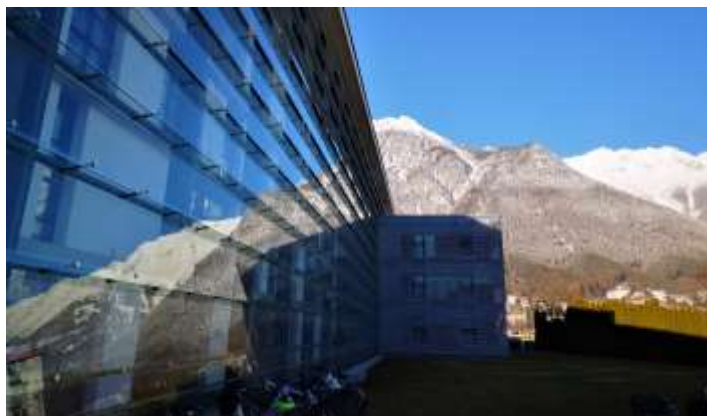


Learning in formal Education



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Projekt **Zintegrowany Program Rozwoju Dolnośląskiej Szkoły Wyższej**, współfinansowany ze środków Europejskiego Funduszu Społecznego w ramach Programu Operacyjnego Wiedza Edukacja Rozwój



I. Didactic triangle and learning:

formal education, individual needs and societal constraints

II. Learning plateaus, shifts and pattern changes:

spiral and stage based learning models

III. Learning in a changing society:

glocalization and resonance

learning

(static) stability → change → development → learning



directedness

- “Learning is the process of acquiring new, or modifying existing, knowledge, behaviors, skills, values, or preferences” (Gross 2012)
- ...
- “sustainable change in thinking and behavior”
- „Bildung“ (education, formation): refers to a process of both personal and cultural maturation, latter is described as a harmonization of the individual's mind and heart and in a unification of selfhood and identity within the broader society.

„Eines der größten Probleme der Erziehung ist, wie man die Unterwerfung unter den gesetzlichen Zwang mit der Fähigkeit, sich seiner Freiheit zu bedienen, vereinigen könne. Denn Zwang ist nöthig! Wie cultivire ich die Freiheit bei dem Zwange? Ich soll meinen Zögling gewöhnen, einen Zwang seiner Freiheit zu dulden, und soll ihn selbst zugleich anführen, seine Freiheit gut zu gebrauchen.

Kant: „Pädagogik“ (453:28-37)

„One of the biggest problems of education is *how to combine the submission to regulated force with the ability to use one's own freedom*. Because compulsion is necessary.

How can I cultivate freedom under constraint?

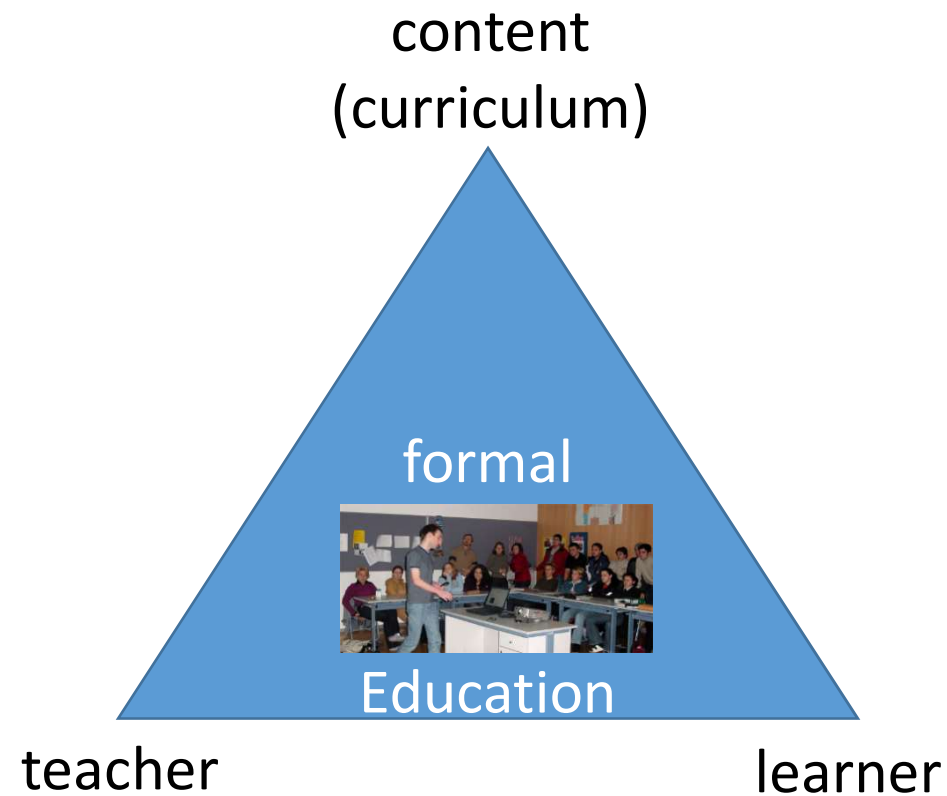
I should accustom my pupils to tolerate a constraint of his freedom. At the same time I should instruct him to use his freedom well.“

Kant (1803). On Pedagogy

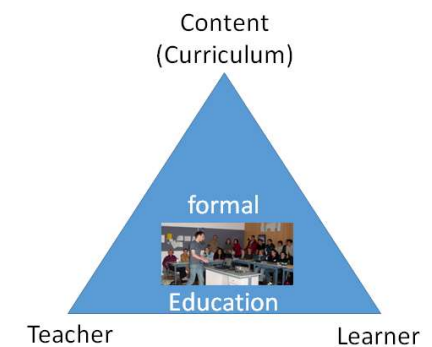
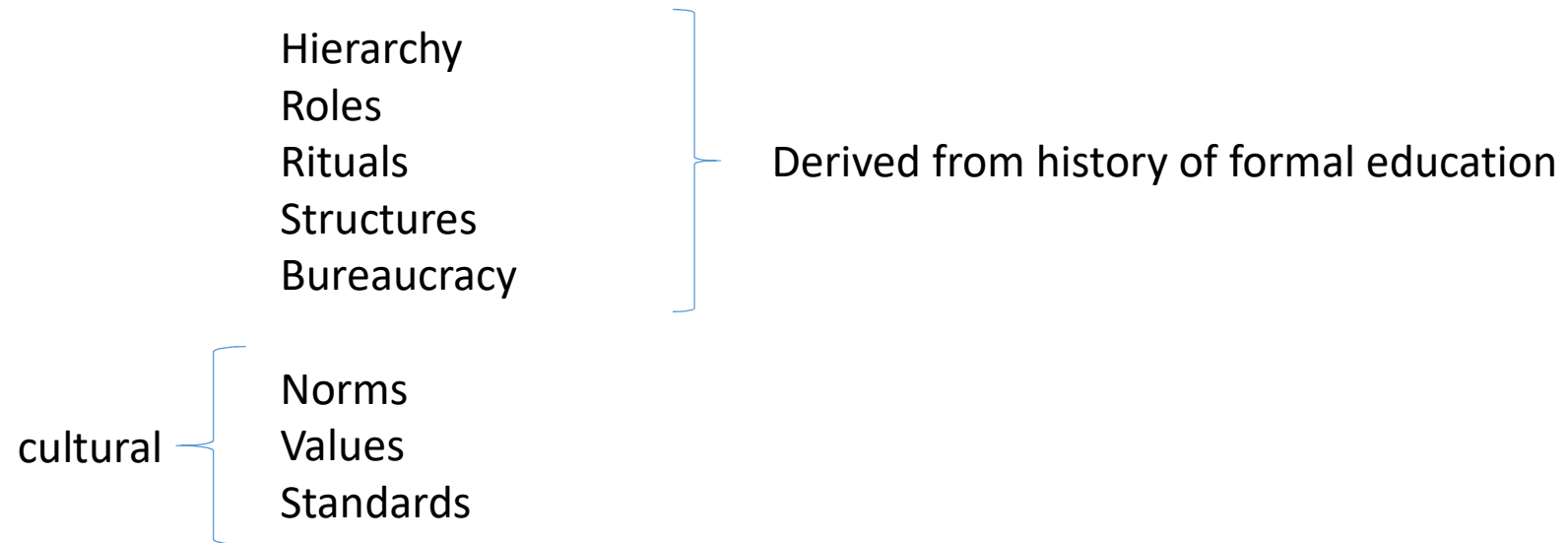


Immanuel Kant (1724-1804)

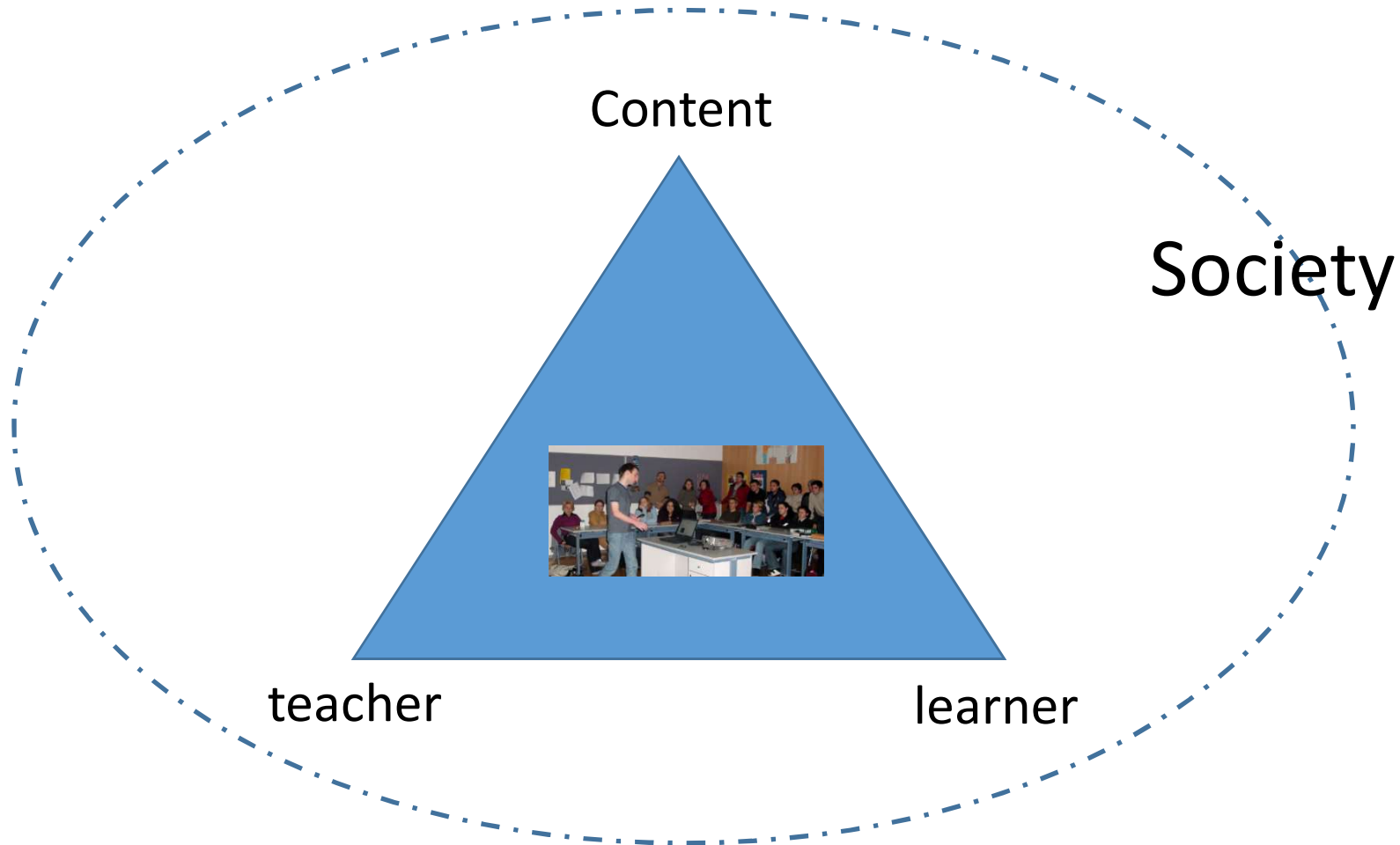
→ dialectic problem of individual need and social demand



→ specific structure and environment

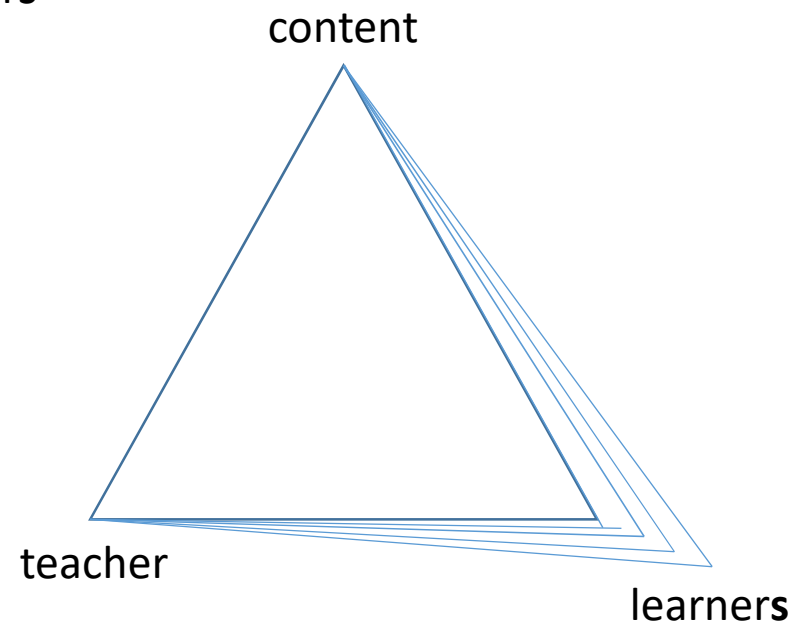
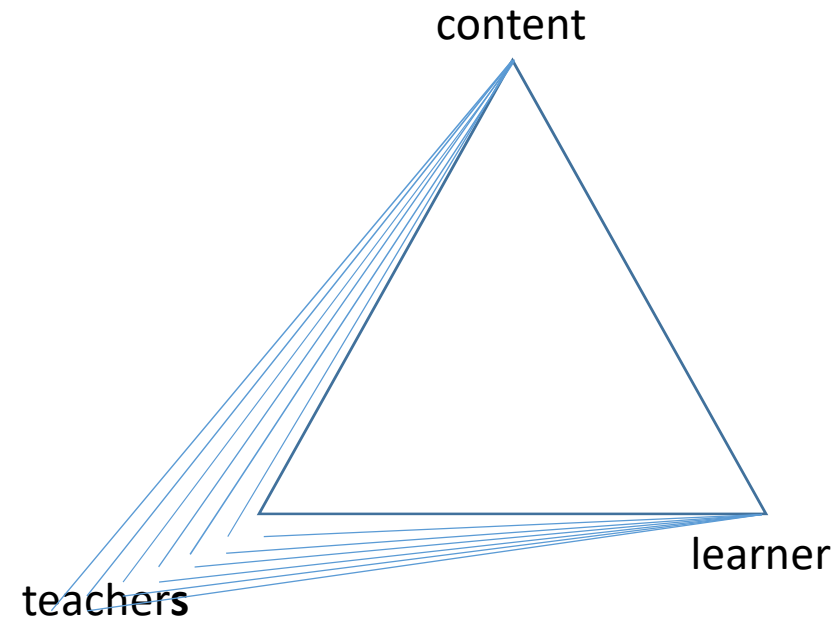
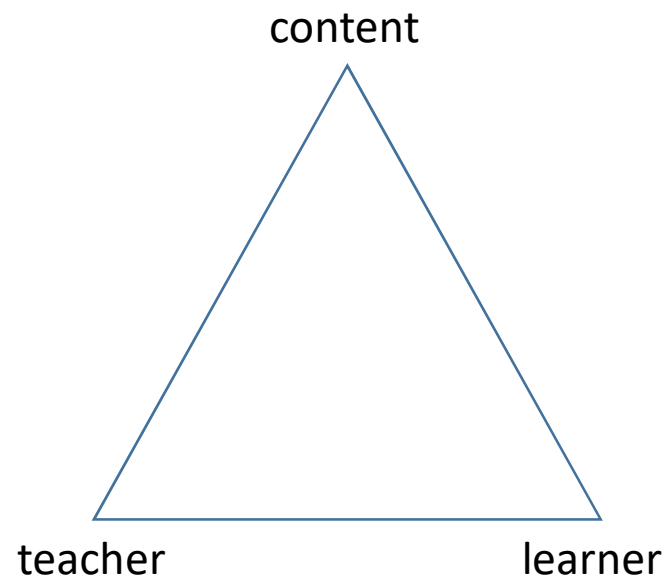


I N N O V A T I O N



T R A D I T I O N

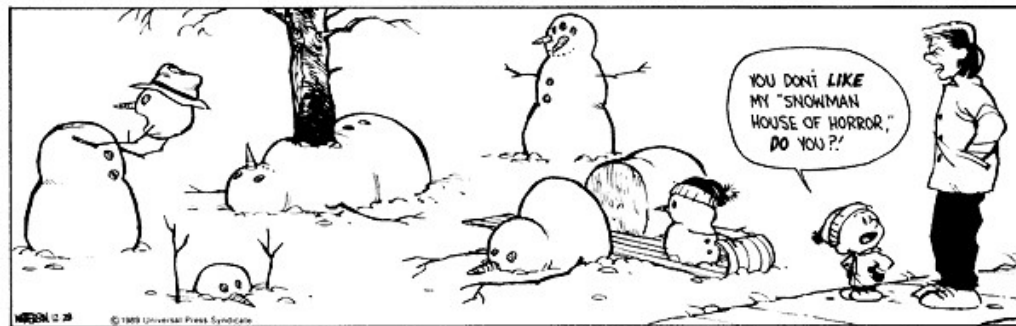
Didactic Triangle Gruschka (2001)



DIDACTIC TRIANGLES ←

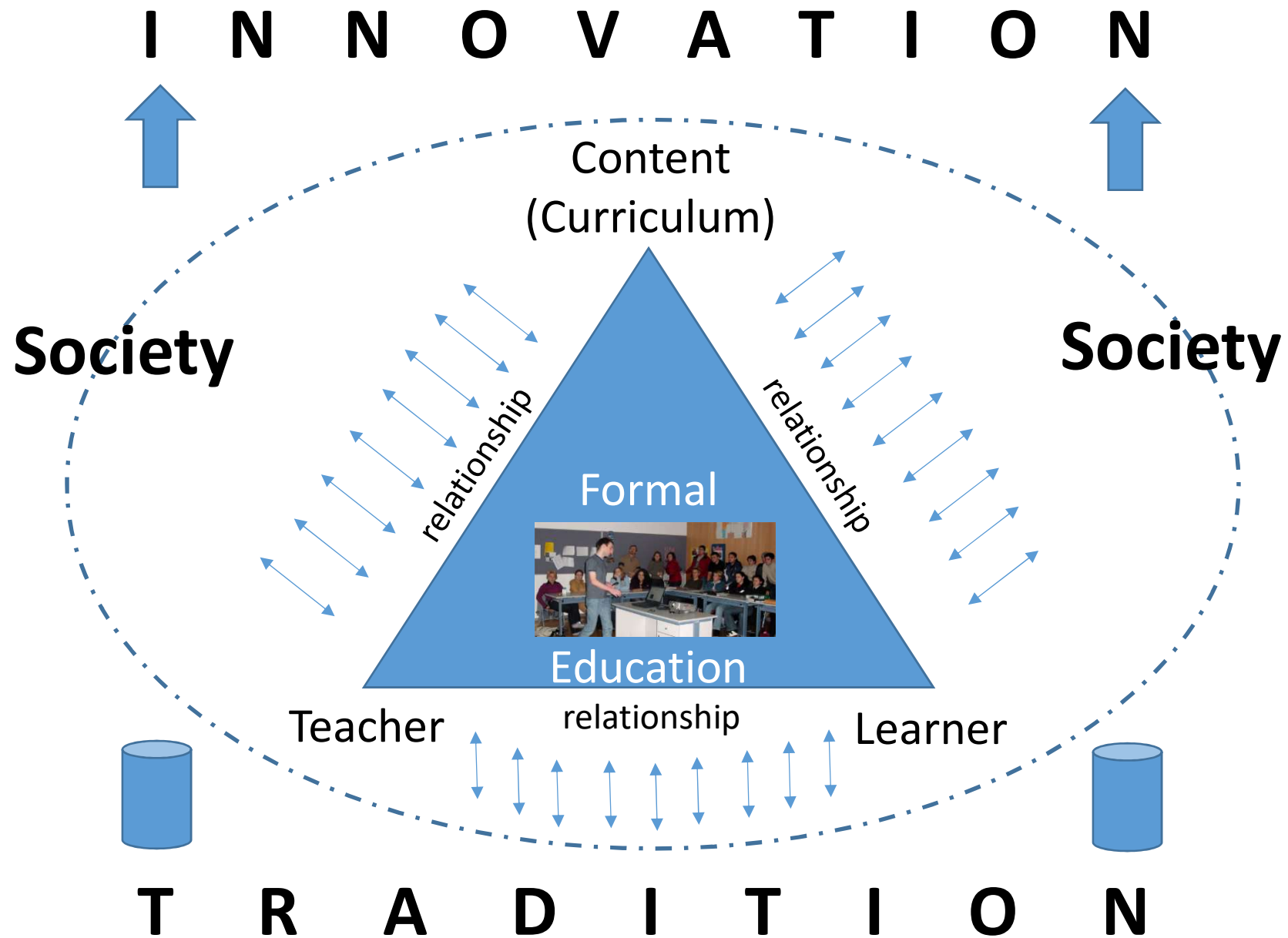
Fundamental observation:

Diversity, heterogeneity, ...
is the norm



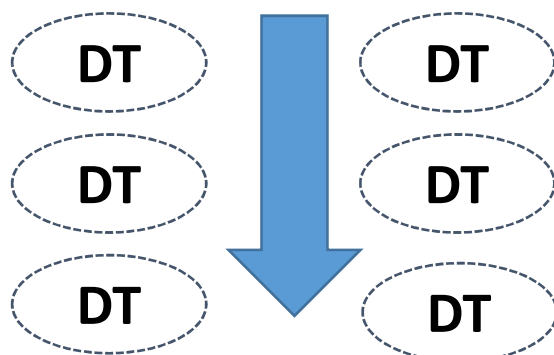
“The normal's the one thing you practically never get. That's why it's called the normal.”

(S. Maugham „Of Human Bondage“ 2000, p.303)



Matching?

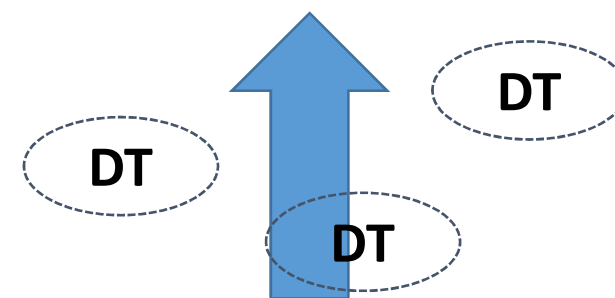
(formal) Education



+



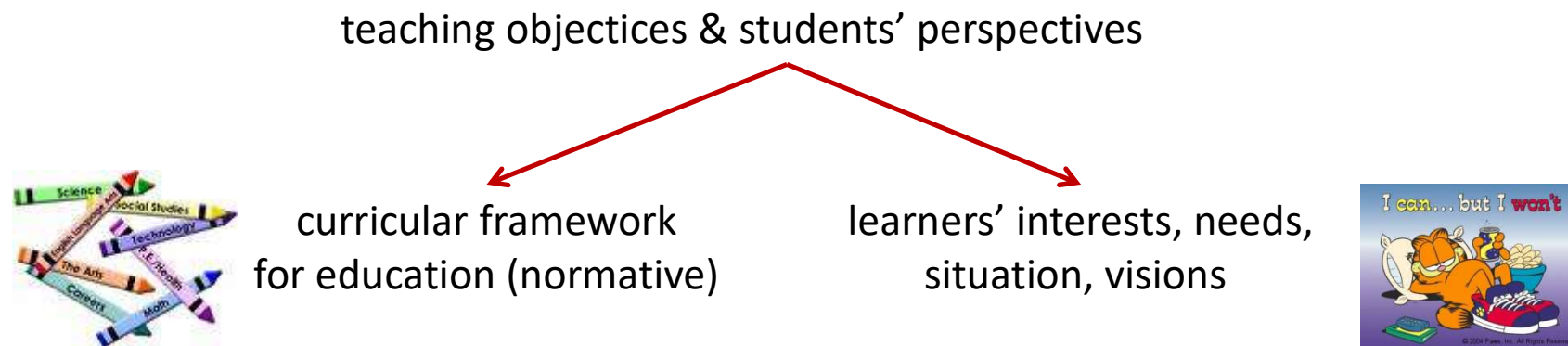
learners



+



"A developmental task is a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks." (cited by Trautmann 2004, S. 23)



By placing sense making, competence and identity development in the middle of our diagram, we define good instruction in a new way. ***Experience, in educational setting, allows sense making, this means growth of meaning in the Dewey sense, and growth of meaning means competence and identity development.*** It is of great importance for success in learning and should receive increased weight in the analysis and evaluation of learning environments and instructional processes. (Meyer 2007, p.167)

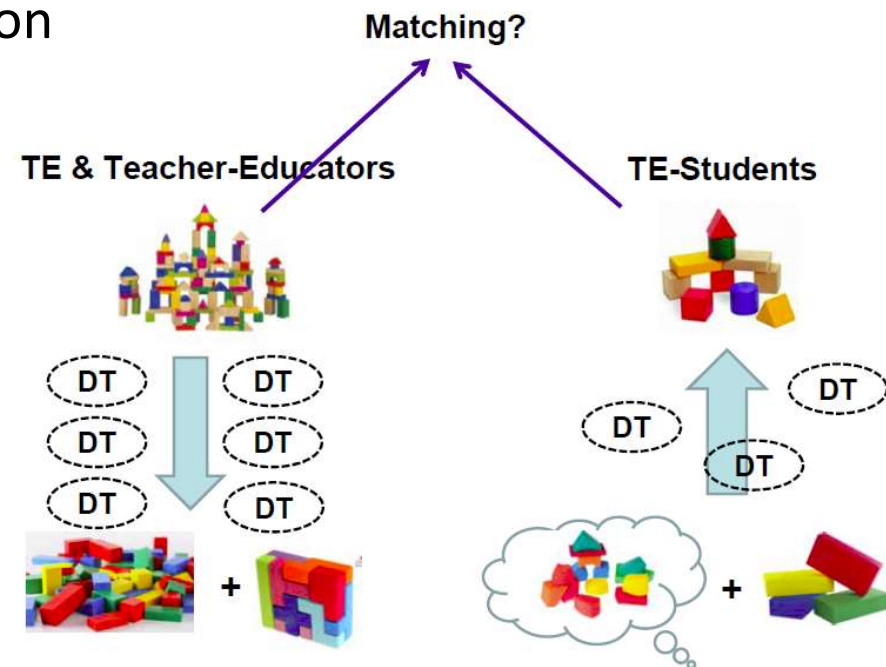
personalisation of (formal) learning

- provide a window of opportunity
- assessment free „space“

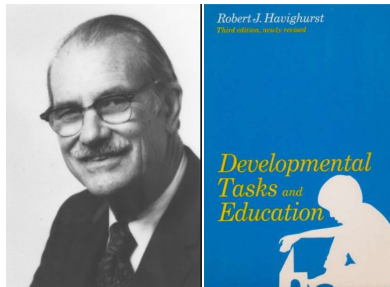
acceleration of society

- speed as a form of metastabilisation
- resonance as answer

→ diagnose
 → differentiate
 → individualise
 → personalise



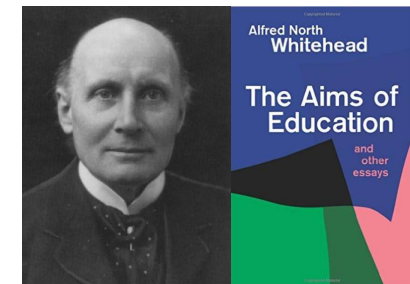
Formal education ... friction between tradition and innovation



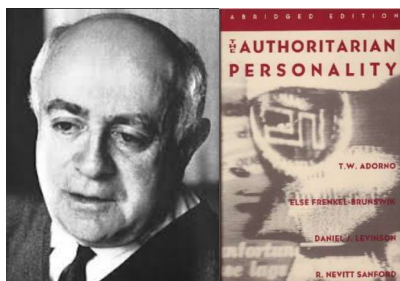
Robert Havighurst
(1900 – 1991)

“A developmental task is midway between an individual need and a societal demand. It assumes an active learner interacting with an active social environment.” (Havighurst 1948/72, p. vi)

„The problem of education is to make the pupil see the wood by means of the trees. [...] Reformation must begin at the other end.”
(Whitehead 1929, p. 6/8)



A.N. Whitehead
(1861 – 1947)



Theodor W. Adorno
(1903 – 1969)

- Authoritarian Personality
- *Dialectic of Enlightenment* (Horkheimer/Adorno. 1947).
- Half education

I. Didactic triangle and learning:

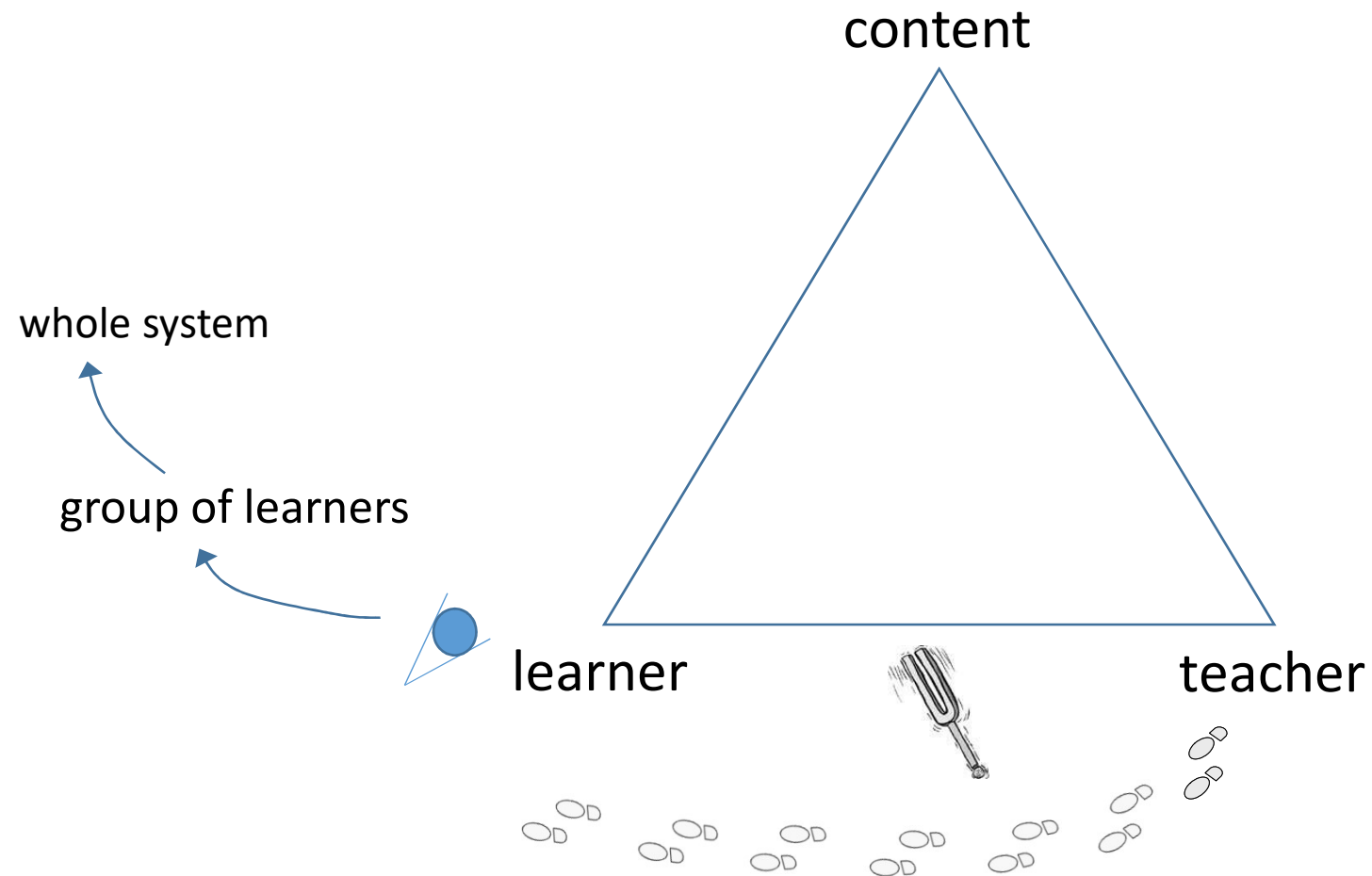
formal education, individual needs and societal constraints

II. Learning plateaus, shifts and pattern changes:

spiral and stage based learning models

III. Learning in a changing society:

glocalization and resonance



Stage models of learning

- learning is connected to directed development
- e.g. Piaget's theory of cognitive development ('genetic' epistemologist!)

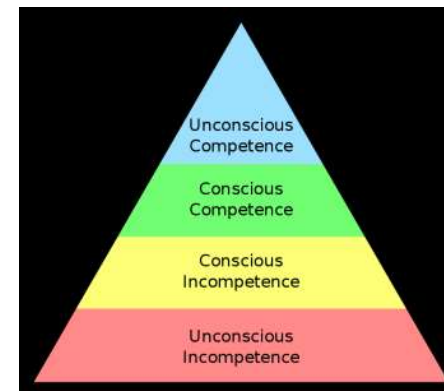
Sensorimotor stage: birth to 2 years

Preoperational stage: ages 2 to 7

Concrete operational stage: ages 7 to 11

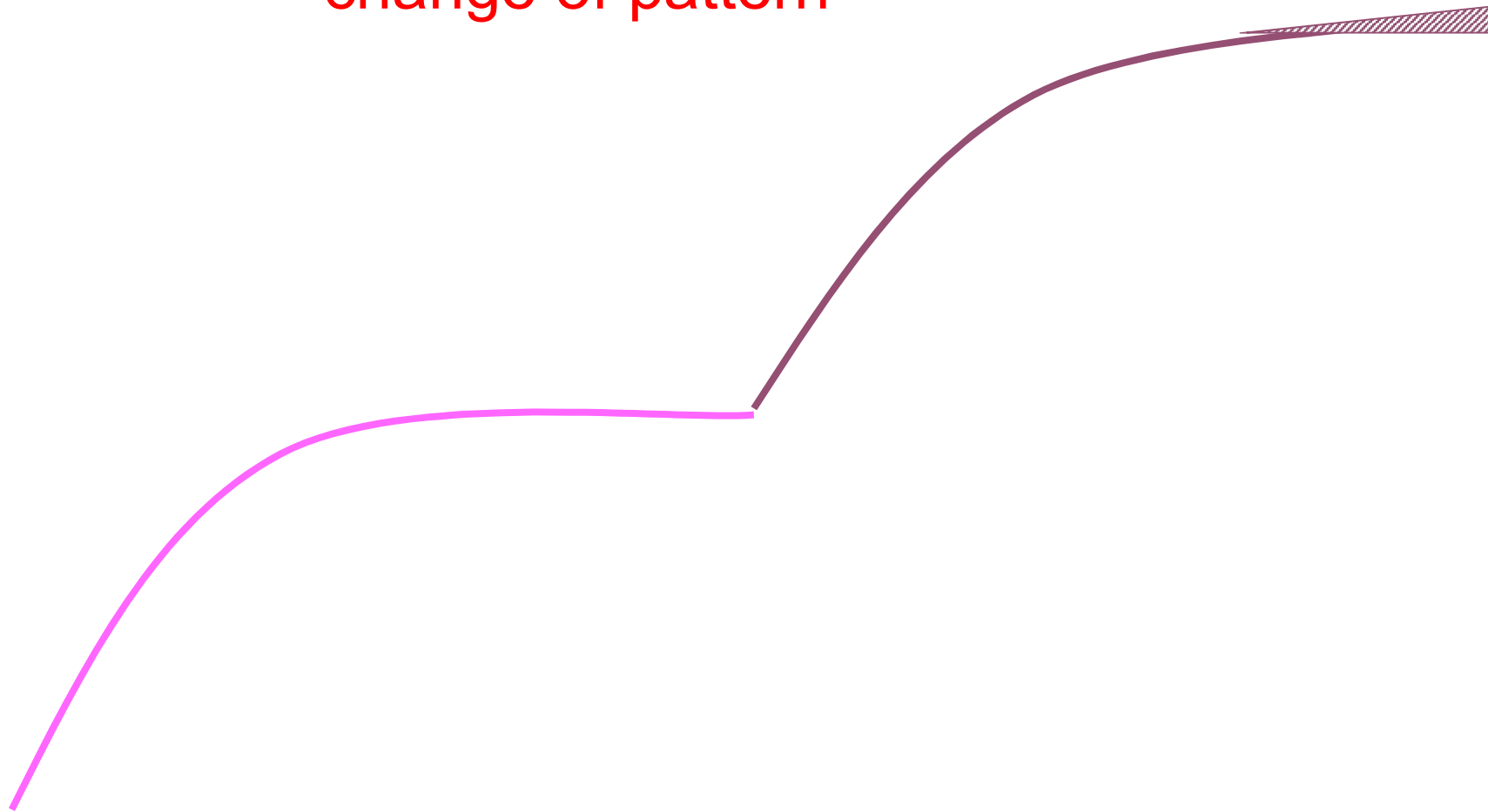
Formal operational stage: ages 12 and up

- Gordon:



... what is it?

change of pattern



Definitions:

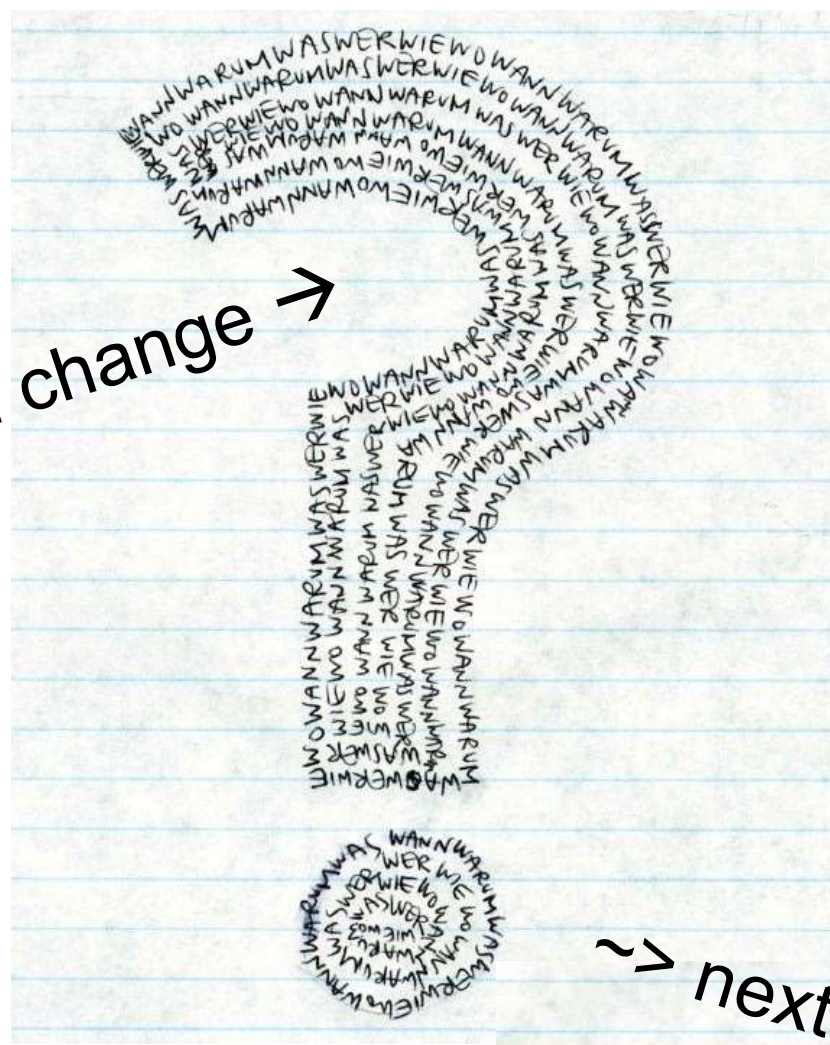
- **best practice**: trying to achieve more by intensifying the efforts
(more of the same)
- **next practice**: finding a novel way of dealing with a challenge
(change of pattern)
- **shift**: (setting an intervention) to *change* the pattern

Shift from best practice to next practice ...

Best practice & Next practice	What makes the difference?
shift	What is meant?



Shift to pattern change →



~> next practice

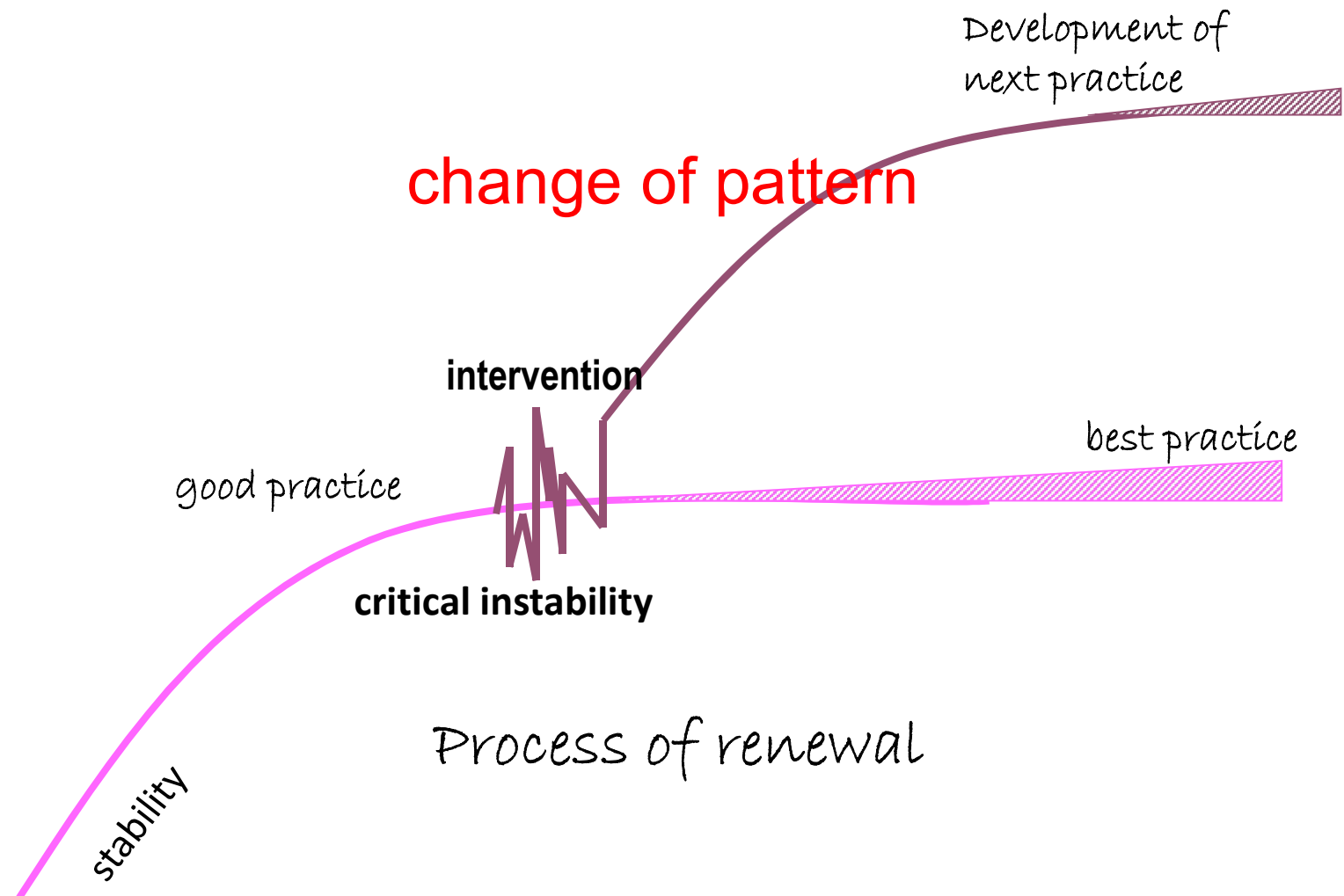
Pattern change:



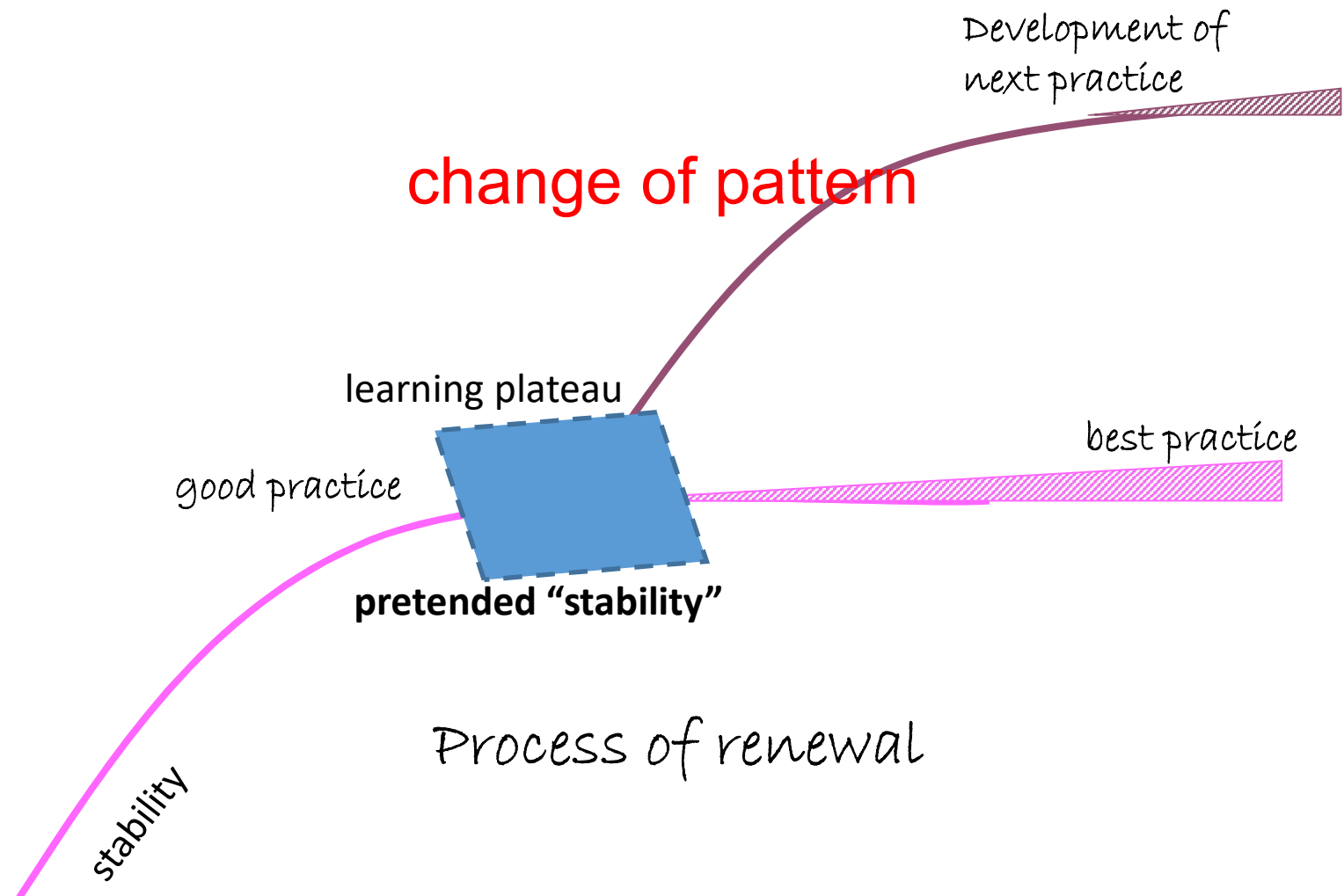
lever:

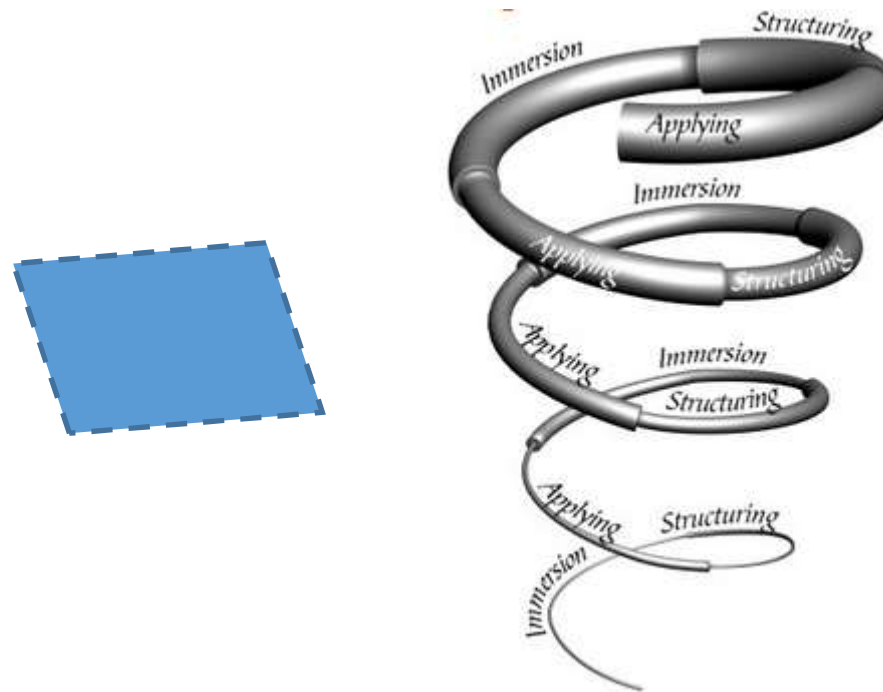


A shift from best practice to next practice



A shift from best practice to next practice





„ [...] any subject can be taught effectively
to any child at any stage of development“
(Bruner 1960, p.33.)

“ But there are certain things that have a peculiar significance for one, and they open a petal; and the petals open one by one; and at last the flower is there.”

(S. Maugham „Of Human Bondage“ 2000, p.368)

„Eines der größten Probleme der Erziehung ist, wie man die Unterwerfung unter den gesetzlichen Zwang mit der Fähigkeit, sich seiner Freiheit zu bedienen, vereinigen könne. Denn Zwang ist nöthig! Wie cultivire ich die Freiheit bei dem Zwange? Ich soll meinen Zögling gewöhnen, einen Zwang seiner Freiheit zu dulden, und soll ihn selbst zugleich anführen, seine Freiheit gut zu gebrauchen.

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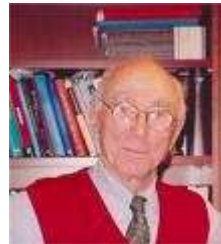
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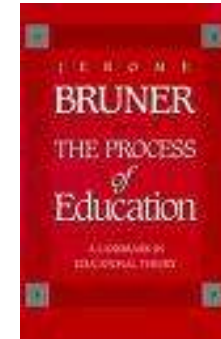


Immanuel Kant (1724-1804)

→ dialectic problem of individual need and social demand

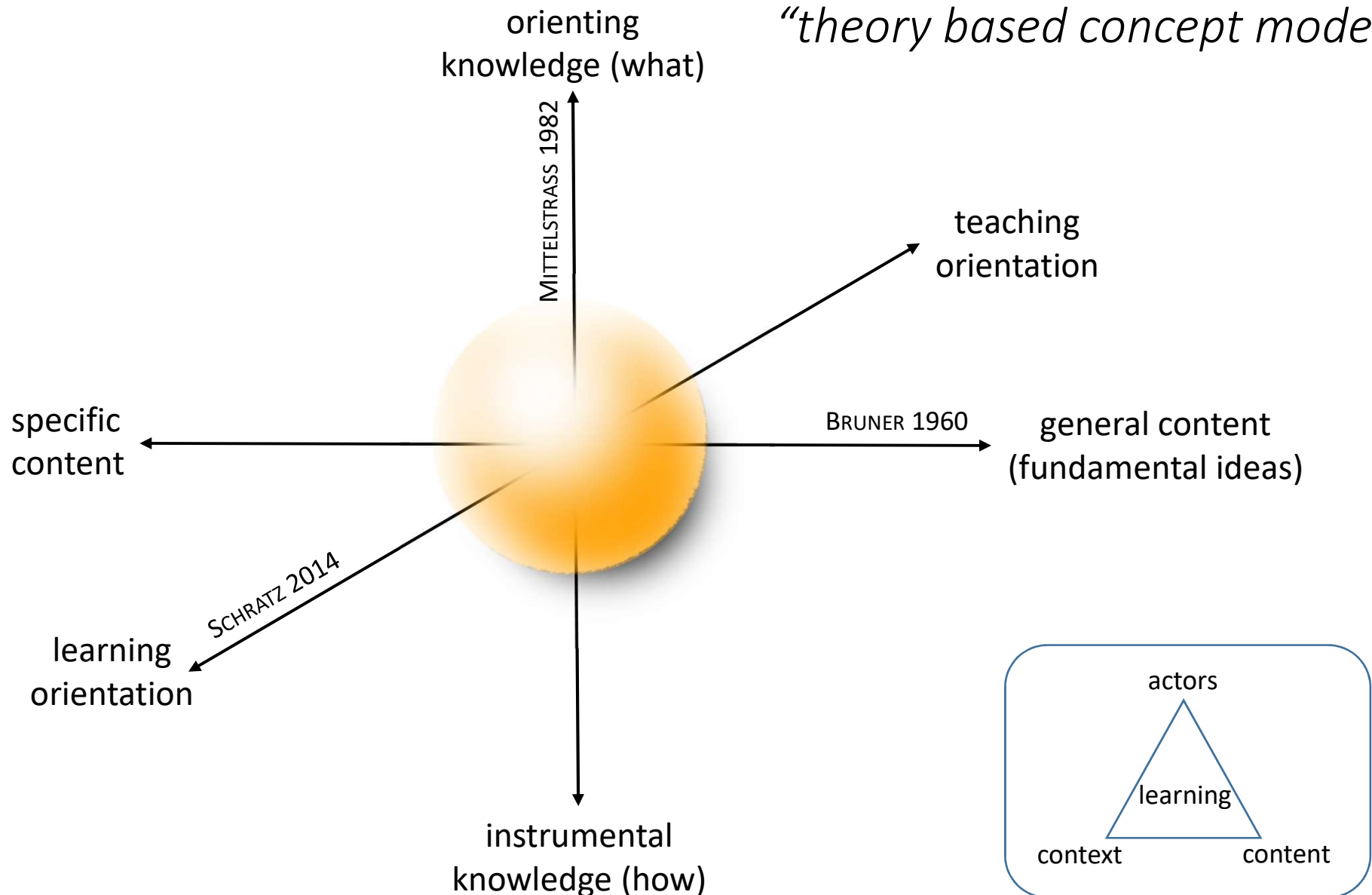


Jerome Bruner

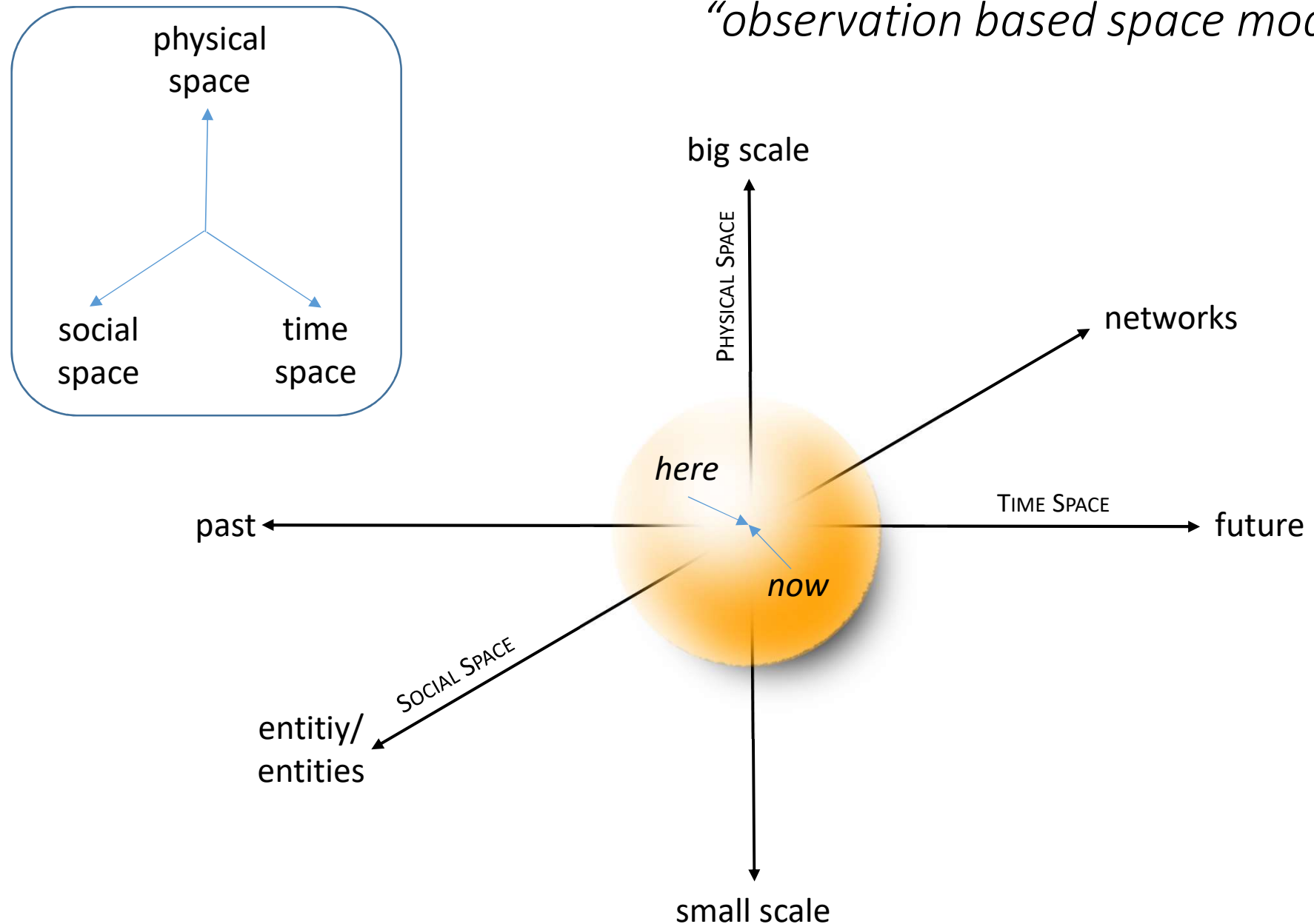


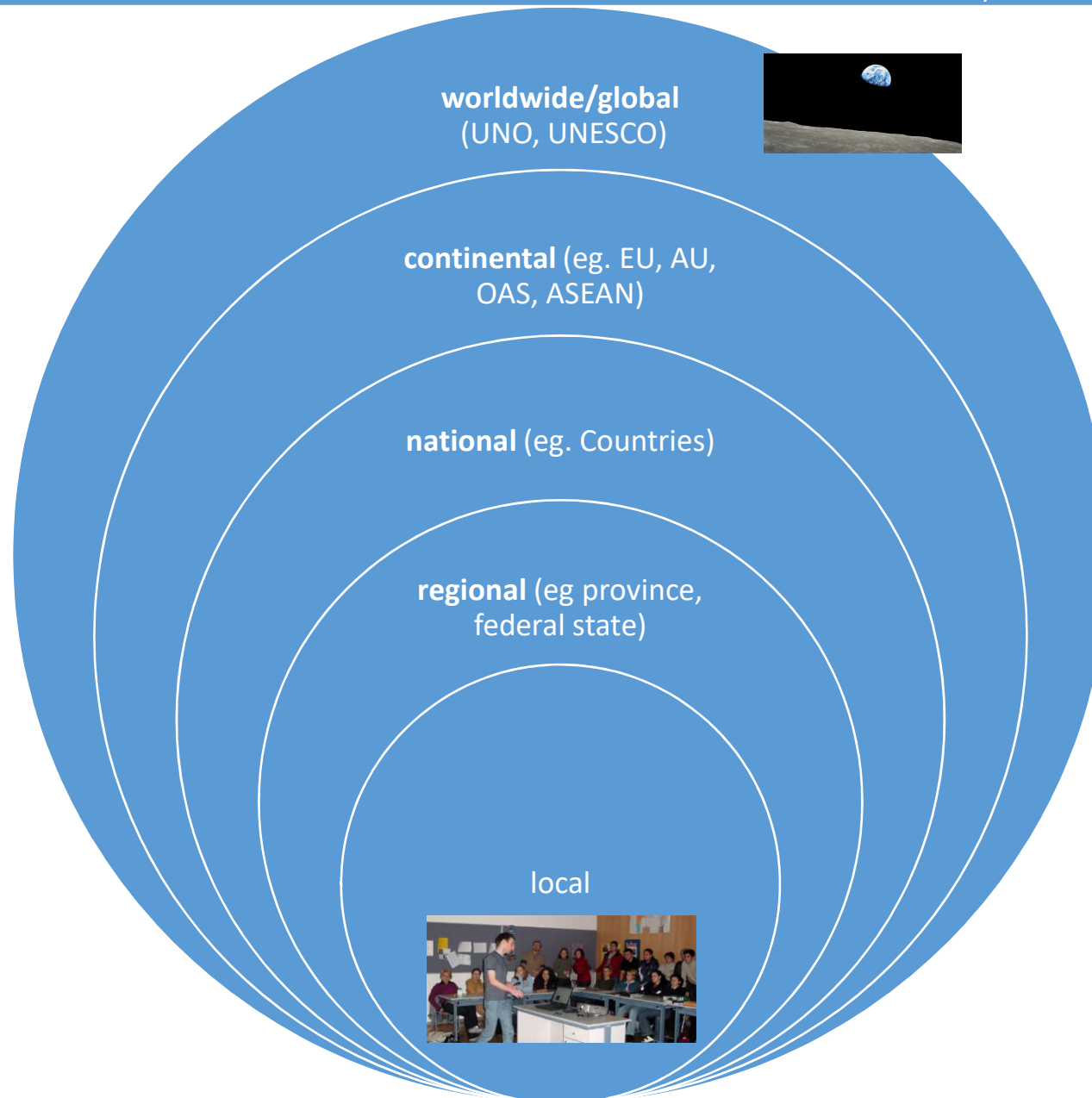
„Mastery of the fundamental ideas of a field involves not only the grasping of general principles, but also the development of an attitude toward learning and inquiry, toward guessing and hunches, toward the possibility of solving problems on one's own. [...] a young [...] student needs some working version of these attitudes if he is to organize his learning in such a way as to make what he learns usable and meaningful in his thinking.“ (Bruner, 1960, p. 20)

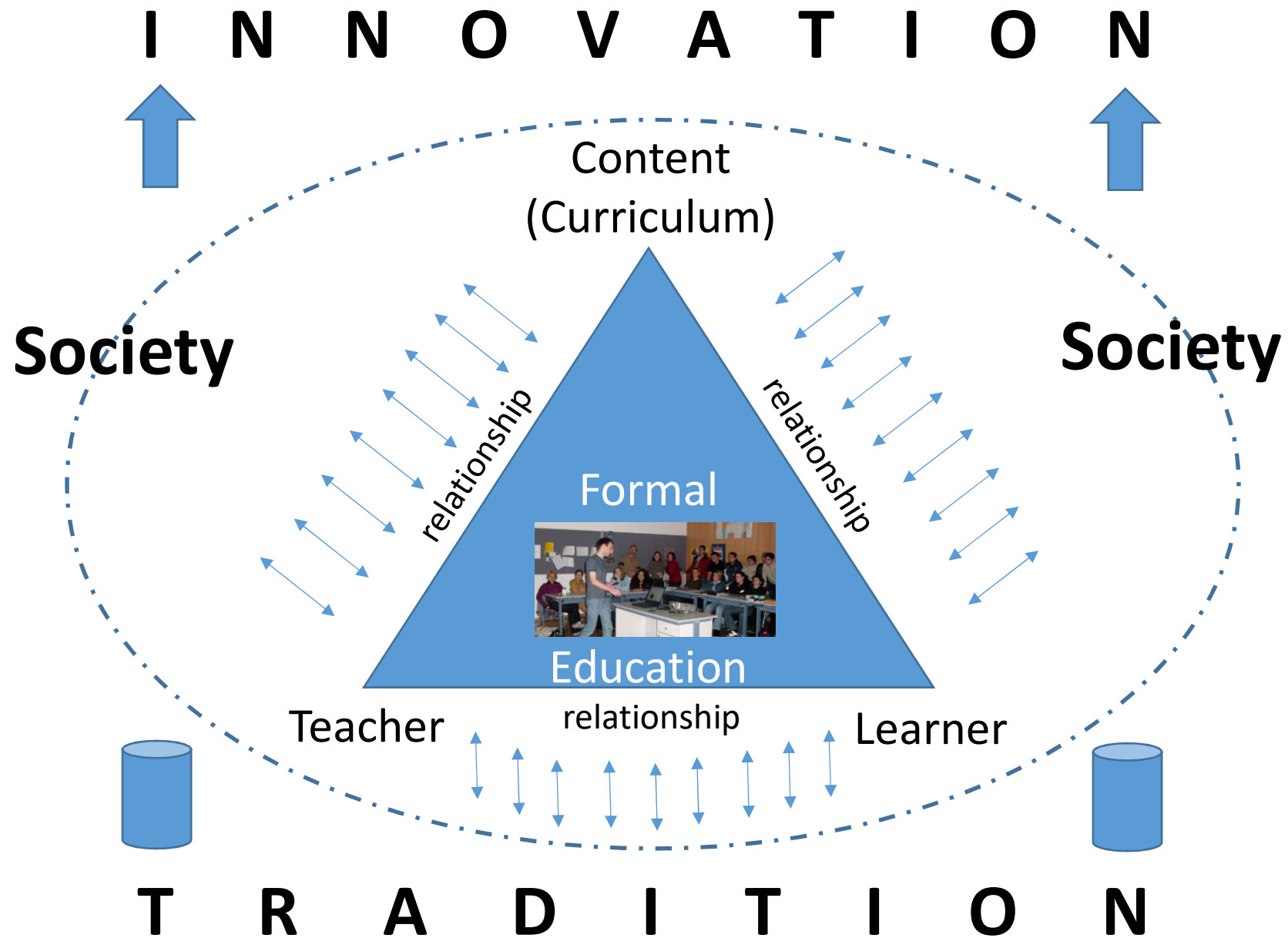
epistemological model *"theory based concept model"*



"observation based space model"







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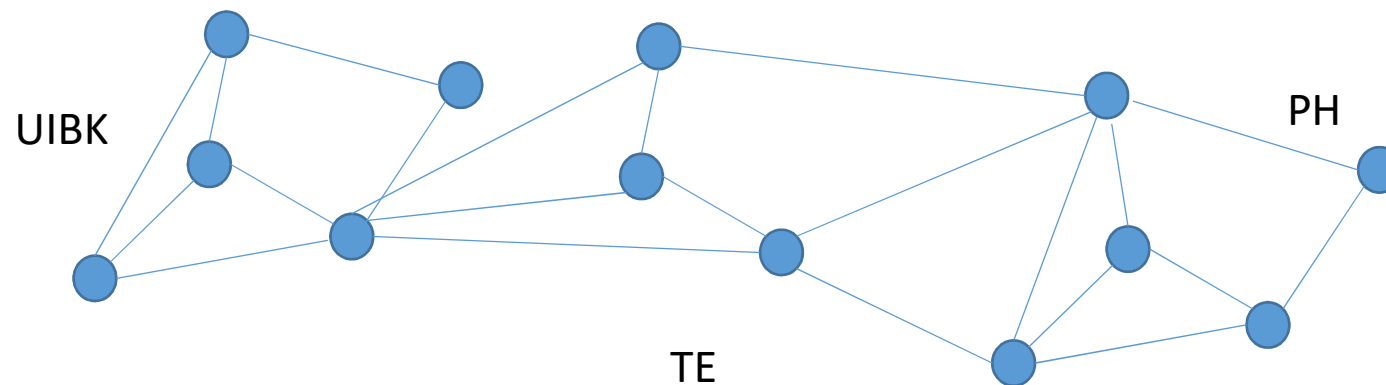
spiral and stage based learning models

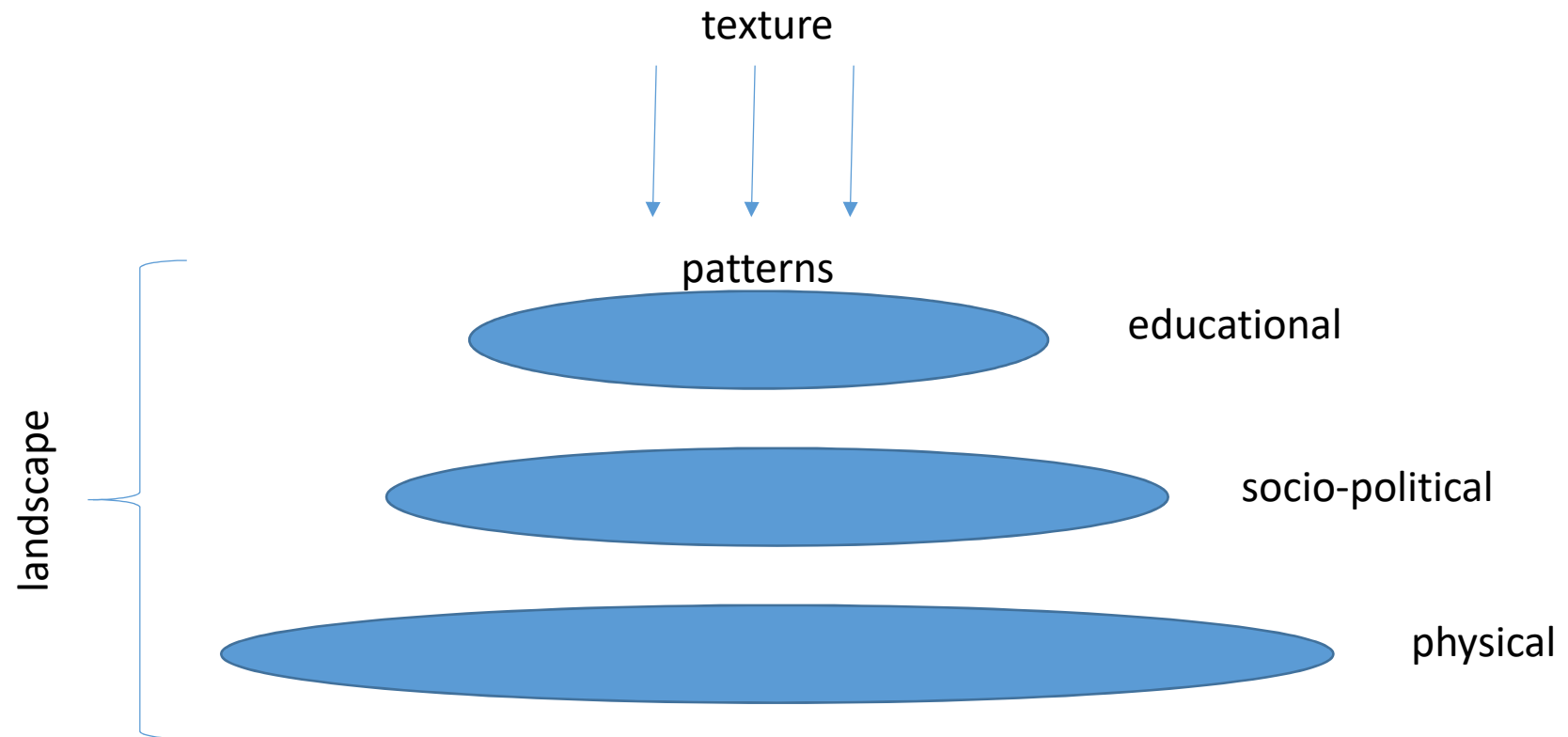
III. Learning in a changing society:

glocalization and resonance



viscosity

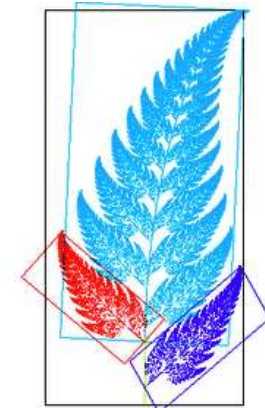




self similarity

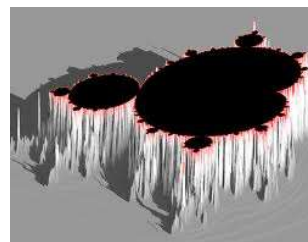
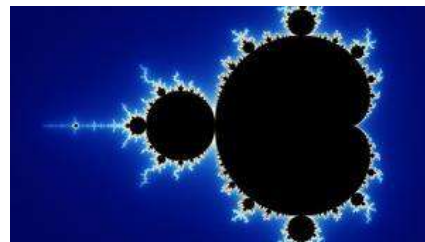
- structural self similarity
(similar subsystems of society)
- scale invariance driven self similarity
(dochotomies)

- Educational system as a mirror of society
- High degree of self similarity



Benoît B. Mandelbrot (1924-2010)

Mandelbrot-Menge: $z_{n+1} = z_n^2 + c$



Structures: the aspect of **self similarity**



playing school



classroom



church



blackboard

winged altar, Triptychon



Johanniskirche, Innenstadt Nord, Nürnberg

structural self similarity



church



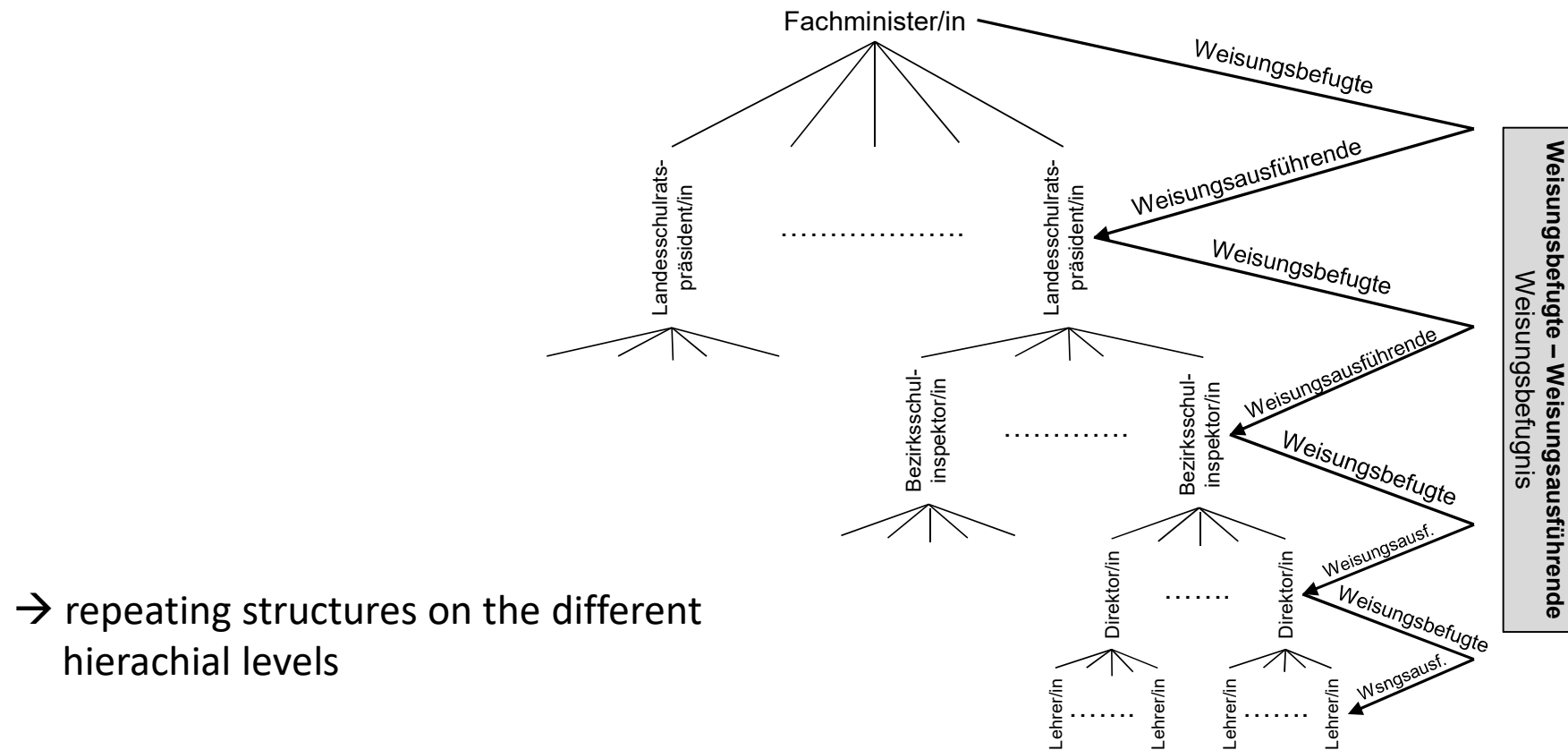
theater



school

scale invariance driven self similarity: 1) power

feature	<i>Weisungsbefugnis</i>	
distinction	Weisungsbefugte	Weisungsausführende
Group of people	ministry	(regional) school administration

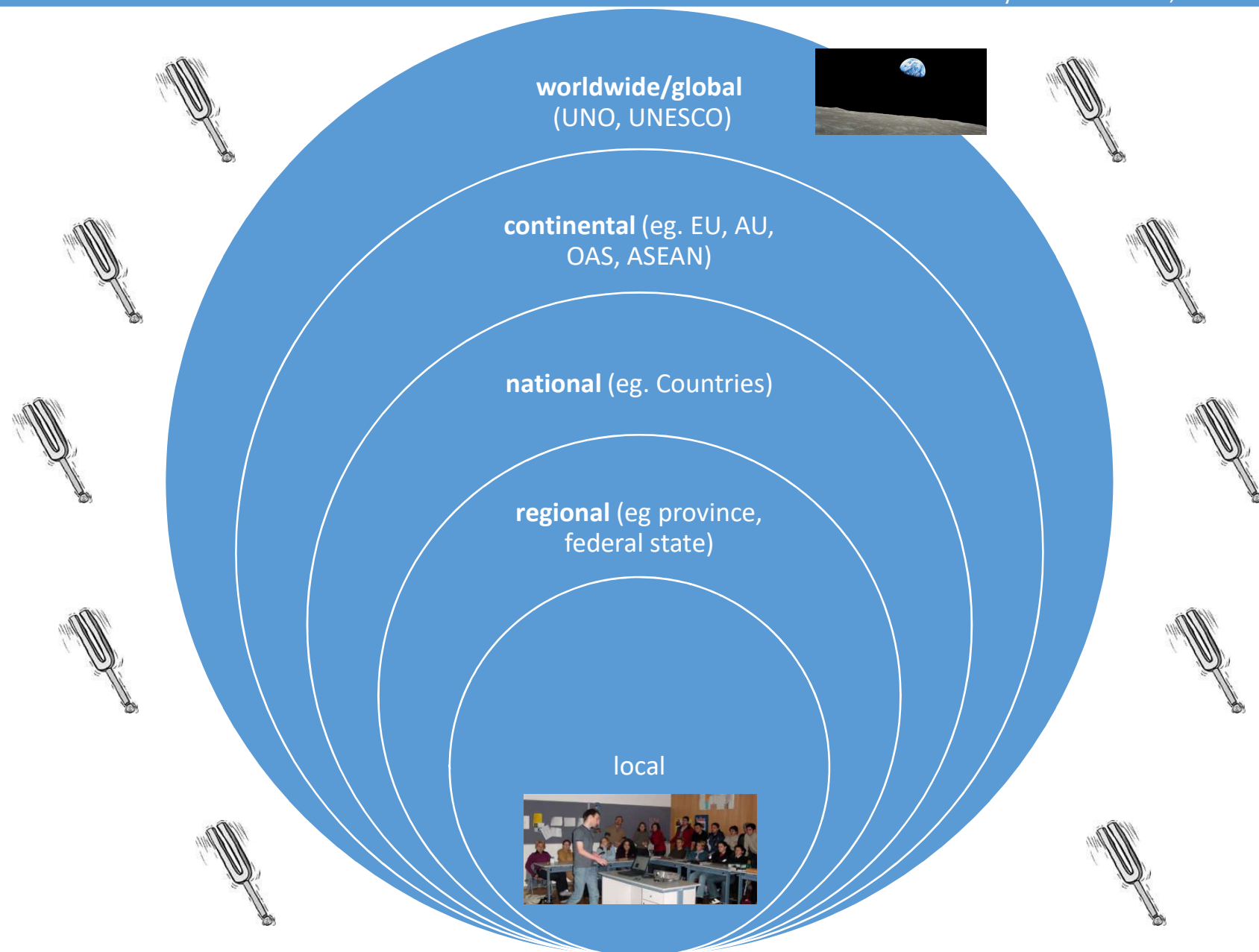


scale invariance driven self similarity: 2) knowledge

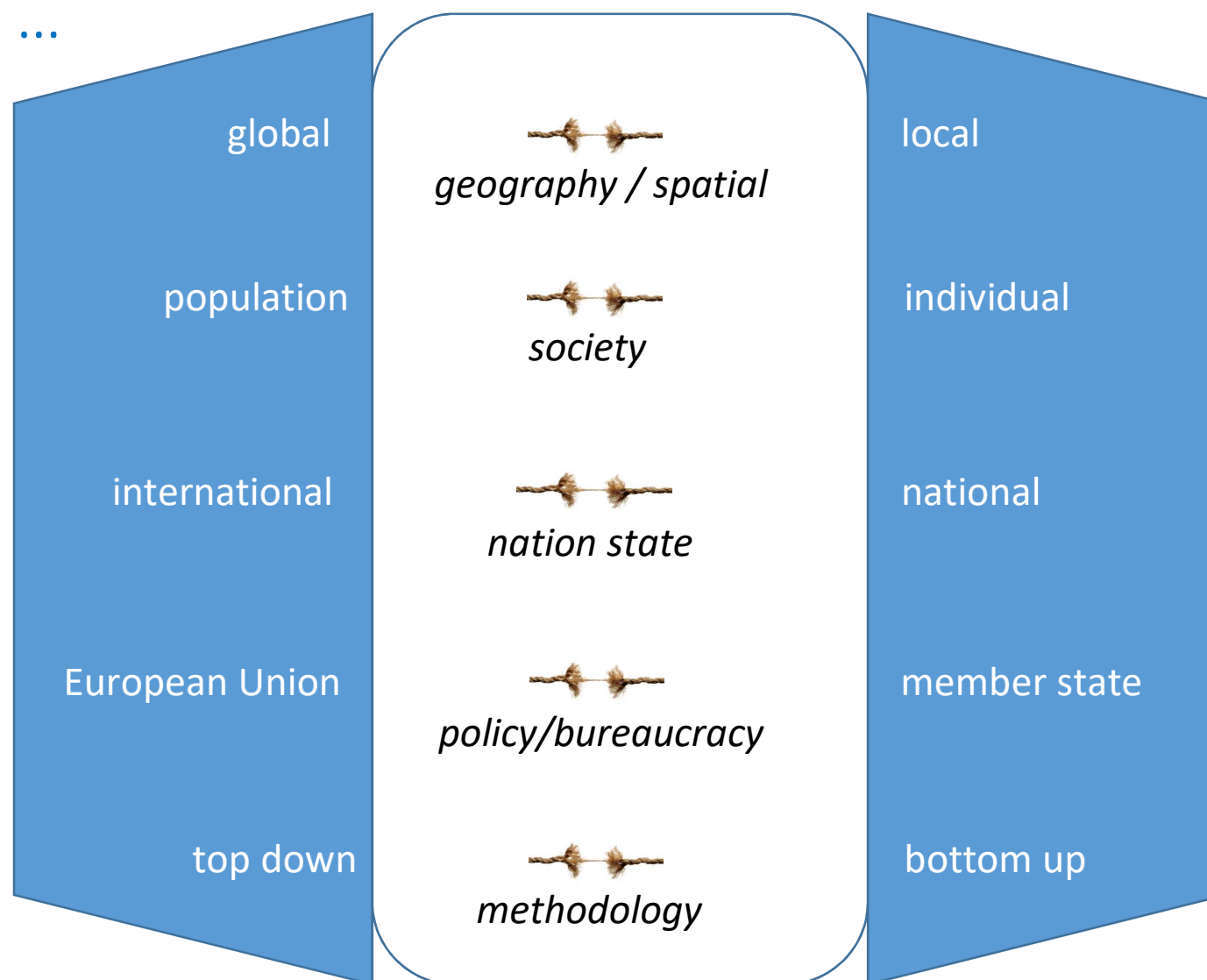
feature	<i>knowledge</i>	
distinction	has knowledge	gains knowledge
group of people	teachers	students

- primary school system
- secondary school system
- tertiary school system

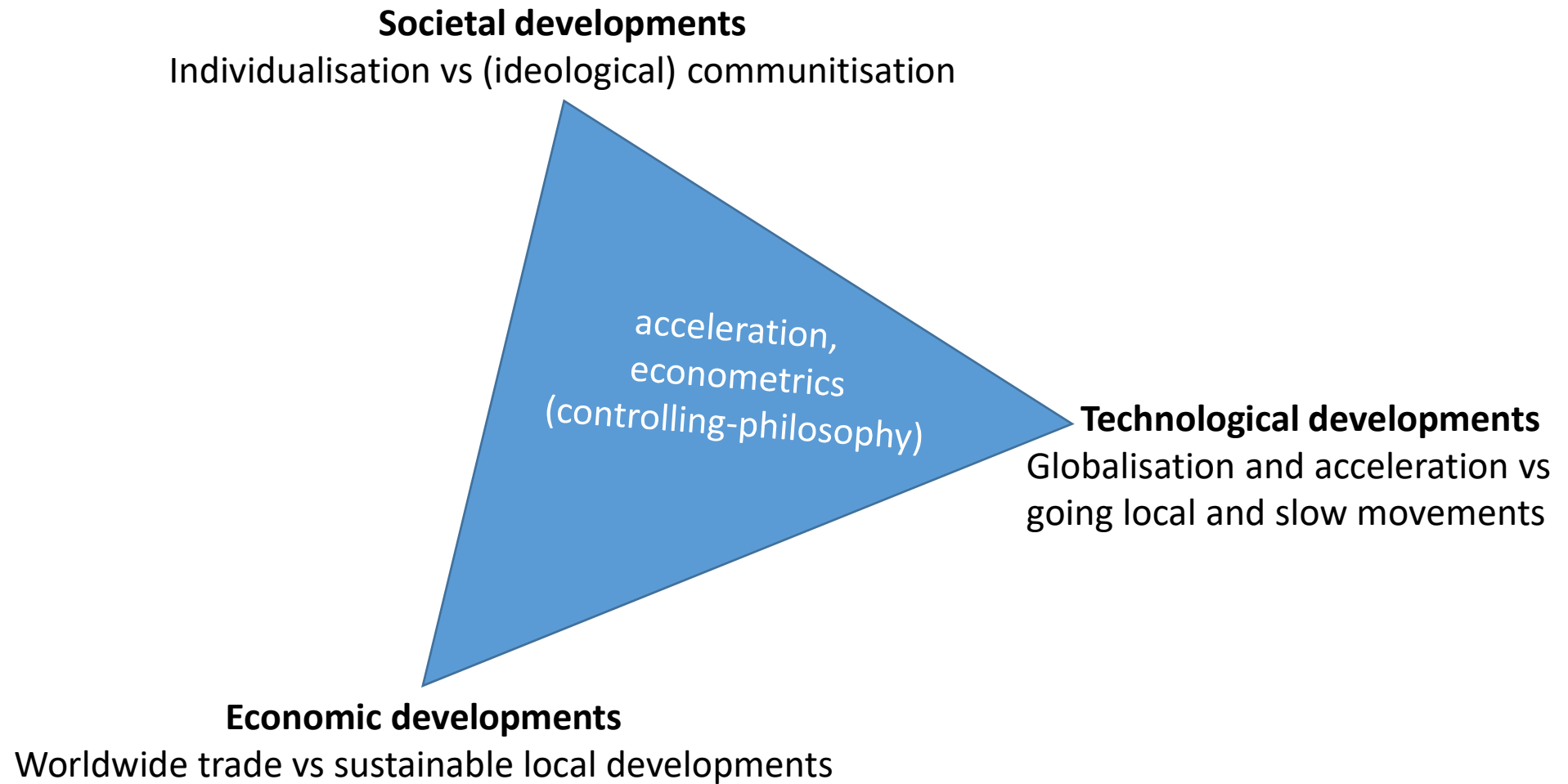
... change those viscous patterns



(productive)
friction ...

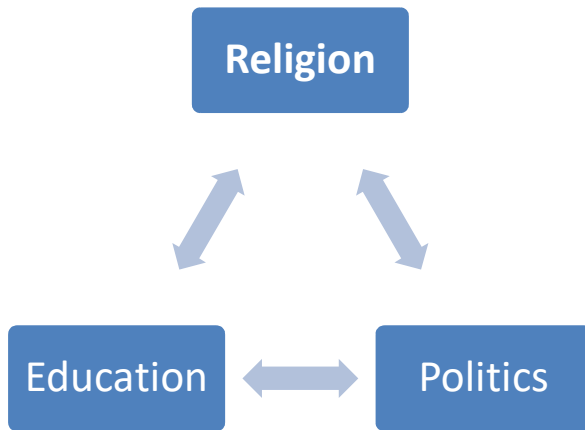


School and formal education resonating within and mirroring society

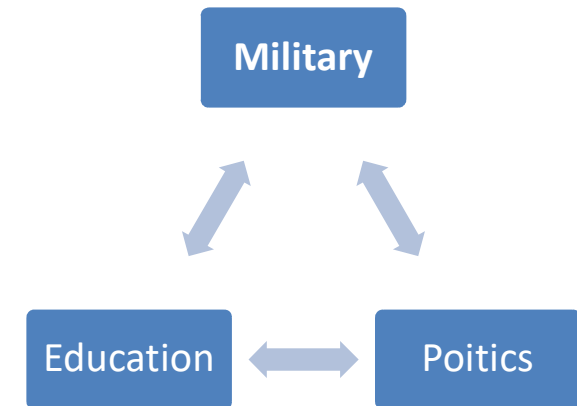


Formale Bildung

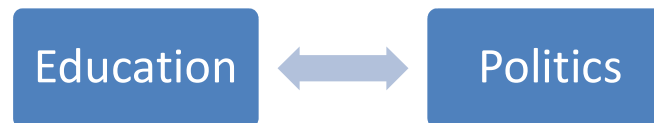
~ medieval age – 17th/18th century
Faith and knowledge



~ 17th/18th – 19th/20th century
socialisation/legitimation



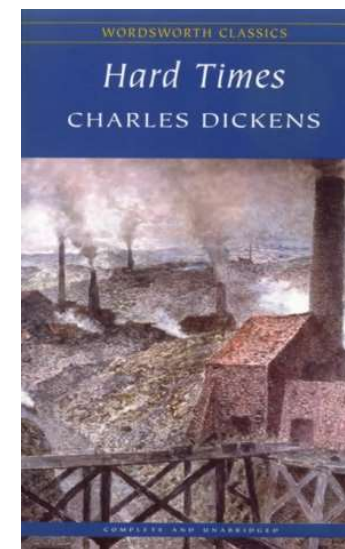
Economy



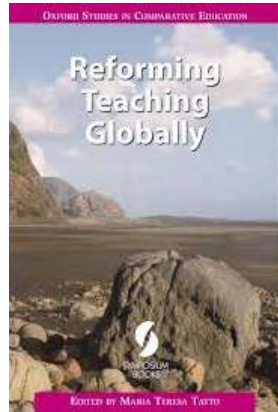
~ industrial revolution to 20th century
(Neo-)liberal und
econometry

**Self similar
societal triads**

"Now, what I want is Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts; nothing else will ever be of any service to them."
(Charles Dickens, 1854)



Reforming education



Influence of educational reform on education and teachers

- global
- institutional

Effects of globalization in a competitive and dynamically changing global economy.

- *systemic educational **reform movements*** which exert an important influence on education.
- *nations states* and their educational systems respond to these global pressures within their institutions → *secure compliance* with globally determined standards of quality via teacher learning and practice

Outcome:

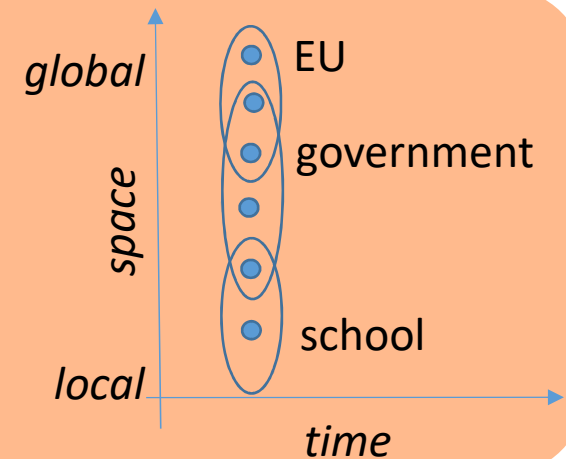
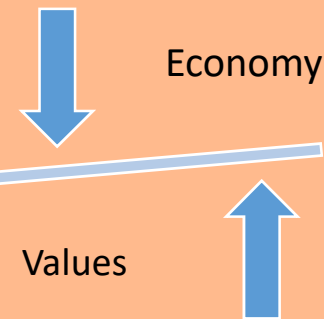
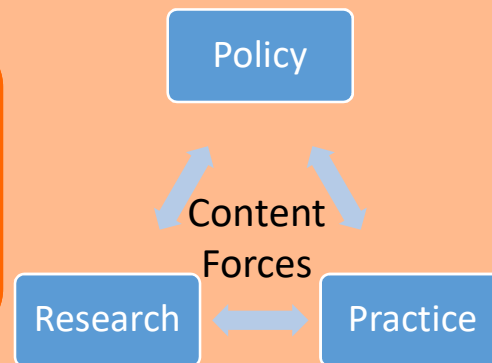
- **standards** of education
 - redesigned **curricula**
 - systems of accreditation and **certification**
- reduction of (formal) teacher autonomy by shift of control and power from local to a more „global“ level

Transformation

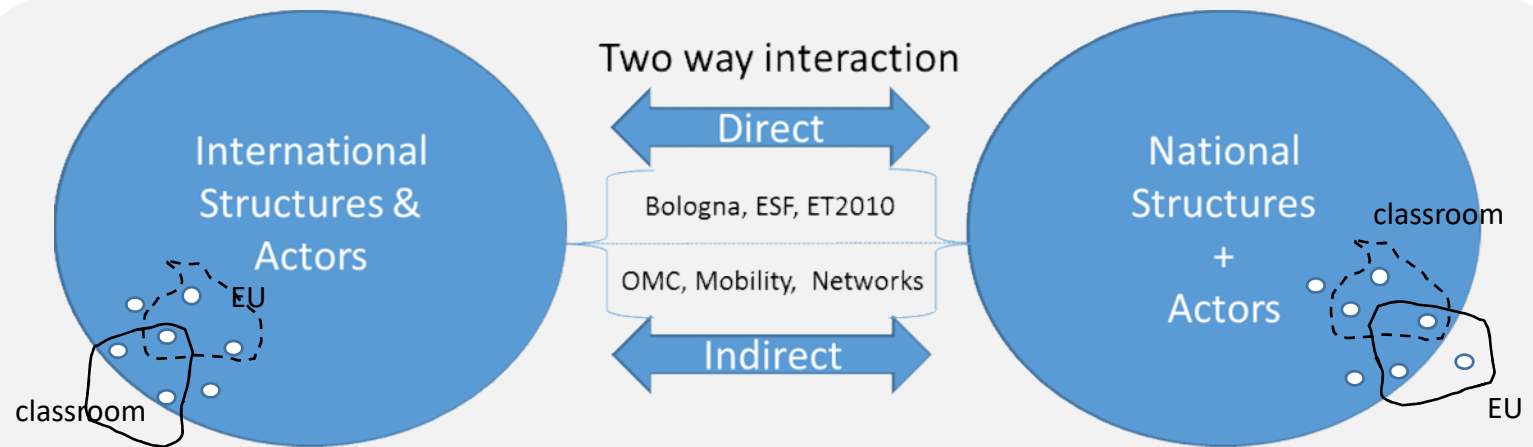


„local embeddedness
of global ideas“

Translation



Transfer



“The normal's the one thing you practically never get. That's why it's called the normal.”

(S. Maugham „Of Human Bondage“ 2000, p.303)

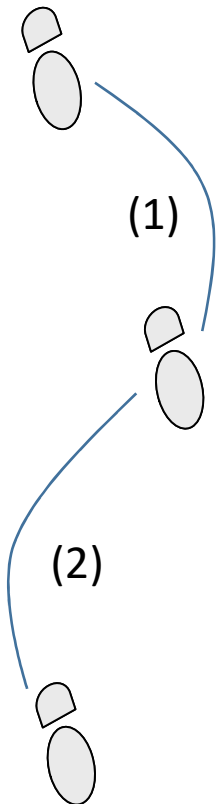
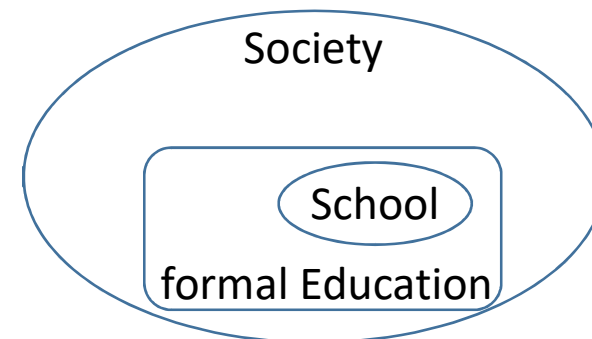
We inevitably face societal developments of

- globalisation,
- acceleration,
- economization,
- diversification & pluralisation,
- Movement of political ideas, people, goods,...

Glocalization:

Simultaneous occurrence of both universalizing and particularizing tendencies in social, political and economic systems
[dochakuka (jap.): „global localization”, originally referred to the adaptation of farming techniques to local conditions]

School as a societal subsystem is a
mirror of society.





SO HOW DO WE KNOW THAT NO-SEE-UMS EXIST? VERIFICATION IS RULED OUT BY DEFINITION!



Education

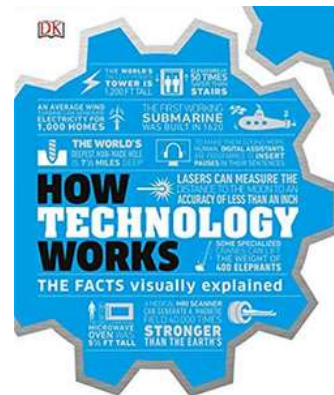
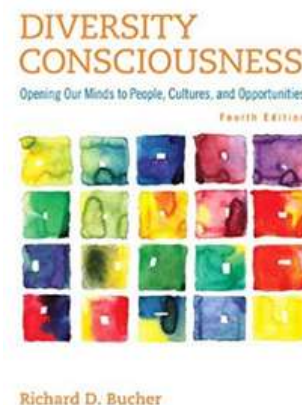
.... seems to be obvious, but ...

Why? Traditionally national education makes sense ...

- education in mother tongue
- formal education: refers to inheritance + innovation
- state driven, bureaucracy
- culturally bound → local, national, societal

societal →

formal education mirrors and resonates to
societal developments, changes, challenges

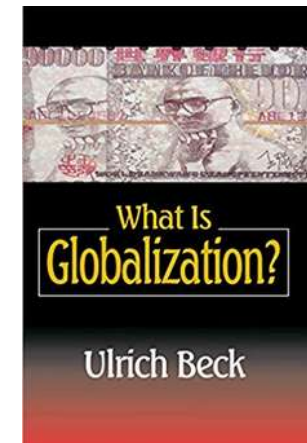


Globalization:

- Technology (communication)
- Economy (traffic)
- Society (heterogeneity)

Controlling, standards, norms, indicators →

PISA → interconnection between global and local development



Robertson (1997), glocalization ...

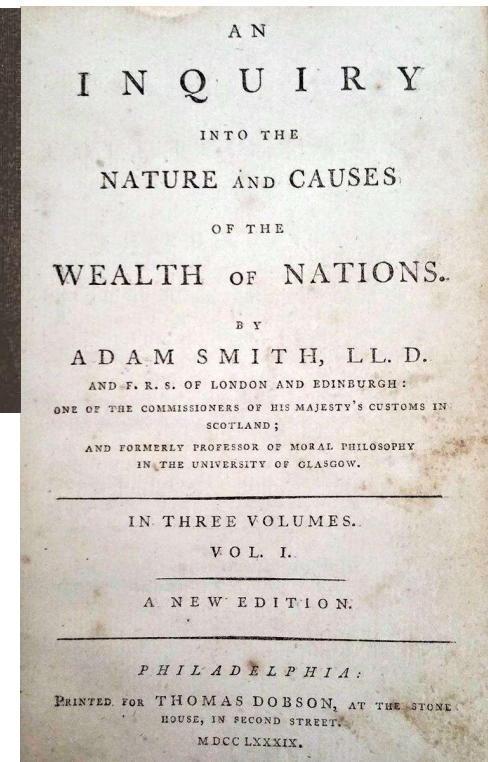
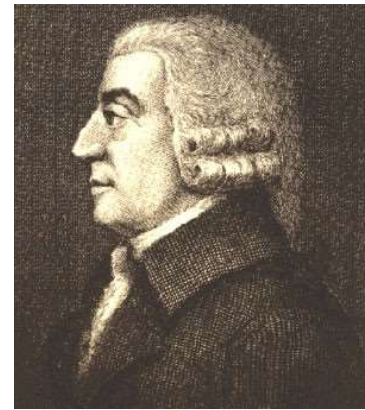
"means the simultaneity – the co-presence – of both universalizing and particularizing tendencies."

Glocal education:

Francesca Caena (2014): Comparative glocal perspectives on European teacher education, European Journal of Teacher Education, 37:1, 106-122, DOI: 10.1080/02619768.2013.845165



Adam Smith "Wealth of Nations": pinmaking factory



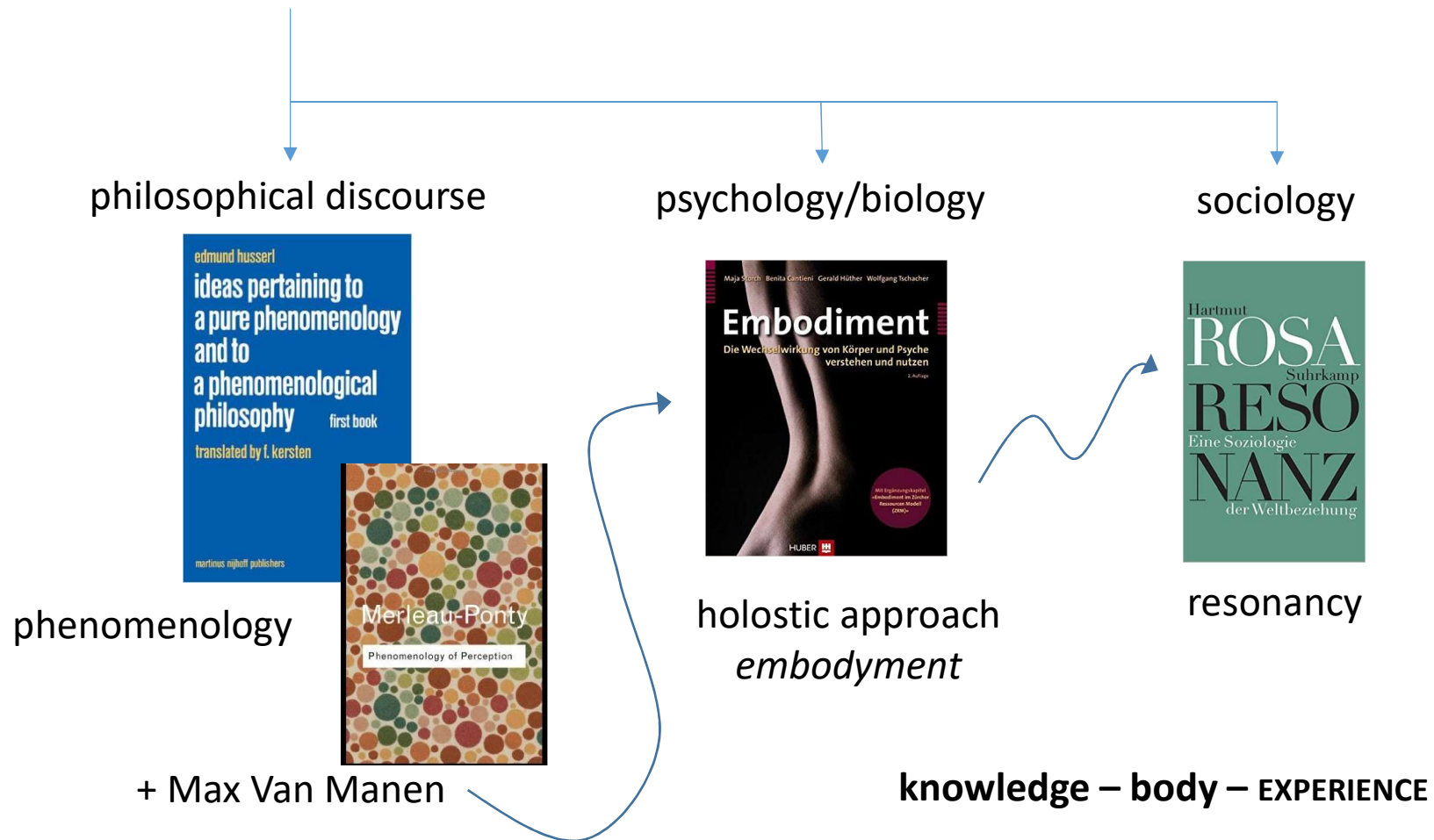
characterized by the division of labor into ever finer parts, each the province of a specialist with a tremendously developed but excruciatingly narrow expertise.

Teachers by contrast perform a range of different tasks

→ integration

„We need standards [...] to make our schools work well in solving the myriad tasks they face. But [...] standards alone will not work. We need a surer sense of what to teach to whom and how to go about teaching it in such a way that it will make those taught more effective, less alienated, and better human beings.“ Bruner, J. (1996)



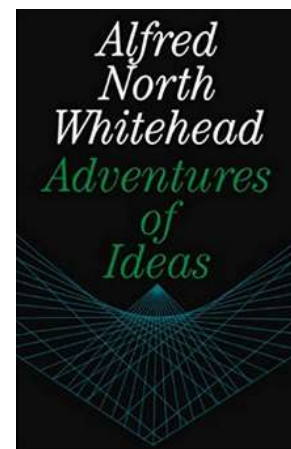
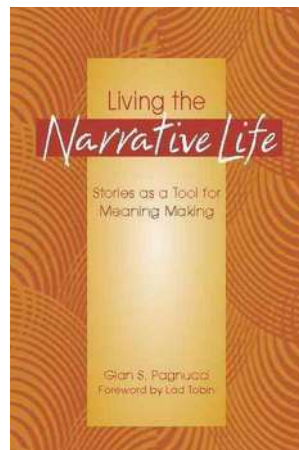


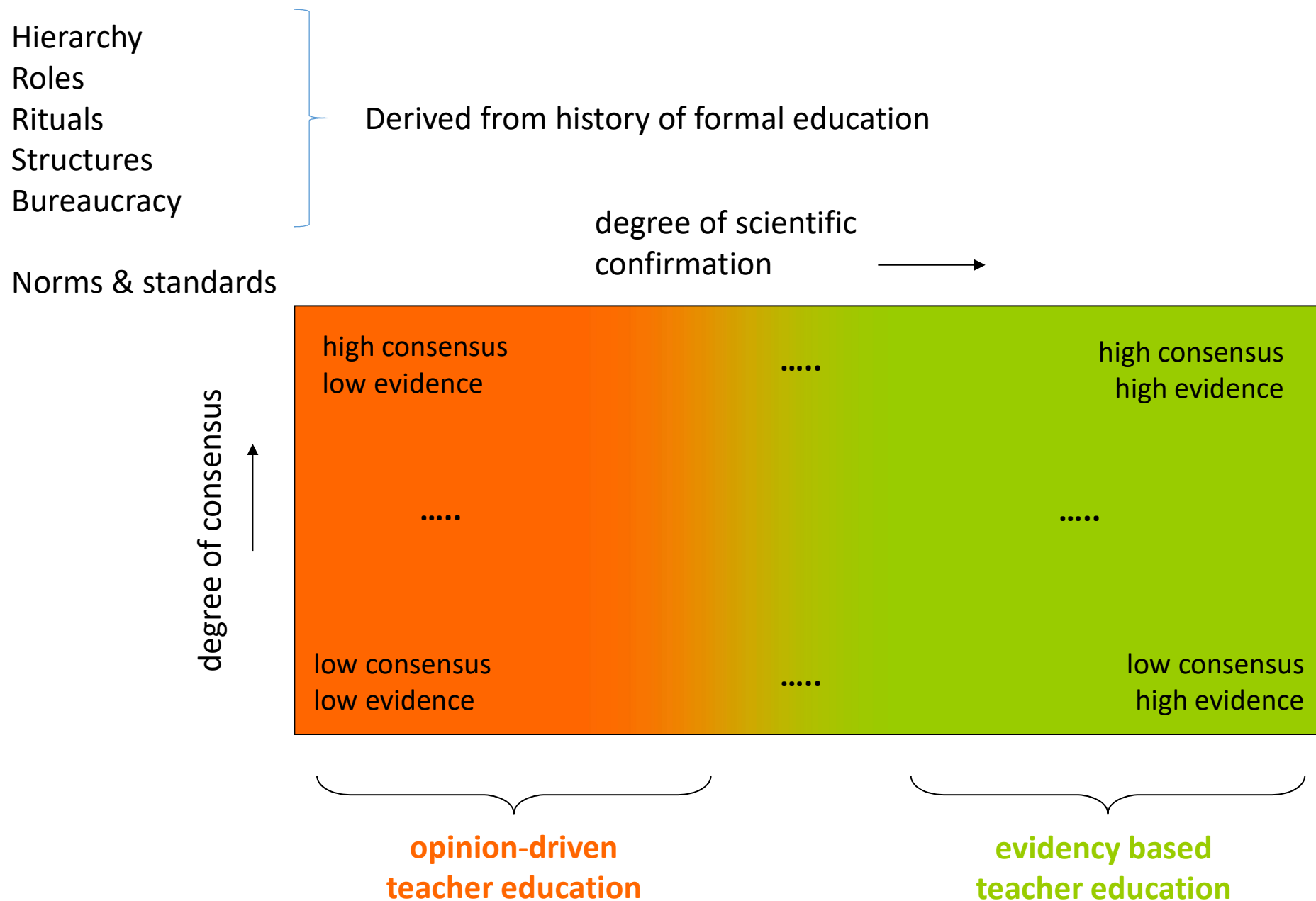
University as a laboratory of testing, reflection, place of innovation

Research and findings are based on

- creativity and ideas
- knowledge and competences
- individual biographies and collaborations

Importance of people/researchers and ideas





„They ran their heads very hard against wrong ideas, and persisted in trying to ***fit the circumstances to the ideas***, instead of ***trying to extract ideas from the circumstances***“

Charles Dickens, „Great Expectations“, p.114 (Chapter 16), Penguin Popular Classics

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III. Learning in a changing society:

glocalization and resonance



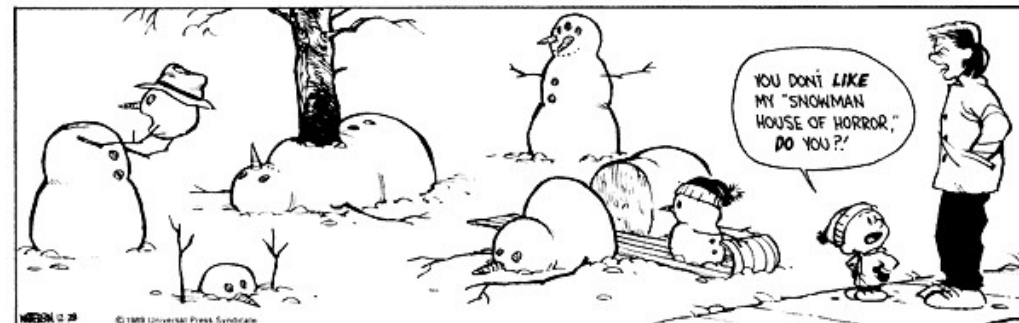
→ tranquility: 無爲



→ fault tolerance



→ quantum of insanity



→ creativity and ...



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