



KTH

VETENSKAP  
OCH KONST



After lunch: MIXED TEAMS and NEW SEATS! Put bags and computers in the windows, we will workshop on the tables with pen and paper 😊

# Workshop 1 Analyzing Your Higher Education Transformation Landscape

Enhancing Higher Education, EHE,  
OCTOBER 16TH, 2023

Anna-Karin Högfeltdt





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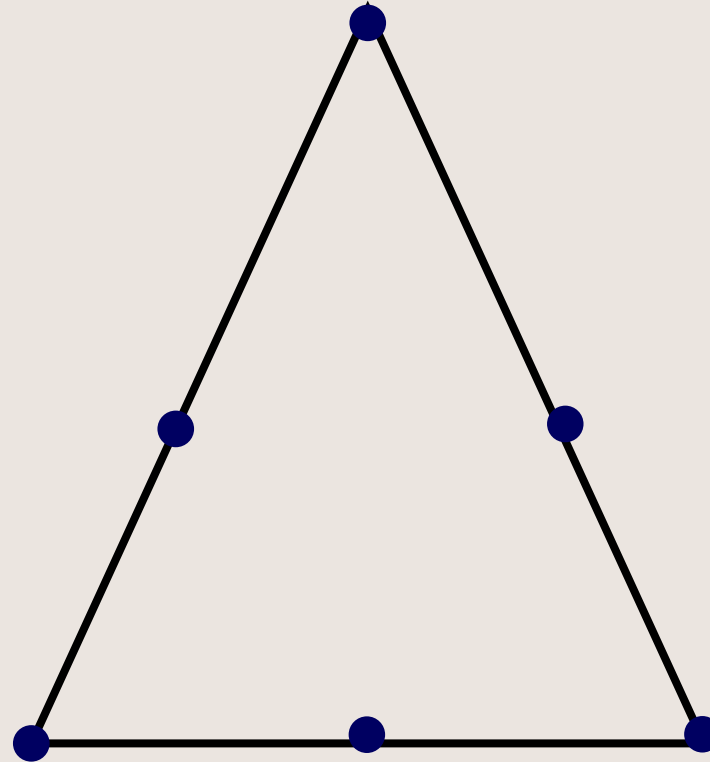
Anna-Karin Högfeltdt



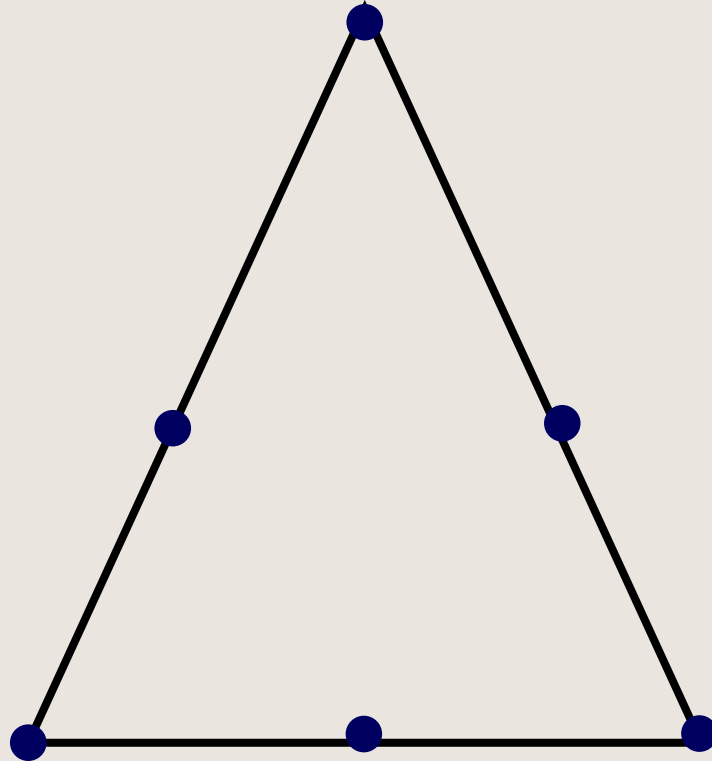
# Activity System: A Visualisation of the Higher Education Transformation Landscape

(Cong-Lem, 2022)

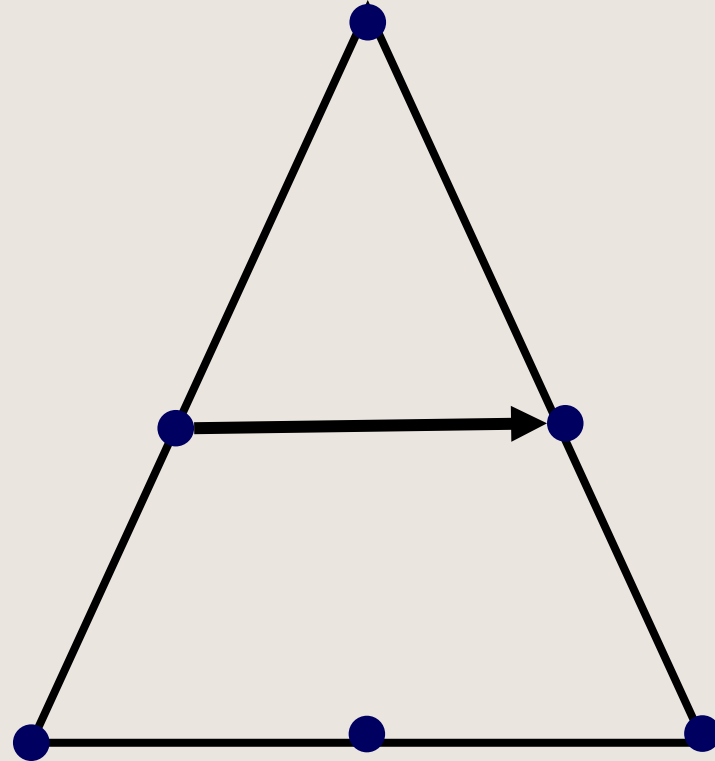
(Based on Engestrom 2000; 2010;



**Subject .** Who are you? What is your (potential/ future ) role in the changes and work forward?



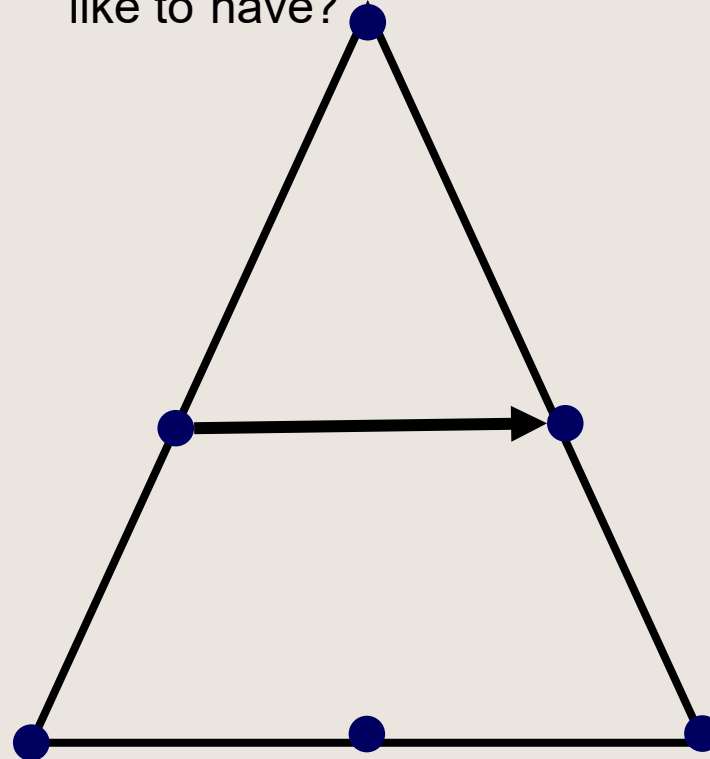
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**Object** . What is the target ? What would you/your dept /institution want to achieve?

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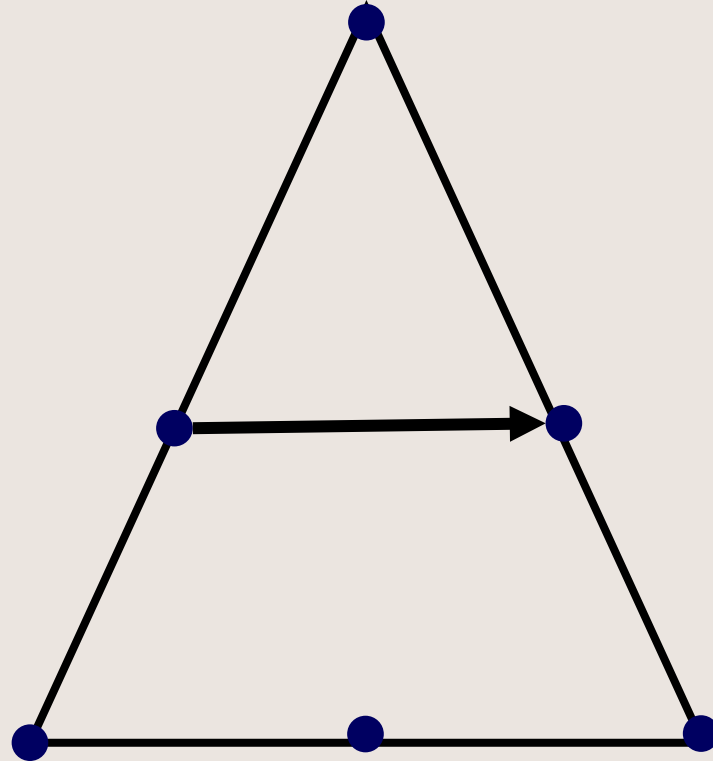


**Object** . What is the target ? What would you/your dept /institution want to achieve?

**Tools & Artefacts** I will need online voting tools, such as Menti.com and prepare the pre-study material

## EXAMPLE

**Subject** . An innovative university teacher.



**Object** . I would like to organize flipped classroom, with pre-study material, multiple choice questions and student peer instruction !

**Outcome** . Ups and downs in the results, as often in new changes, but on average better results and more fun as a teacher to see active students and getting closer to their learning. Still, very difficult to keep the changes going, quite high resistance.

### Problems/ challenges/ obstacles

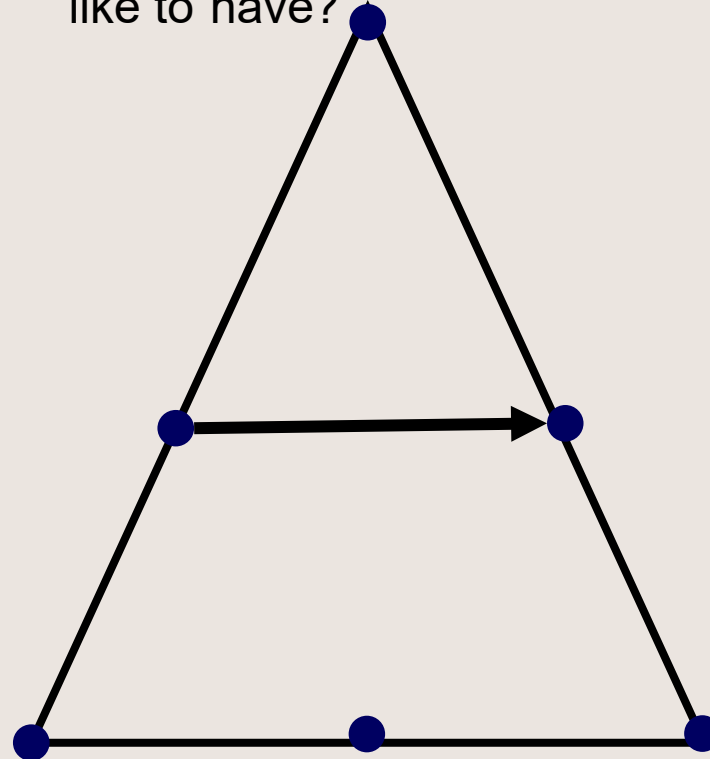
- Teachers in parallel courses complaining over students' changed work distribution
- Students asking for "real" teaching
- Scheduling/organisational aspects
- Rotating teachers

In Higher Education Enhancement, single-focus on achieved targets will often not suffice for long-term and sustainable changes. You will often need to apply a system perspective on the changes.

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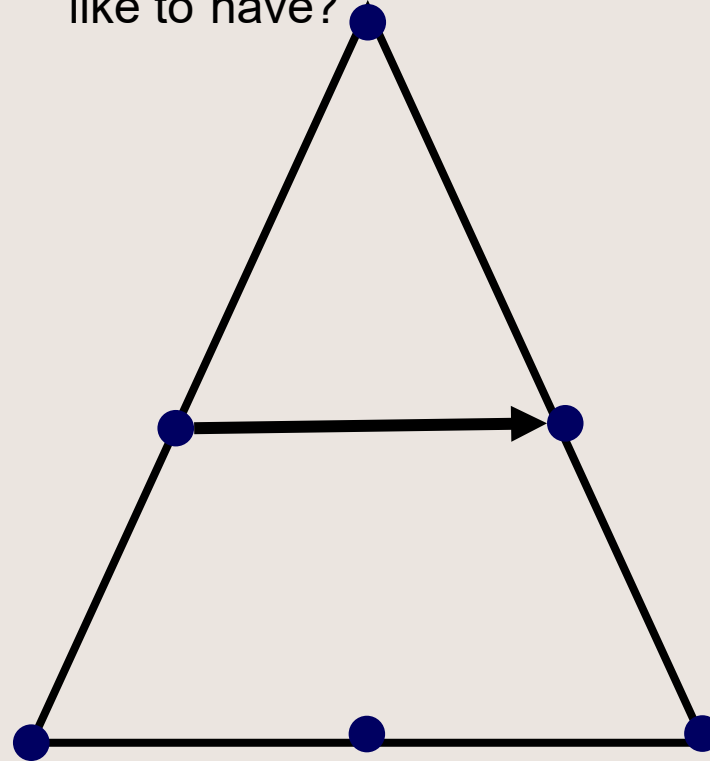


**Norms & Rules.** Which norms and rules will enhance the work forward? Which will diminish or reduce the progress?

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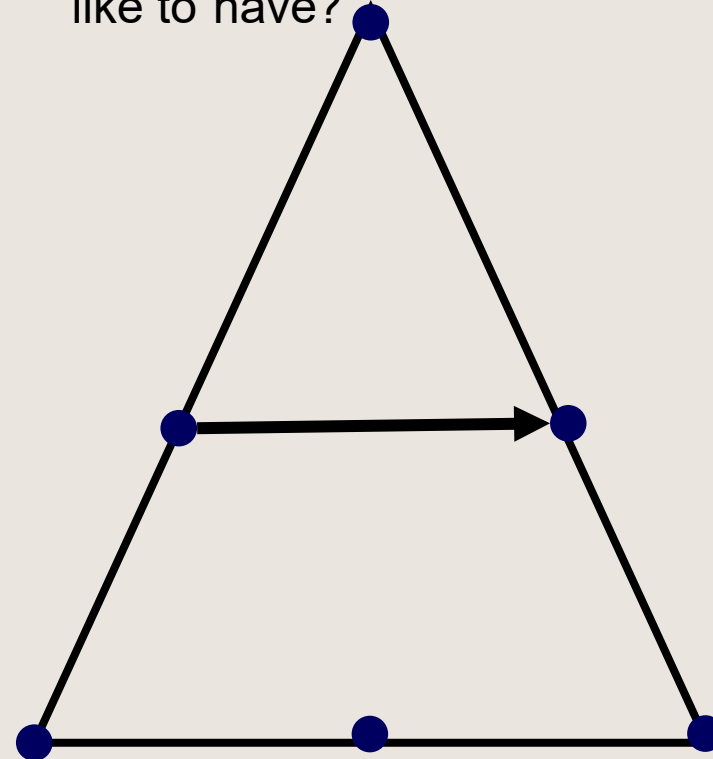
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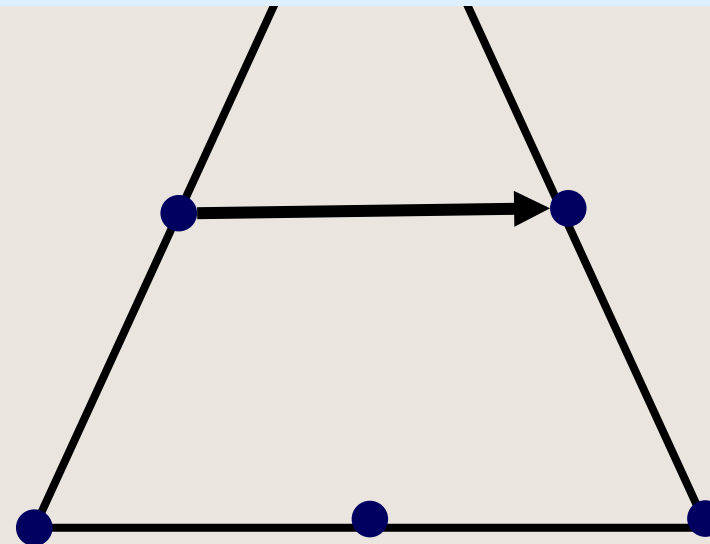
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# Let's get started !

Are you in a mixed team or pair? Work together and share your transformation landscapes with each other!

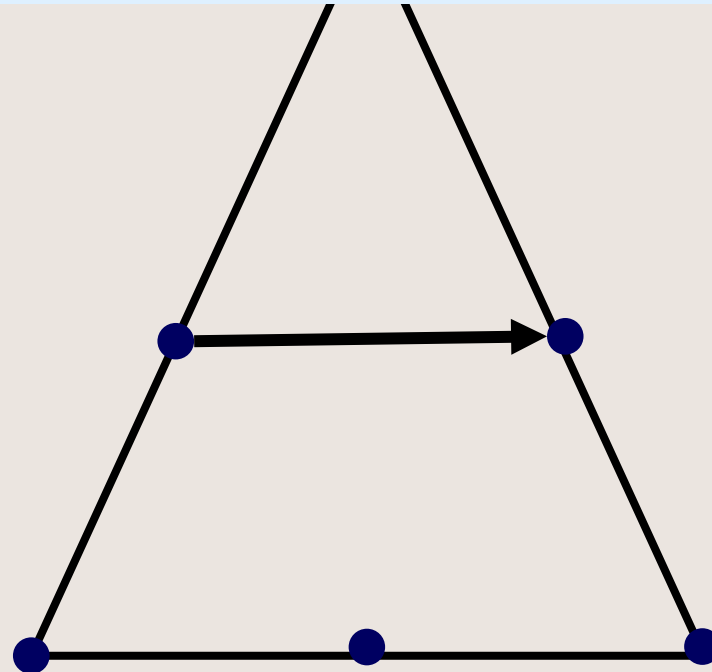
Start with subject (you), object, and community !



# Step 1: Focus on subject – object – community

*Individually : start sketching on the paper and share with your peers at the table*

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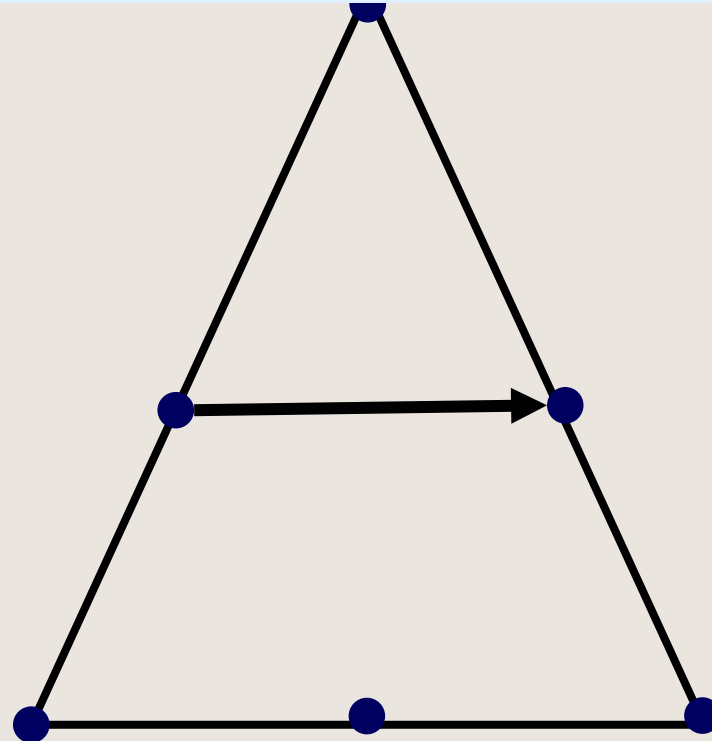
**Object** . What is the target? What would you/your dept /institution want to achieve?

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# Step 2: Focus on norms&rules , and division of labor *start sketching*

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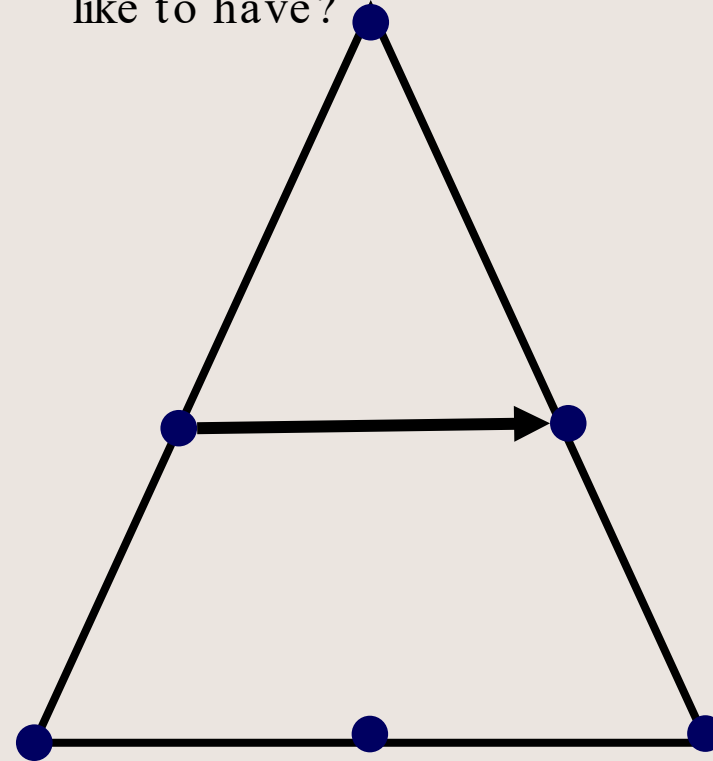
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**Community.**  
Whom do you

**Division of labour.** What does the distribution of work look

**Step 3: Focus on Tools & Artefacts**  
*start sketching*

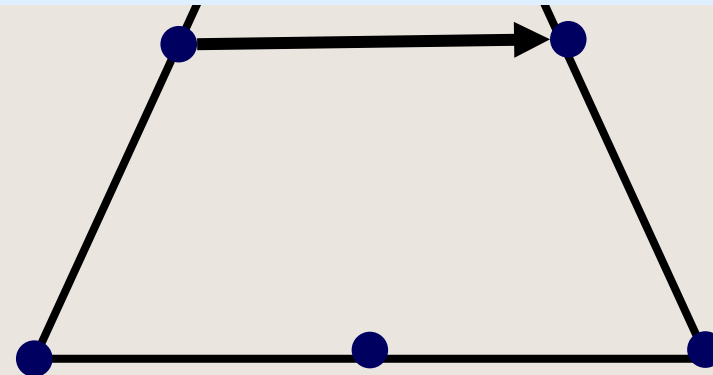
effort in your context?

**Tools & Artefacts** What tools and artefacts are there to support the work forward?  
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## Step 4: Sharing Your Visualisations of Higher Education Transformation Landscapes

*Be ready to present your work in poster session format*

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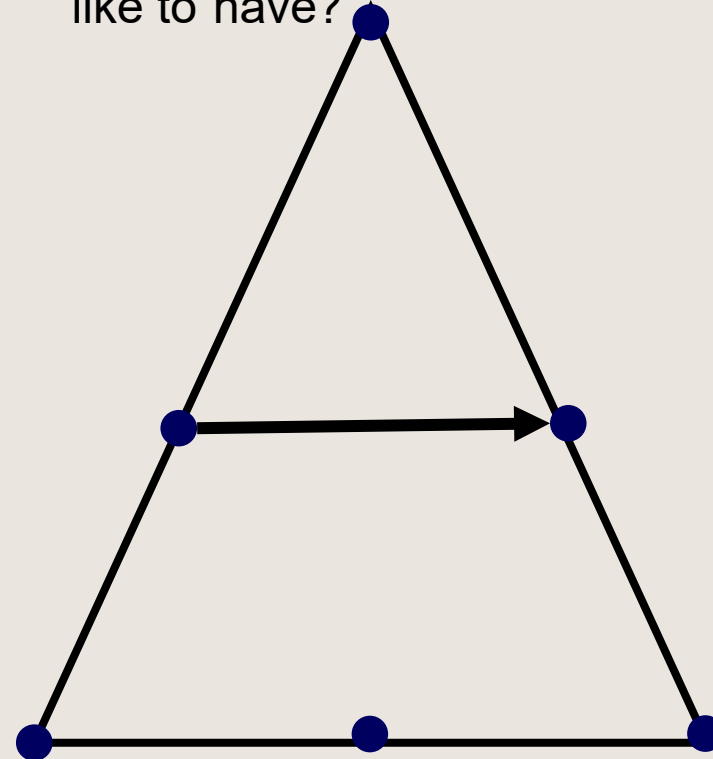
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# Example: Ten Years of Improving Engineering Education for a Sustainable Future

The Education Transformation Landscape  
from Middle -Leaders' Insights (Program  
Directors; Directors of Education; Directors  
of Studies etc.

EUROPEAN JOURNAL OF ENGINEERING EDUCATION  
2023, VOL. 48, NO. 2, 240-266  
<https://doi.org/10.1080/03043797.2022.2106824>

Taylor & Francis  
Taylor & Francis Group

OPEN ACCESS Check for updates

## Leadership, support and organisation for academics' participation in engineering education change for sustainable development

Anna-Karin Högfeldt <sup>a</sup>, Lena Gumaelius <sup>a</sup>, Per Berglund <sup>b</sup>, Leif Kari <sup>c</sup>, Arnold P. Kann <sup>a,d</sup> and Viggo Kann <sup>a,d</sup>

<sup>a</sup>Learning in Engineering Sciences, KTH Royal Institute of Technology, Stockholm, Sweden; <sup>b</sup>Industrial Biotechnology, KTH Royal Institute of Technology, Stockholm, Sweden; <sup>c</sup>Engineering Mechanics, KTH Royal Institute of Technology, Stockholm, Sweden; <sup>d</sup>Theoretical Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden

**ABSTRACT**  
This work spotlights the experiences from ten years of implementing sustainable development in all educational programs at a technical university. With a focus on the critical issue of involving more academics in the work, experiences are shared through an ethnographic account including focus group interviews. 'Sustainable development' has been perceived as both superficial and overwhelming; unclear yet somehow predetermined; it has been perceived to demand non-existent space in the curriculum; and it has challenged the academics regardless of the subjects' relatedness to sustainability. It is concluded that the evolution of a web of interconnected people, key academics, activities, norms and tools has contributed to an increased participation. The work for authenticity, reliability and feasibility, along with institution-wide and long-term academic development tools is presented.

**ARTICLE HISTORY**  
Received 15 June 2021  
Accepted 24 July 2022

**KEYWORDS**  
Academic leadership; academic development activity theory; social practice theory; participatory practices



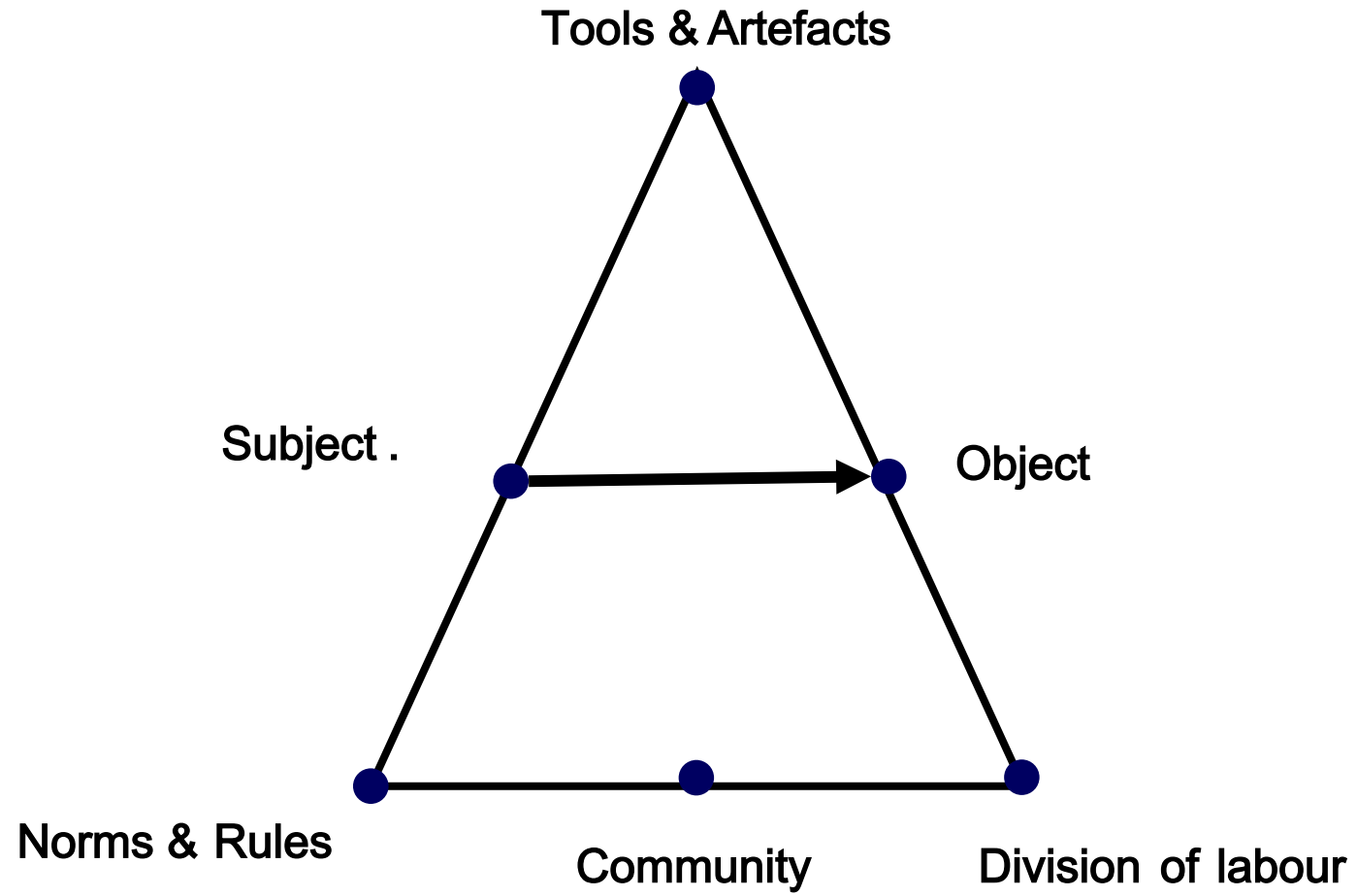
Volume 48, Issue 2, April 2023  
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### European Journal of Engineering Education

JERI

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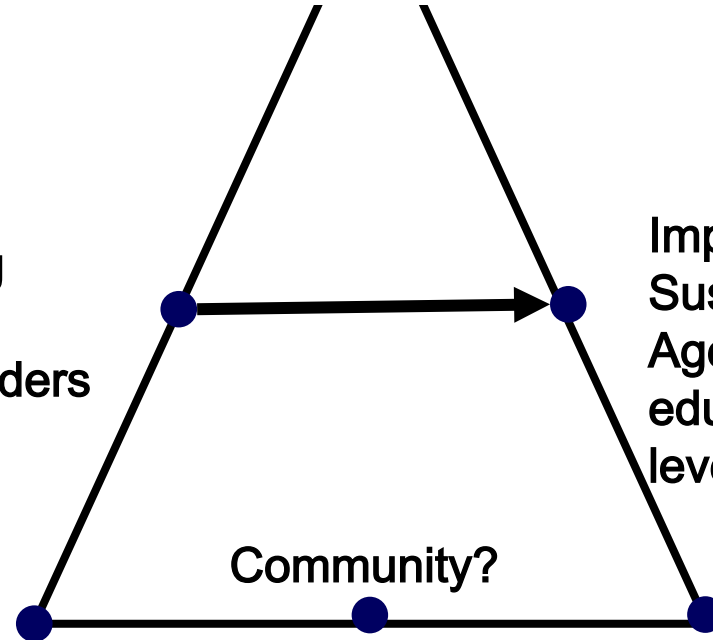


# BASELINE: The Education Transformation Landscape from Middle-Leaders' Perspectives in the first years from 2011 -

Very few tools . Mainly short-term, individual-oriented and more general than contextual .

Engineering Education Middle -Leaders

Implement the Sustainability Agenda in education at all levels at KTH



## Division of labour:

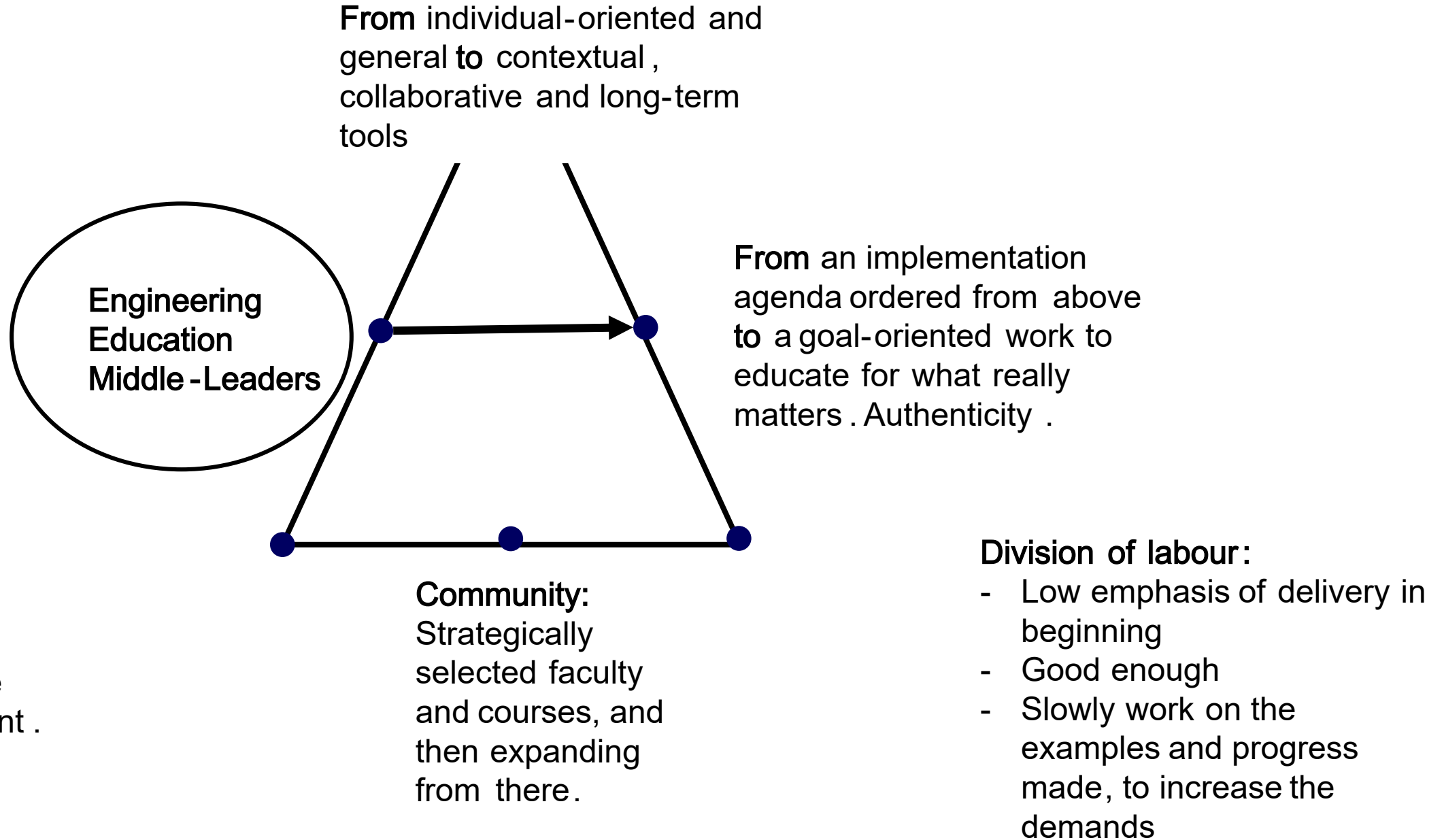
- Vaguely defined roles on who does what
- Research merits valued higher
- Low legitimacy to gear activities towards sustainable development
- High pressure to deliver on short time things that are new

Faculty far from applied teaching : "Silly, actually"

Faculty who still had extensive experience with these aspects "Did not want to put the words Sustainable Development in their mouths!"

Faculty who was against Sustainability in Engineering Education: "Environment brownies and tree huggers"

# ACTION: The Middle-Leaders' Perspectives on how Education Transformation Landscape can or should be expanded





# Education Enhancement Tools for/at KTH Dept Learning in Eng Sciences

Developed 2011-2023

# Department of Learning in Engineering Sciences

## Organisation:

- Digital Learning
- Language and Communication
- Learning in STEM
- The House of Science

## Research areas:

- Research on Digital Learning
- HEOS - Higher Education Organisational Studies
- Engineering Education in society
- Global Competence
- Learning in Technology and Science Education (TN-  
didactics)





Our aim is to enhance Teaching & Learning in Engineering  
from Pre-School to University  
Through research, education, development & networking initiatives





## Swedish national recommendations on a common framework for university teaching qualifications

### Learning outcomes for HE teaching qualifications

(in addition to the general objectives in Chapter 1, Section 9 of the Swedish Higher Education Act for the second cycle, i.e. advanced level)

The overarching objective of HE teaching qualifications is that, after completing the education, the participant shall demonstrate

- the knowledge, skills and approaches required for professional teaching in HE, in the participant's subject area, and for taking part in the development of HE.

The participant shall demonstrate the ability to

- discuss and problematise student learning in the participant's own subject area, on the basis of research in educational sciences and/or subject didactics of relevance for teaching in HE
- independently and jointly with others, plan, implement and evaluate teaching and assessment in higher education with a scientific, scholarly or artistic basis and within their own area of knowledge
- make use of, and assist in the development of, physical and digital learning environments to promote learning for groups and for individuals
- interact with students in an inclusive manner and demonstrate knowledge of rules and regulations regarding students with disabilities and of available student support
- apply relevant national and local rules and regulations, and to discuss society's objectives for HE and the academic teaching role in terms of the participant's own practice and students' active participation in HE
- reflect on their professional approach to academic teaching and their relationship with the students, and also towards the fundamental values of higher education, such as democracy, internationalisation, gender equality, equal opportunities and sustainability
- collect, analyse and communicate their own and others' experiences of teaching and learning practices, and relevant outcomes of research, as a basis for the development of educational practice and of the academic profession.

The participants must have started a teaching portfolio and reported on an independent project, concerning teaching and learning within their own field of knowledge, drawing upon relevant research in educational sciences and/or in subject didactics.



# Teaching & Learning for faculty, basic

Credits (ECTS)

Participants; nr of offerings

Basic Communication and Teaching for PhD students

3

~40; 6

Teaching & Learning in Higher Education for faculty

7,5

~40; 2

Research supervision training

3

~40; 2

Rules and regulations for examiners

2 hrs web-based ed

New and mandatory



<b>Selection of courses for faculty</b>	<b>Credits</b>
Grading criteria	1,5
Supervision of BSc & MSc theses	3
Leading educational change	3
Learning for sustainable development	4,5
Challenge-driven education	3
Gender and equality in higher education	4,5
Digital learning in higher education	4,5
Subject specific teaching and learning; course given “locally by local faculty” on dep/course/program level	1,5
<i>Enhancing Higher Education. 5 days’ workshop for international partners</i>	-

# Long-term & Holistic: Collaborative and cross-border arenas for education development at KTH





# Collaborative and cross -border arenas for education development at KTH – active arenas organized by dept of Learning

<b>Arenas for education at KTH</b>	<b>Frequency</b>	<b>est.</b>	<b>Open for all</b>
Program Directors' Network	2hrs/month	2012	no
Directors of Studies' Network	2hrs/month	2017	no
The Storträffen Meet -up	Once/semester	2016	<b>yes</b>
PriU-groups (prioritized -topic groups)	Varies	2016	<b>yes</b>
KTH SoTL (conference)	Every second year	2015	<b>yes</b>

# Prioritized Topic Groups ( PriU)

## Active PriU groups 2023

- Future learning environments & scheduling
- KTH teachers' lifelong learning
- Sustainable development
- Digitalisation
- Broadening recruitment
- Equality, diversity and equal rights
- Methods for assessment
- Student perspectives and influence



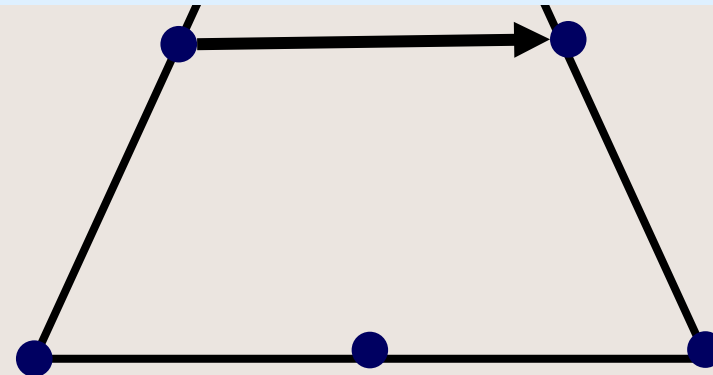
PriU-leaders: one from dept of Learning; one from other parts of KTH

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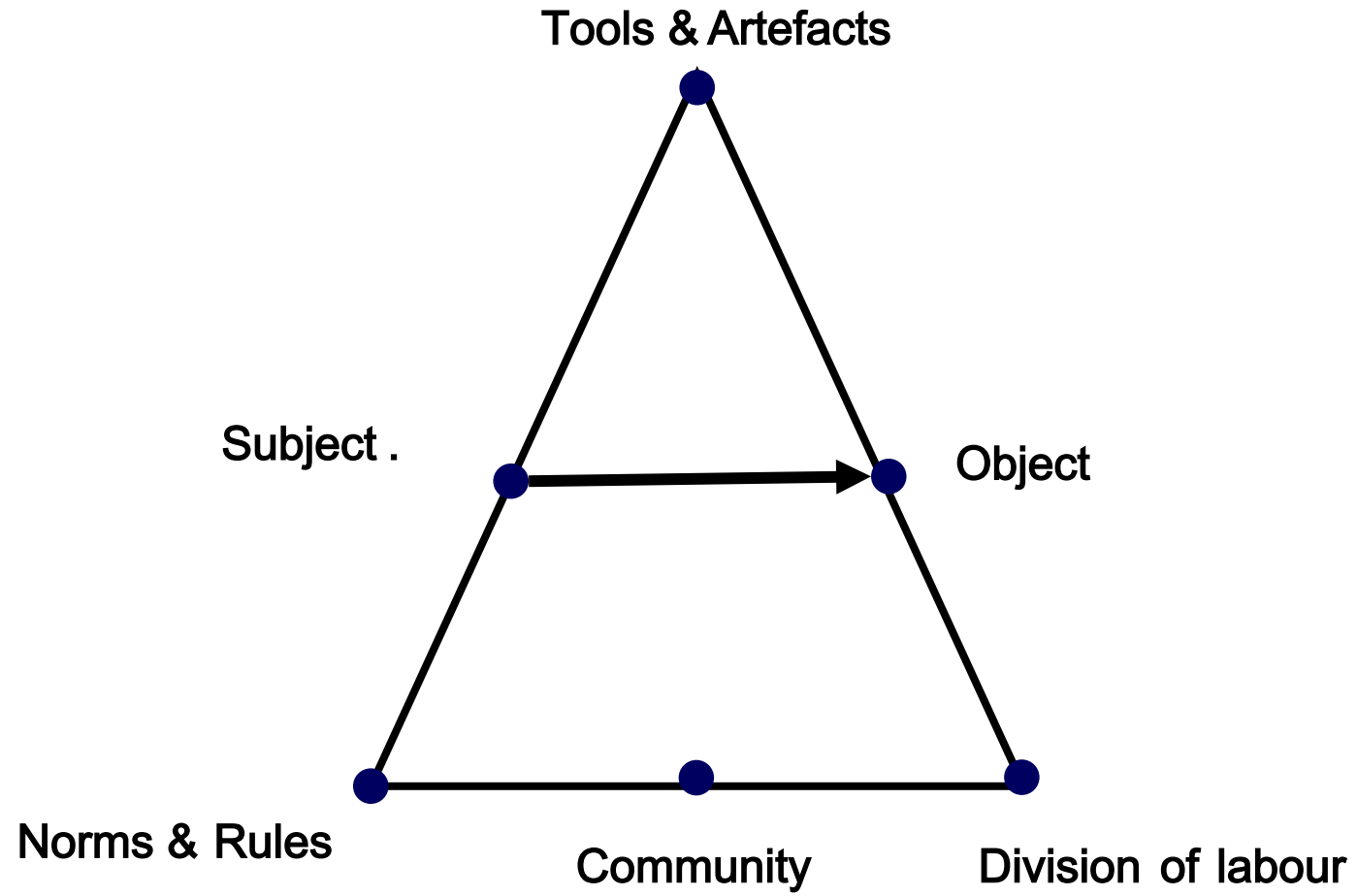


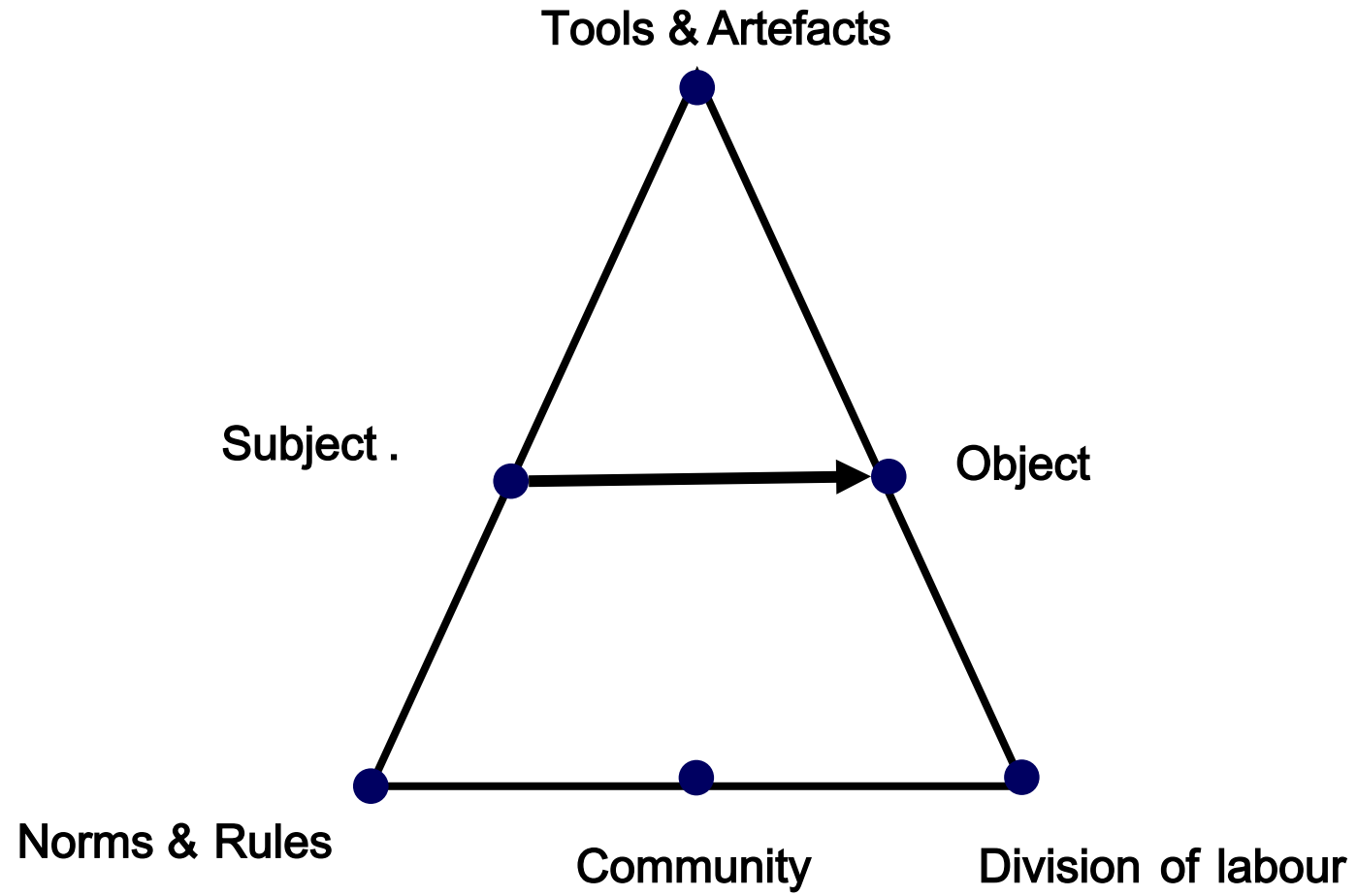
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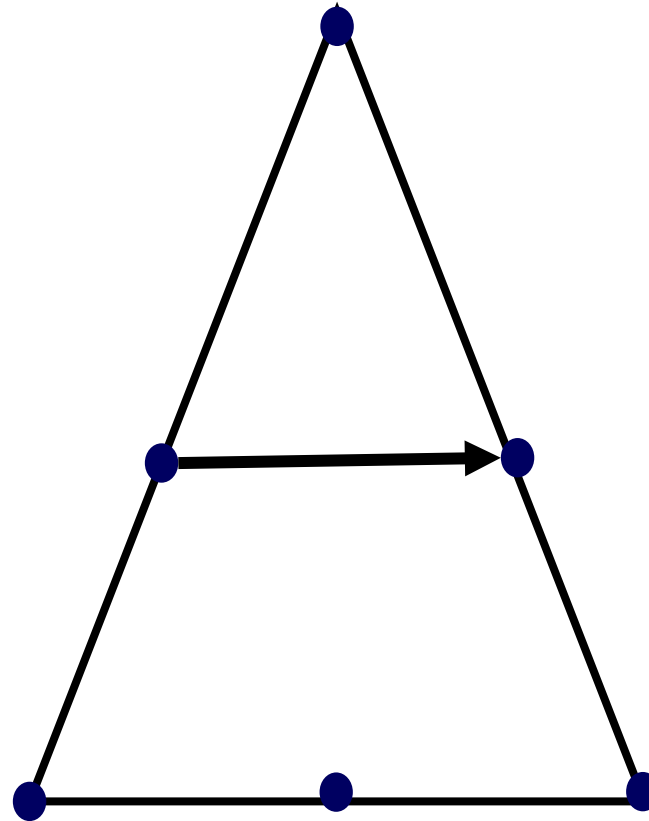




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