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**The Living Laboratory:**  
*'Basket of Options' Model*



# Why a LL?

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There is a shift in the social contract of universities

LL can play a central part in a greater transformations, (but not a silver bullet, e.g. can be time & resource intensive)

LL serve as an open invitation to those willing to experiment with an innovative approach

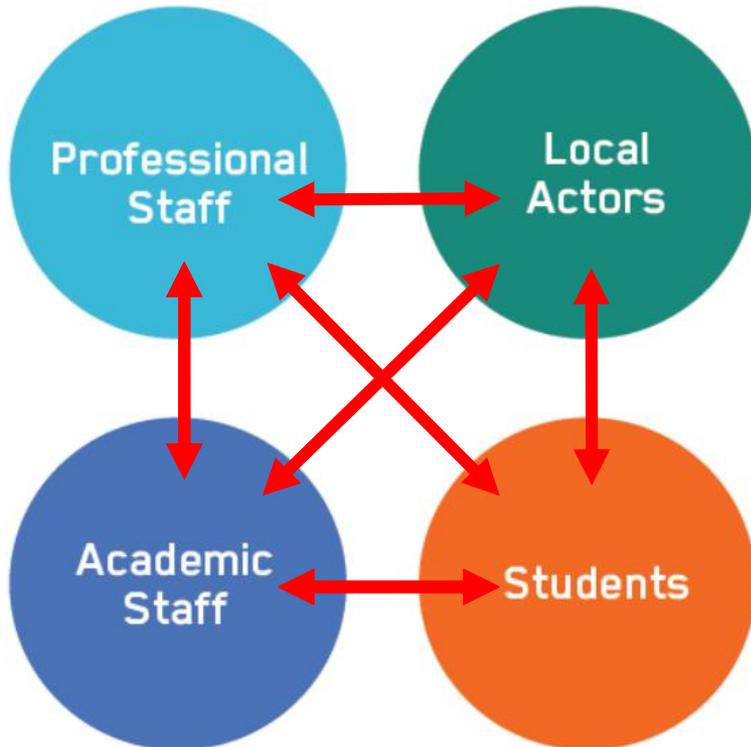
LL are flexible, and can be used in many different ways with different stakeholders (this presentation: student focus)

Aim to offer key benefits, or help overcome key challenges faced by stakeholders involved through mutually beneficial projects

# The 'Basket of Options Model'

	INSTITUTIONAL EMPLOYEES	INSTITUTIONAL PARTNERS
PRACTITIONERS	Professional Staff	Local Actors
ACADEMIC ACTORS	Academic Staff	Students

'Basket of Relations'



'Basket of Principles'



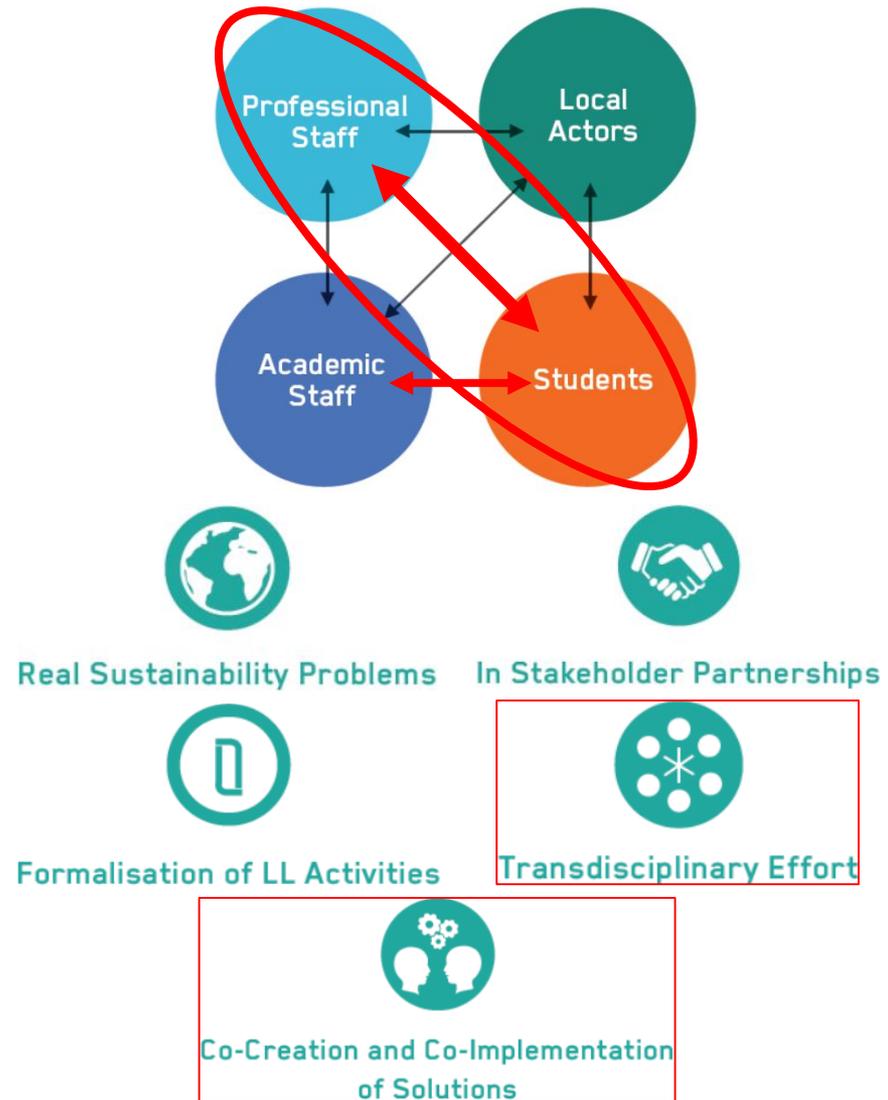
# Case Studies

Trigger: students conducted research on campus air conditioning through course: found significant CO2 and \$100,000s savings

LL approach researched & approved: on-campus projects to run through syllabus

Students design, install, start, monitor and study building system sensors/networks/controllers

LL extended: multiple courses & transdisciplinary projects involving teamwork



# Case Studies

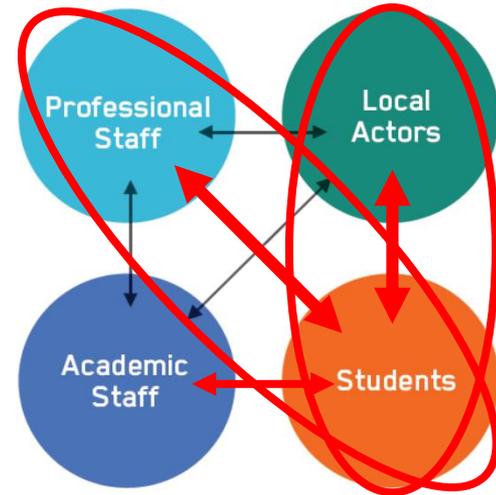


PennState

'Reinvention Fund': \$875,000 for staff & students campus as a lab sustainability projects

Community engagement extends LL work locally

Focus on **learning outcomes**. E.g: Student Farm & Sustainable Food Systems Minor



Real Sustainability Problems



In Stakeholder Partnerships



Formalisation of LL Activities



Co-Creation and Co-Implementation of Solutions



Learning Loops



Transdisciplinary Effort



Geographically Bound

# Case Studies

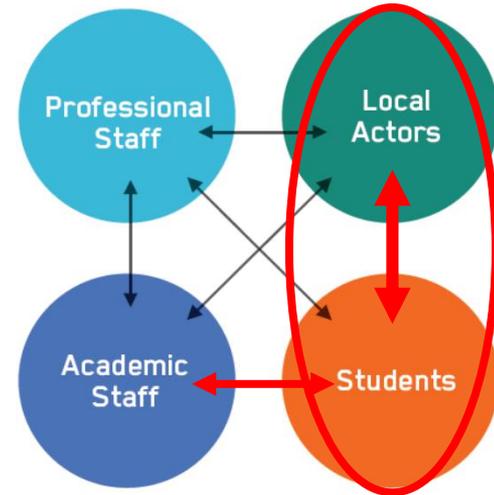


Students with freedom to design substantial part of their curriculum (professional profile)

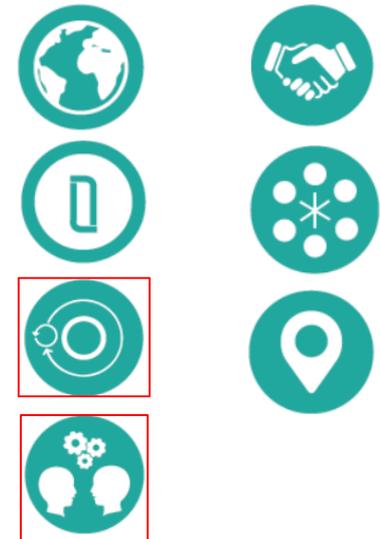
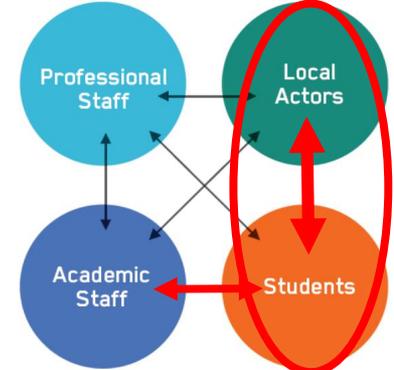
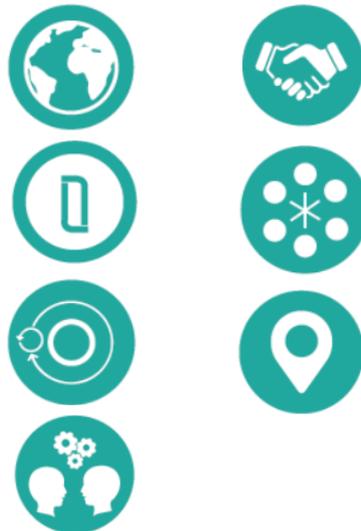
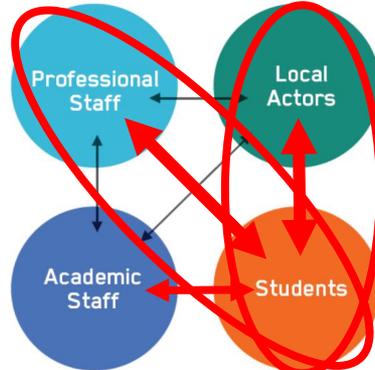
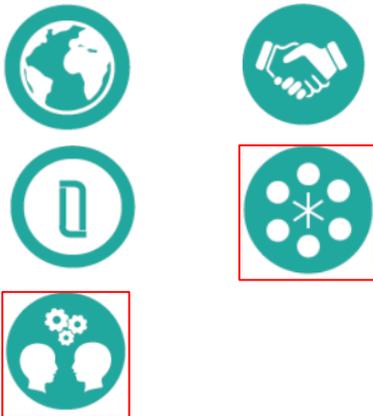
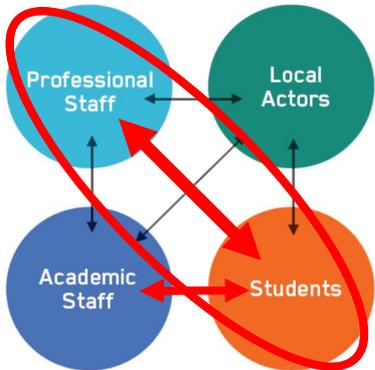
Capstone module: 'Transdisciplinary project'. 15 students, 2 lecturers, 1-2 teaching assistants, several local actors

2 term project with 'societal actor'(s), dealing with issues in city of Lüneburg

Three phases: (1) problem framing & team forming; (2) co-creation of solution oriented & transferable knowledge (3) reintegration of knowledge



# Case Studies Summary



# More Case Studies!

## Webinar 1



THE UNIVERSITY  
*of* EDINBURGH



UNIVERSITY OF  
CAMBRIDGE

## Webinar 2



UNIVERSITY OF  
TORONTO

**CBS**



COPENHAGEN  
BUSINESS SCHOOL

HANDELSHØJSKOLEN

## Webinar 3



Institute for  
Sustainable Solutions

PORTLAND STATE UNIVERSITY

**ETH** zürich

**ASU** SCHOOL of  
SUSTAINABILITY  
ARIZONA STATE UNIVERSITY

# More Case Studies!

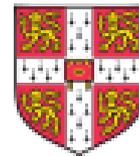
LL Event on 31<sup>st</sup> Jan



The University of Manchester



THE UNIVERSITY  
*of* EDINBURGH



UNIVERSITY OF  
CAMBRIDGE

UPCOMING: EAUC Annual Conference 28-30 Mar



**UNIVERSITY OF LEEDS**

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Webinar 4...?