educational psychology and instructional design
- Learn how to **cope with complex concepts** (do concept maps) and how to communicate these with screencasts
- Create MOOC** modules.

Learning activities:

- Analyse** the quality of 18 screencasts with a form decided by all.
- Create a concept map** and screencast. **Peer review** of other's productions.
- Create a MOOC module that includes both psychology and education (group work)
Zero tutoring !

Example: métacognition / épistémic beliefs and learning

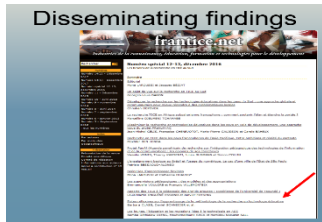
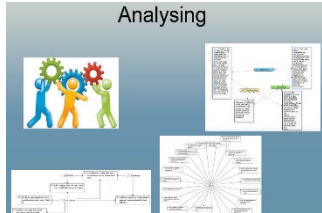
- Elaboration** (structured discussion)
- Final version**



Access-restricted (modules would require some extra work)

<https://edutechwiki.unige.ch/fr/BASES>

Quali module in social science methodology



Synthesis → wiki pages

external & internal

Synthesis → academic summaries

transversal internal

Analysis → intermediate results

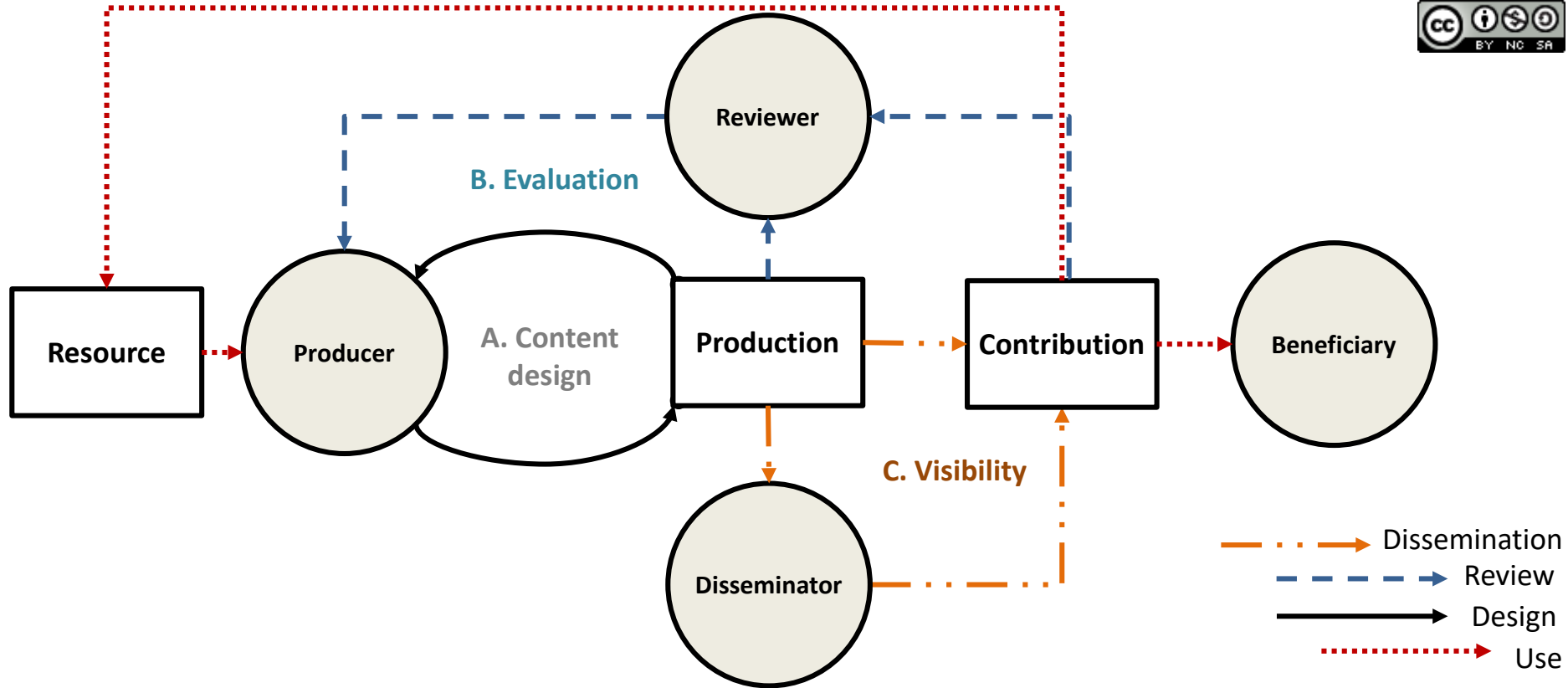
internal

Writing → final article

external

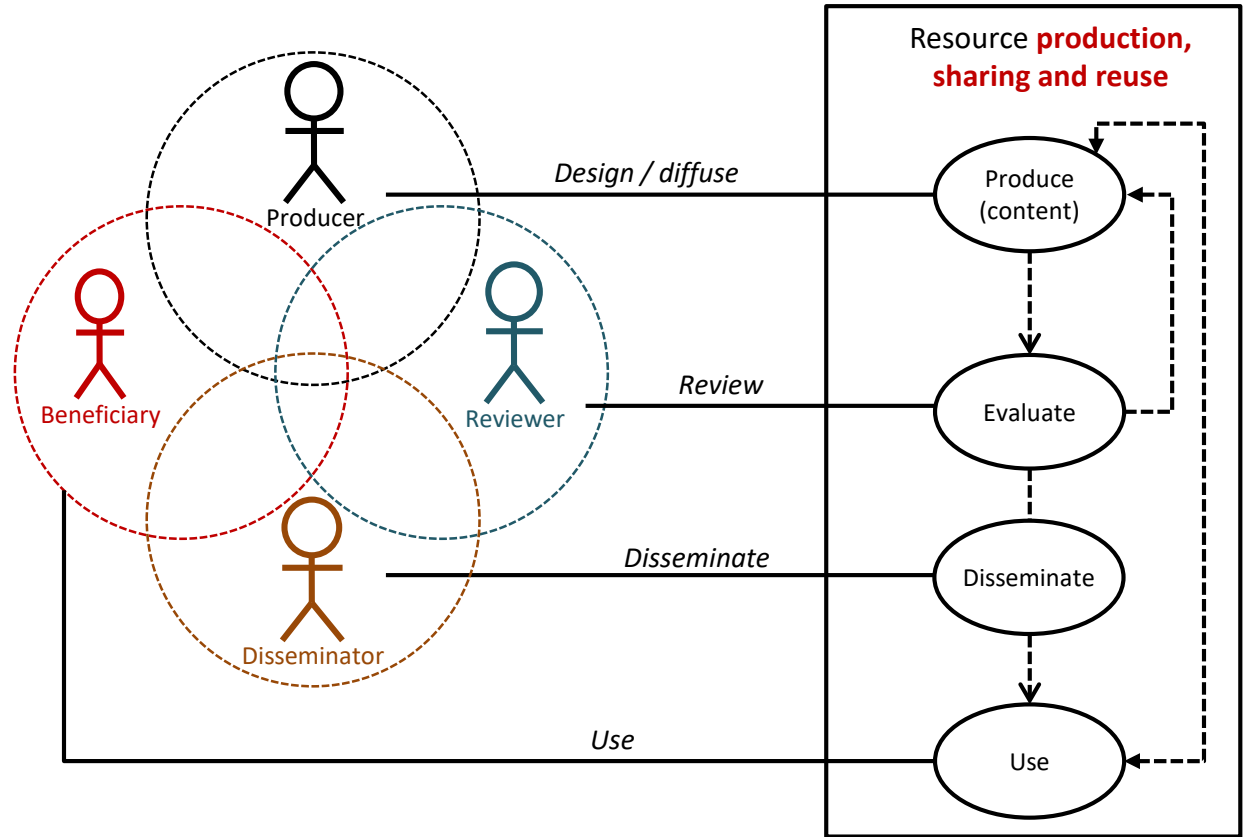
4. PROPOSITIONS FOR DISCUSSION

Sharing and reuse framework for learner productions – a variety of possible workflows

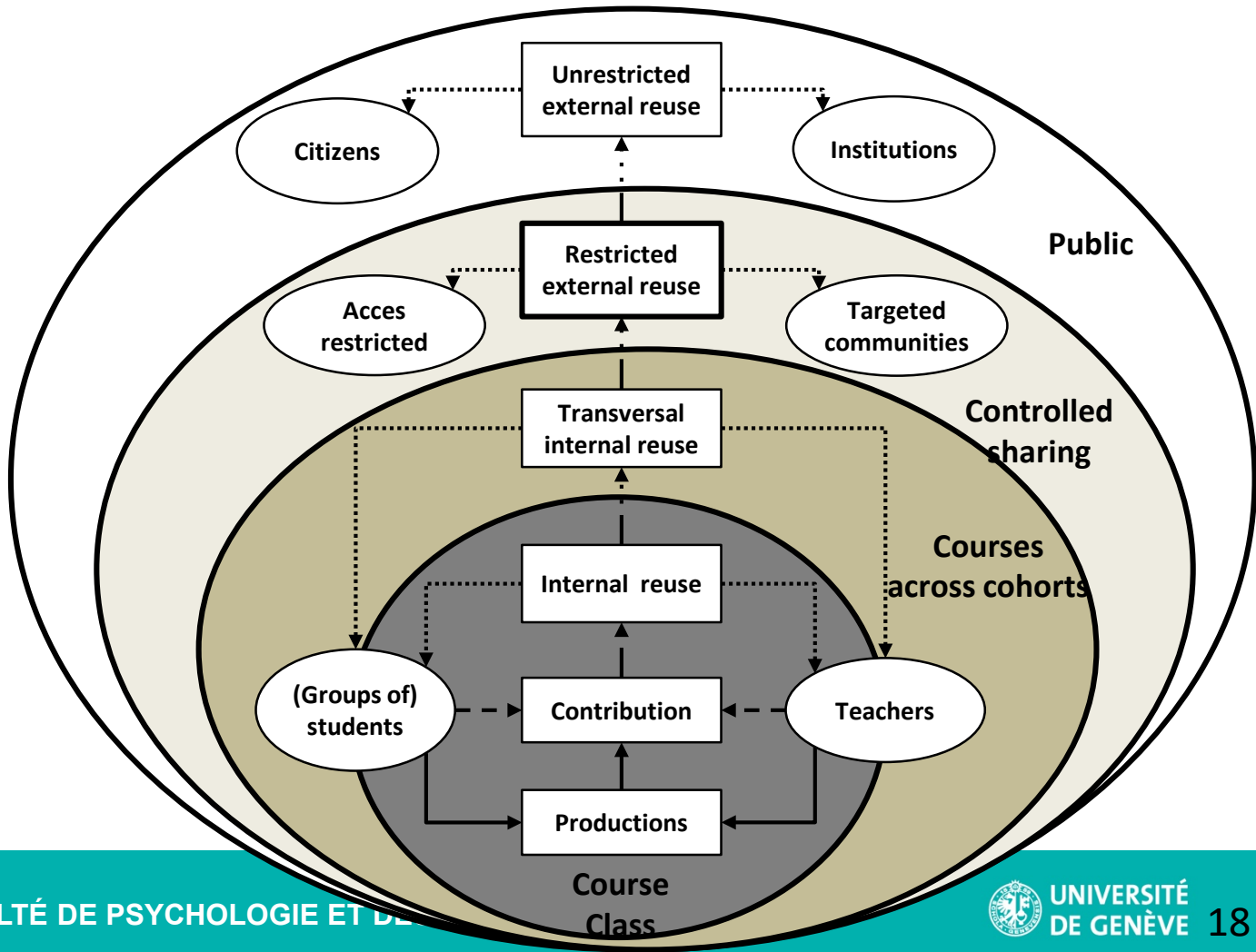
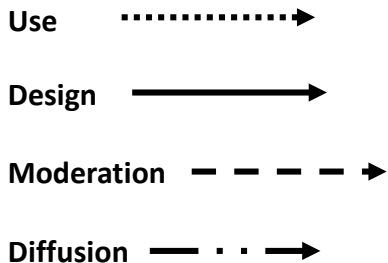


Use case diagram - sharing and reuse framework for learner productions

(alternative visualization of roles)



Model of different diffusion levels of contributions



Possible questions:

- Do you practice contribution-oriented pédagogies ?
- Can you apply the models to your own practice ?
- Do you consider reusing student productions in the future ?
- Are we missing something ?

Some additional resources

[https://edutechwiki.unige.ch/en/Category:Community-oriented instructional design models](https://edutechwiki.unige.ch/en/Category:Community-oriented_instructional_design_models)

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<http://tecfa.unige.ch/tecfa/talks/schneide/edmedia19>

