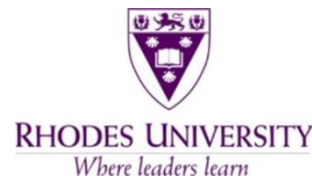


‘Learning about learning’: How do we prepare future professionals and researchers for knowledge co-production processes?

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Adaptation Colloquium 2016

Knowledge co-production and learning theme



INTRODUCTION AND BACKGROUND



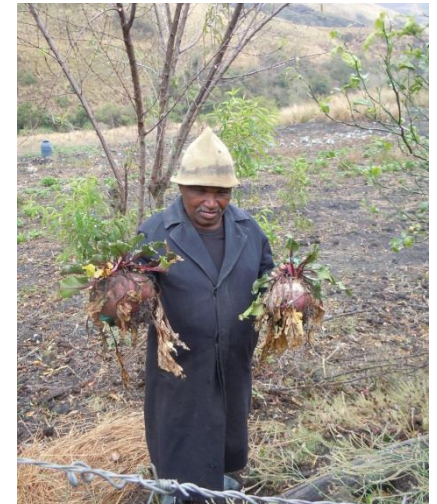
Introduction

- Need to **develop capacity** to support sustainable development, transformation/adaptation.
- Requires **new ways of knowing, learning and doing** which comprise, amongst others:
 - acknowledgement and **understanding of different knowledge systems** (formal, indigenous and lay) - how do these, together, contribute towards more useable knowledge/science?
 - **learning about knowledge co-production** - how do we engage with other academic disciplines and non-academic actors on specific problem areas and in the process create useable knowledge and change?
- So ..**how do we prepare graduates** for these new challenges and build their capacity to make a difference?
To be the integrative people needed.



Outline and purpose of talk

- To answer this, we will draw on several examples of student learning in relation to knowledge co-production.
- Our aim is to begin to answer the following questions:
 - how do we introduce students to the **need for knowledge co-production**, and what **theoretical background** is necessary?
 - how do we **facilitate skills and capacity building** in knowledge co-production processes?
 - how do we support postgraduate **research that uses learning processes for knowledge co-production**?
- Through this we hope to **open conversation on what theoretical and practical learning is needed to prepare future professionals and researchers** for engagement in knowledge co-production processes.



Why knowledge co-production and why does it need to be part of the academic programme?

- Rapidly changing world (Anthropocene) - new challenges and highly **complex problems** require **a holistic, systemic approach**, which means inputs from many **different perspectives**.
- Seeing **more stark inequities and gains** – current system of knowledge production and expert-driven processes are not working for all, and research does not adequately address **societal concerns and needs and equity issues**.
- **Transformation in the way we ‘do things’ is critical** - future sustainability will require unprecedented contributions from political leaders, civil society actors, businesses and researchers working together across scales (Clarke et al. 2016).

Why knowledge co-production and why does it need to be part of the academic programme?

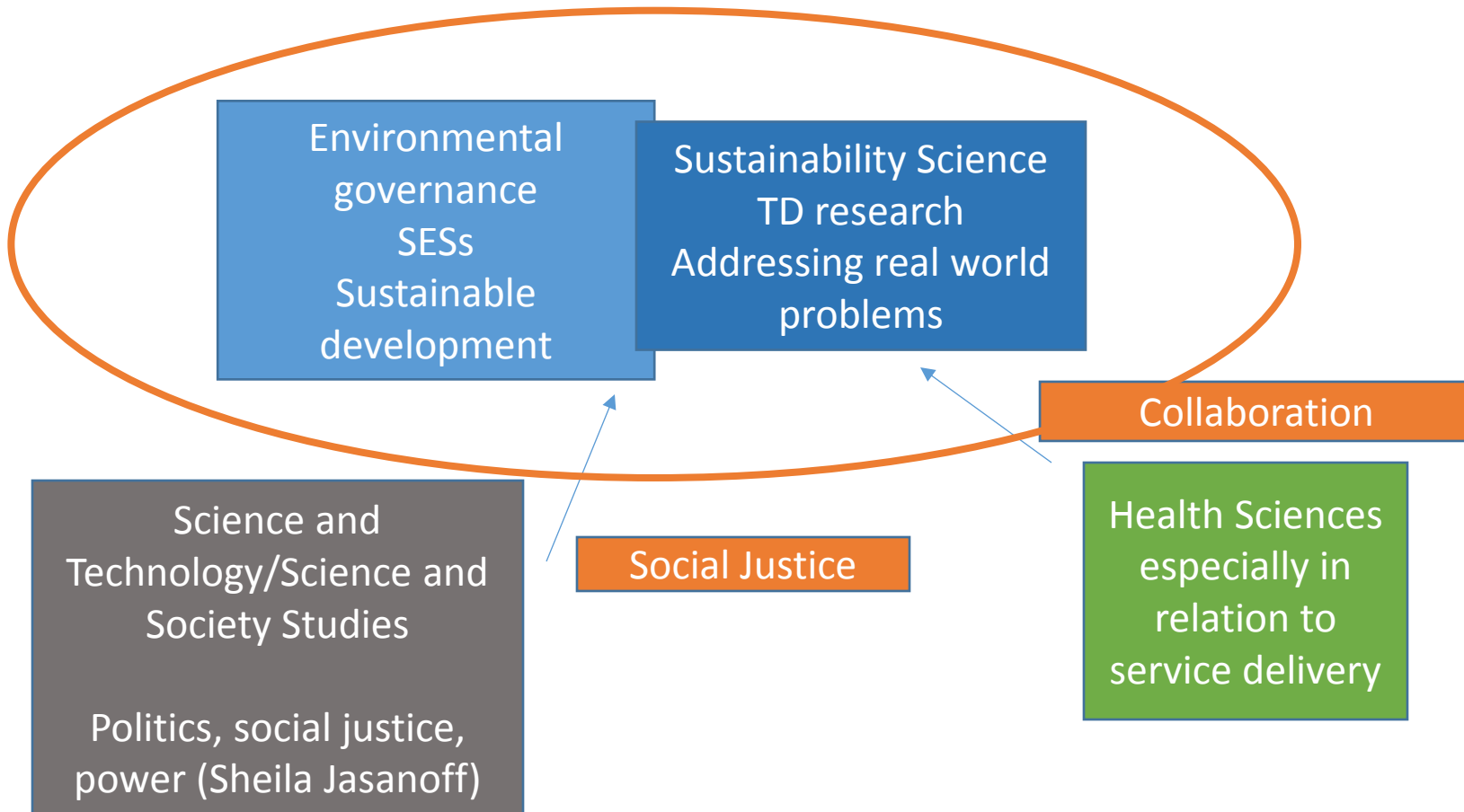
- **Adaptation means changing practices in the context of much uncertainty.**
Requires **trust** between knowledge holders – **blending of TK** (with its grounded, place-based emphasis) and western **scientific knowledge** (which may include new technologies).
- So..... seeing an increasing questioning of how we generate knowledge and how this knowledge is used and suggestions for new ways of doing science.

Science in the service of society

Need to start asking '**what we know**', '**how we know**', and **whether the 'how' is the right kind of 'how' for the problems of today**
(Burt et al. 2016 – TD course notes).

What do we mean by knowledge co-production?

A Scopus search on “knowledge co-production” revealed a range of recent literature on this issue emerging from different areas of study.



What do we mean by knowledge co-production?

- **Inclusive iterative approach** of creating new information **with societal actors** to develop an integrated and **transformational** understanding of a sustainability problem.
- Both a **governance strategy** and **research method**.
- Sees **boundary between science and policy**, or between facts and values, as **porous** or even artificial.
- The **collaborative process** of bringing a **plurality of knowledge sources** together to address a defined problem and build an integrated or **systems orientated** understanding of the problem.
- Involvement of actors outside of academia in order to integrate the best available knowledge, **reconcile values and preferences**, as well as **create ownership for problems and solutions options**.

Elements of Coproductive Capacity

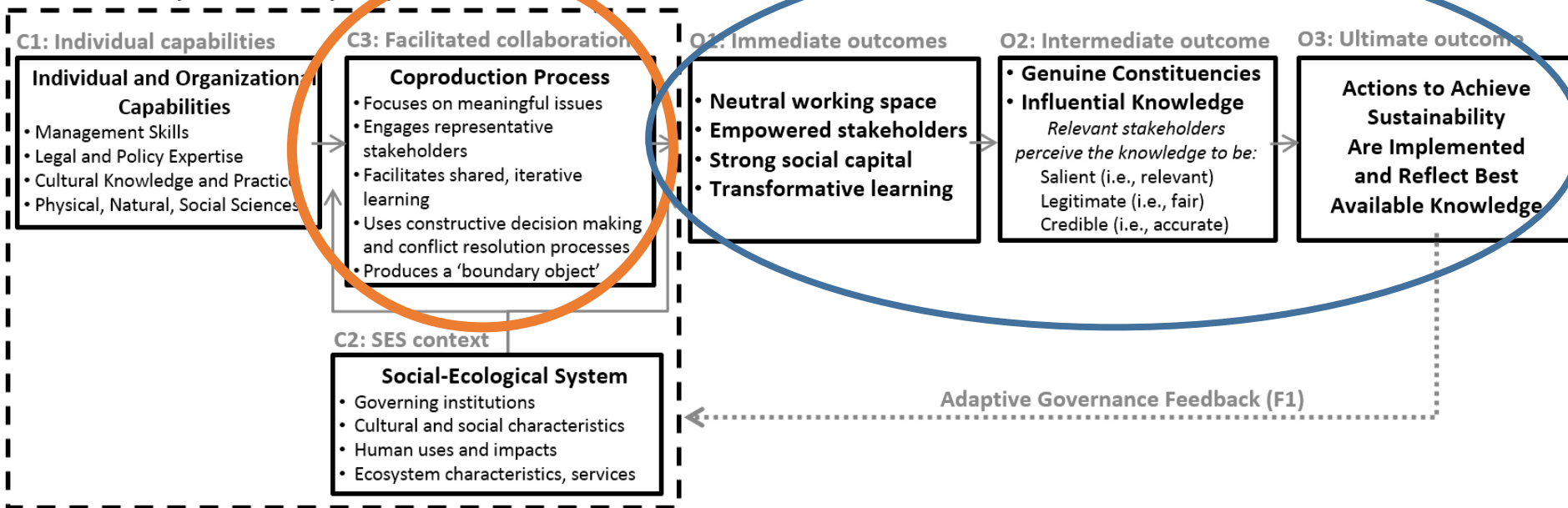


Fig. 1. Conceptual framework that specifies the sequential goals of knowledge coproduction (identified as O1-O3) and potential sources of co-productive capacity (C1-C3).

Some keywords related to knowledge co-production

PRINCIPLES

Democratic

Reflexivity

Empowering

Contextualised

Inclusion and
appreciation of
diverse knowledge
systems

Equal partners

APPROACHES/ METHODOLOGIES

Shared
frameworks

Bridging/blending
knowledge

Involvement in
all stages

Collaboration

Boundary work

Action research

(Social) learning

PAR/PLA

OUTCOMES

Influence on
research process
and outcomes

Changing practices

Action and
transformation

Salient-credible-
legitimate
knowledge

Usable
knowledge

New ways of
viewing world

So what does this all mean for the academic programme and training?

- Call for **'bigger, better more formal training in this area** (Clark et al. 2016).
- Most students have only experienced **knowledge delivery and extraction** – need them to view **other actors as knowledge holders** with whom they can embark on a **journey of knowledge co-production**.
-therefore need **imaginative and courageous efforts (experimentation) within the higher education sector to equip graduates** to be at the forefront of addressing complex problems through **processes that involve broader society**.



EXAMPLES FROM OUR EXPERIENCES
INFORMAL/INFORMAL;
RECENT/MORE ESTABLISHED

Introduce basic concepts at undergraduate level – start to change thinking (ENV 201/301 RU)

- Transdisciplinarity, complexity, couple human-environmental systems
- Appreciation of other forms of knowledge - IK, TK, LEK
- Worldviews and values
- Citizen science
- Adaptive management/co-management

Specific modules but also themes that run through all of our courses

SECOND YEAR EXAM RESPONSES (SOME GEMS!)

"Scientists are not the most charismatic people, which can lead to trust and communication issues"

"Scientists always feel superior to normal citizens"

"Academics may think they know everything, which may be wrong"

Introduce participatory approaches at Honours level

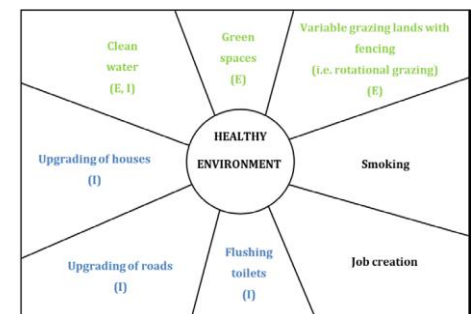
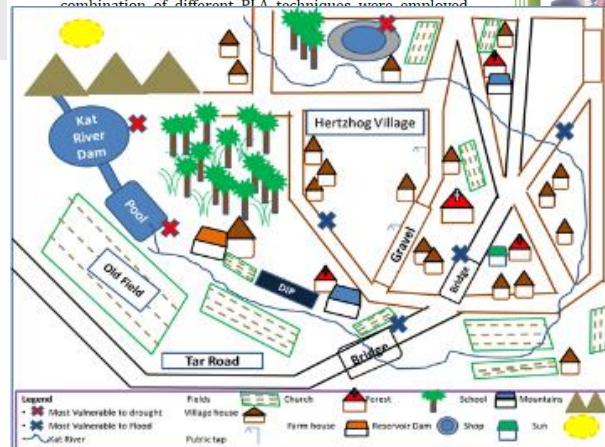
- Introduce use of PLA/PAR
- Encourage outputs that can be used by stakeholders
(DRR Provincial Dept Land Affairs used student reports from 2014 and then worked with us for other land reform farms)
- Community engagement and service learning
- (Module on social learning)

Summary Reports of 2015 class - now being used by community to motivate for a bridge

COMMUNITY PERCEPTIONS OF CLIMATE CHANGE AND MULTIPLE STRESSORS in Hertzog Village, Eastern Cape *Rhodes University: Department of Environmental Science Climate Change Adaptation Honours Module 2015 Report 1*

This document reports on findings from a participatory workshop held in October 2015 in Hertzog village in the Kat River Valley. The workshop was conducted by members of the Department of Environmental Science at Rhodes University, as part of an Honours year module on Climate Change Adaptation, together with members of the Hertzog community. The aim of the workshop was to explore how the community perceives climate change and multiple related stressors, and what coping strategies they employ to deal with these stressors.

The methods employed in the workshop were based on Participatory Learning and Action (PLA) approach, and a combination of different PLA techniques were employed.



Provide special training workshops/short courses for postgrads and other researchers (e.g. RU TD workshop)

- Limited course-based exposure to TD practice at RU
- 35 participants from: Chemistry, Fine Arts, Botany, Biotechnology, Geography, Environmental Science, Music, Journalism and SAAIB as well as outside Rhodes University.
- Run by TD group which included postgrads, with external “expert”.

Calling all Postgraduate Scholars

TRANSDISCIPLINARY RESEARCH

LABORATORY TRAINING WORKSHOP

Do you want....

- ... to do research that addresses real-world problems?
- ... your research to be relevant to society?
- ... to find new ways of working across disciplines?
- ... to explore ways to integrate different types of knowledge?
- ... to learn more about complex systems thinking and how this can inform your research approach?

Come and join us for a 2-day exploratory workshop on Transdisciplinary research approaches

RHODES UNIVERSITY: 10-11 MAY 2016

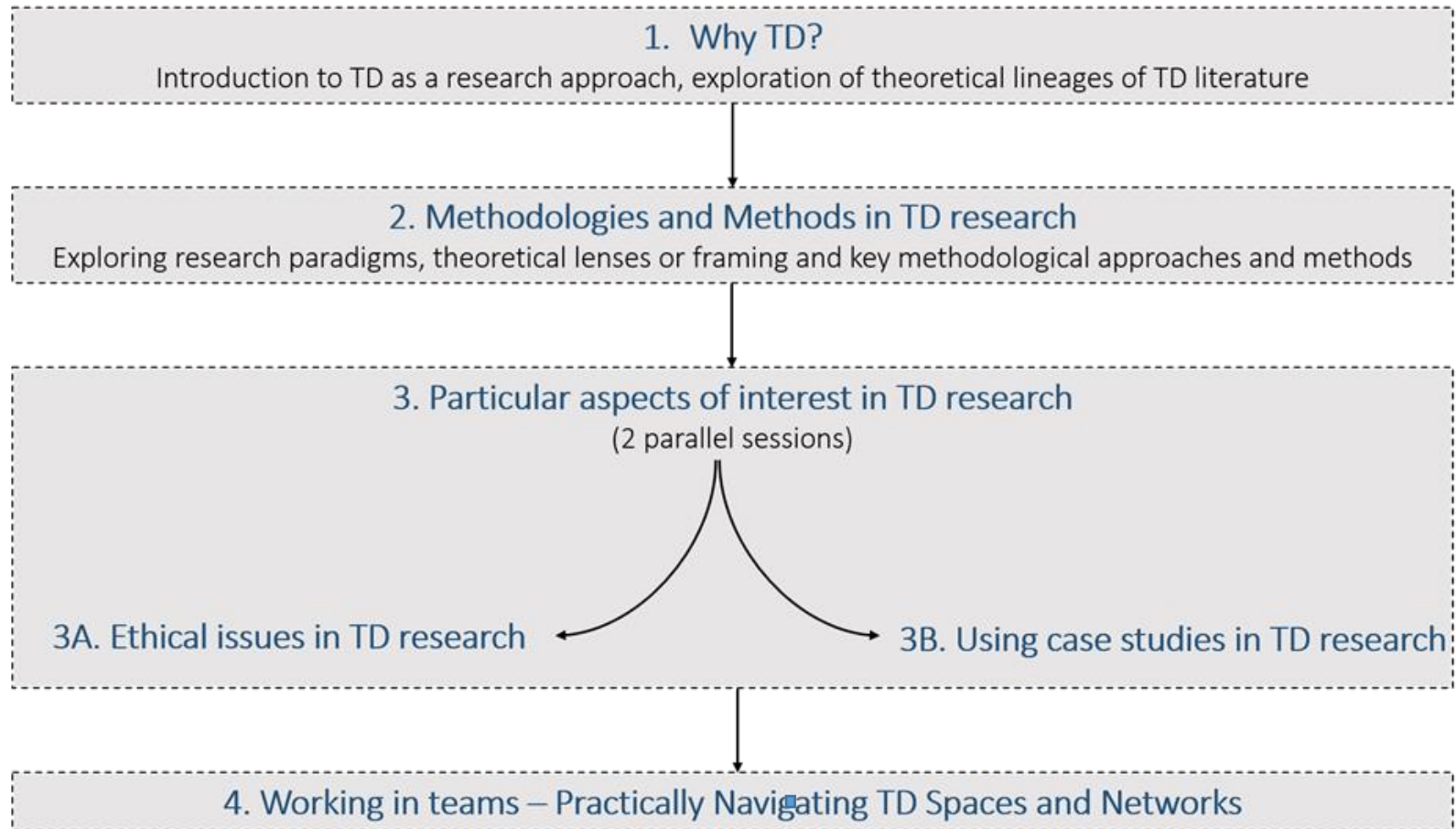
Hosted by the Centre for Postgraduate Studies in collaboration with the RU Transdisciplinary Research Group

There is no charge for the workshop, it is open to all postgraduate students at Rhodes University. Applications will be considered on a first-come-first-served basis. For application forms or further information please email Varonique Sias with the subject line 'TD Workshop May 2016': v.r.sias@ru.ac.za or cps@ru.ac.za. For further info and programme outline see: <https://www.ru.ac.za/postgraduategateway/>. Applications close Fri 29th April

 **RHODES UNIVERSITY**
Where leaders learn

Outline of workshop sessions

Interactive



The approach included lectures or presentations, group interactions, role play, theatre play, discussions, reflection time and embodied exercises.

Coproduction
Role play of water supply issues in a municipality as way of learning about approaches/ dynamics and discomforts in these processes

TD Training Workshop

“I enjoyed the rich engaged discussions that emerged from the sessions.”

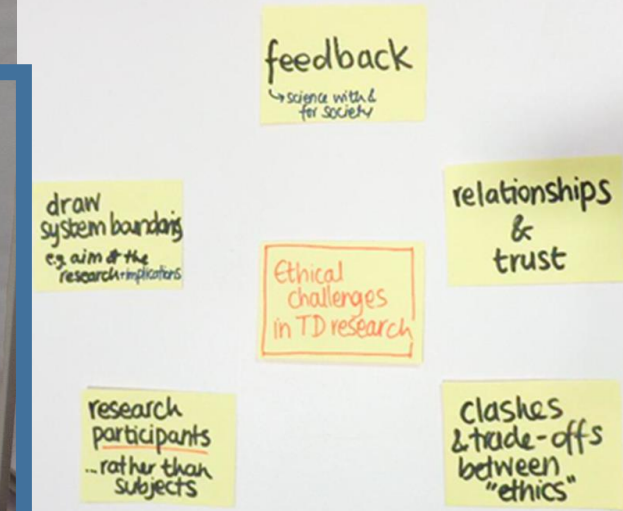
“TD trains one not only to be an academic but also a practitioner.”



Characteristics of TD which have particular ethical implications

- ▷ Who are the research participants?
- ▷ Integrating a range of methods

- ▷ It's not just an individual endeavour
 - ↳ include an array of disciplines & people (participants).
 - ↳ process of co-producing knowledge
- ▷ It's a ^{→ ethics: politics of teams} collaborative journey which is co-initiated - but open to changing the team → flexibility
 - ↳ define a problem together
 - ↳ new ways of looking

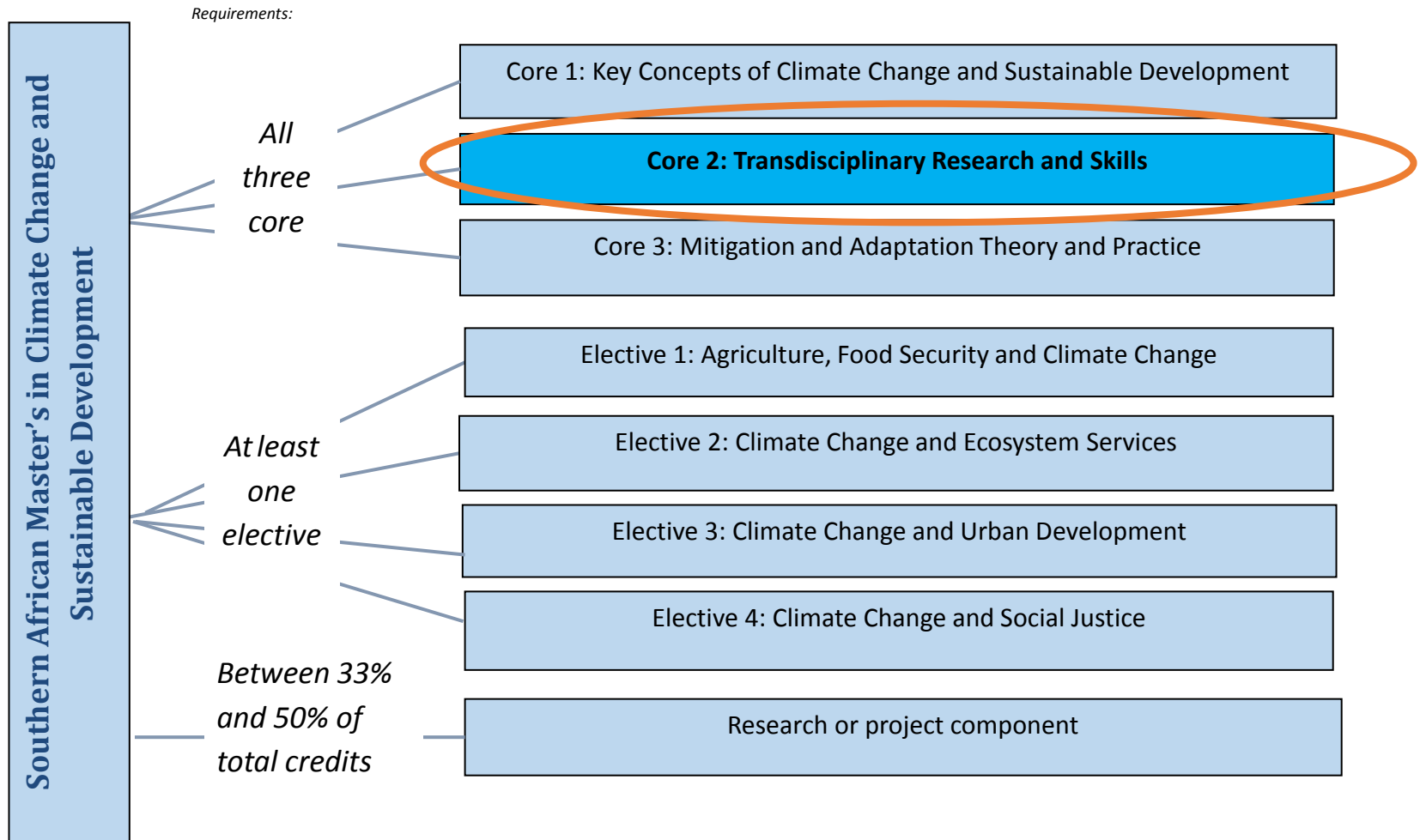


Integrate formally into curriculum (E.g. SARUA MSc course led by ACDI)

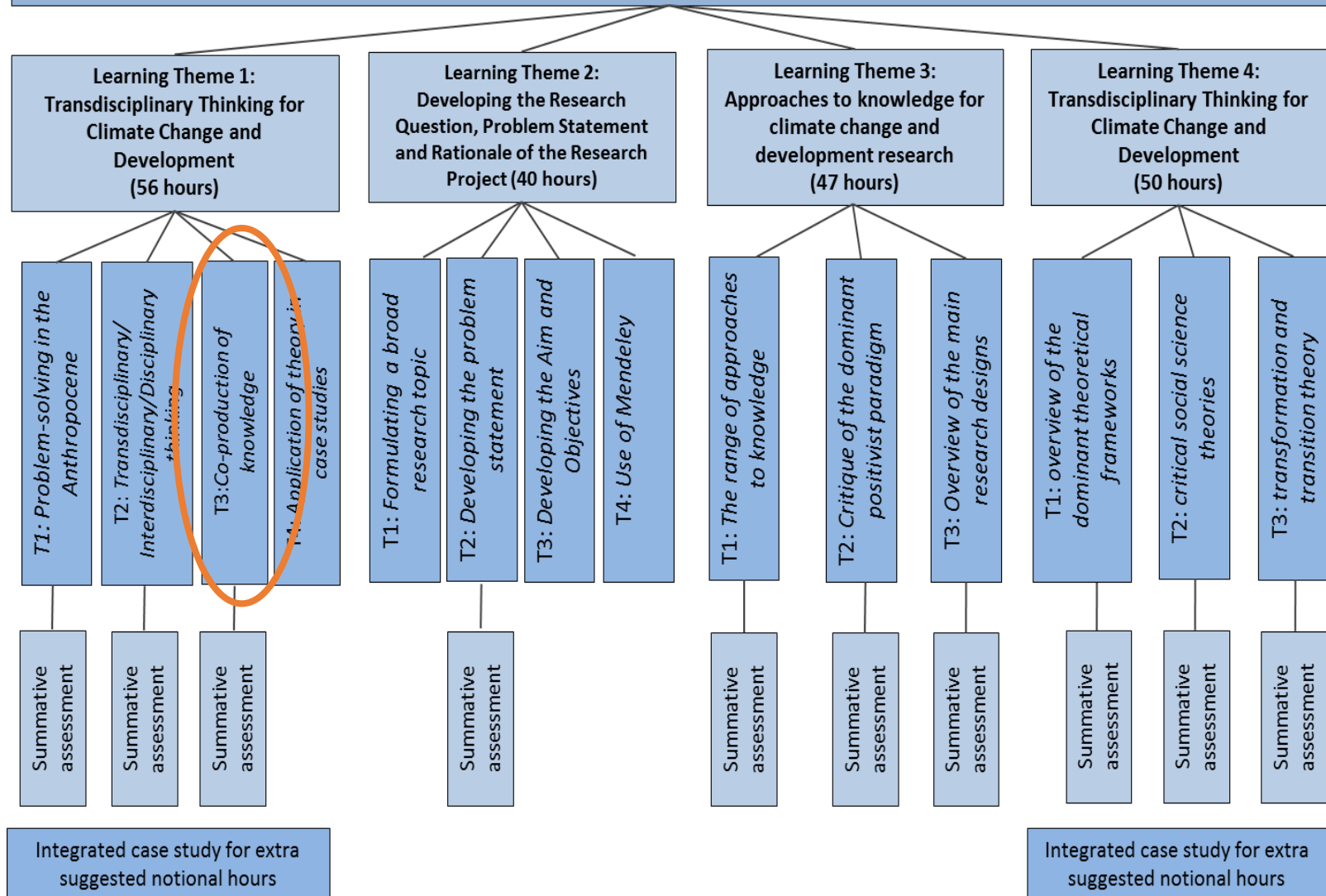
- The SARUA Master's in Climate Change and Sustainable Development
- 'Curriculum' is generally used to refer to the syllabus – the list of topics, *subject content* and *skills*, the manner of *teaching* and the *assessment* that is followed.



Option 2: Transdisciplinary Thinking and Skills



Transdisciplinary Thinking and Skills



CORE 2, Theme 3: Transdisciplinary Thinking and Skills, Co-production of Knowledge

- One of the more theoretical modules in the curriculum.
- Emphasises the development of *TD competencies* - the **knowledge, attitudes and skills** that enable successful problem solving with stakeholders



Includes: What we mean by knowledge co-production and importance of citizen, local and indigenous knowledge, highlighting this through case studies

Outcomes: Understand the basis and value of different knowledge systems and appreciate the necessity for incorporating a wide range of views

Understand use of co-produced knowledge in policy and decision making and in practical implementation

Challenge the ‘conventional’ research process; re-orientate how we do research with postgrads

- Need to see research “**as a social and political process, not just discovery**, this highlights the moral and ethical dimensions of **working with people** whose lives are affected” (Clarke et al. 2016)
- This needs to be built into large research funding proposals –
 - **budget for social learning and community engagement** processes
 - **budget for additional ways to support postgrads** in TD research.

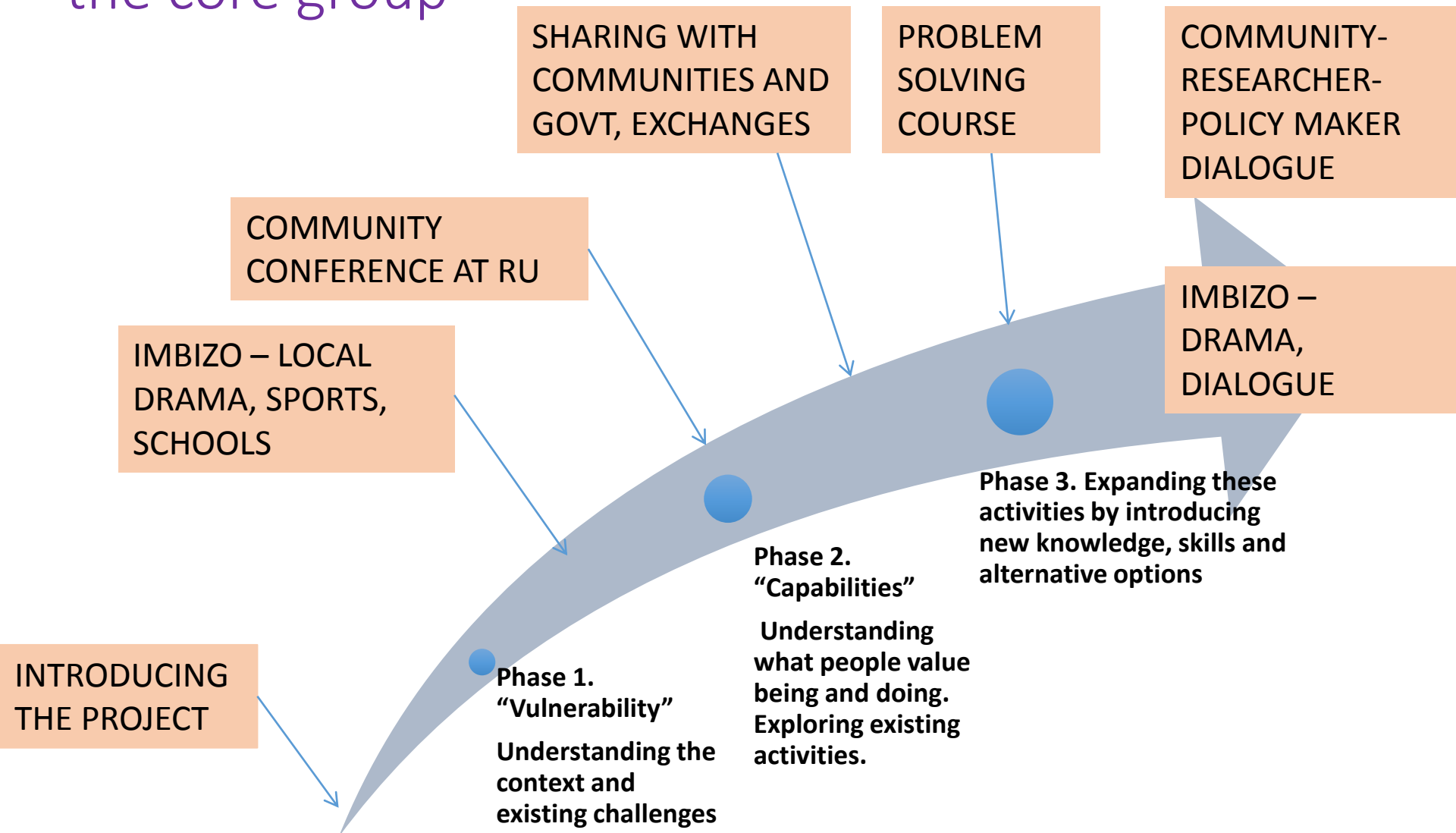


IDRC project on vulnerability and adaptation to multiple stressors

- ‘Formal’ social learning process with a core group of participants – parallel to research process with **constant feedback** between researchers, facilitators and members of SL group.
- Students were involved in many of the steps and all the imbizos.

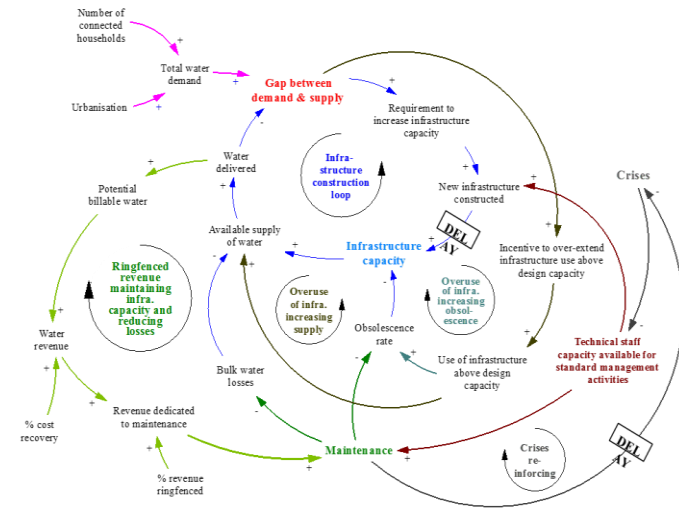


Moments of expansion: knowledge sharing beyond the core group



Working groups for sharing and learning amongst researchers and postgrads (e.g. RU TD group)

- Started in 2011 by Tally Palmer – involves several Depts.
- Focussed at interface between society and the environment, and draws on views of transdisciplinarity as theorised by Max-Neef (2005) and Bhaskar (2010) on critical realism.
- Meets for two hours per month.
- Each meeting is chaired by a specific researcher (both staff and student researchers), who either present a project or facilitate a discussion on a particular theme.
- Moving into a new mode of supporting more ‘training’.

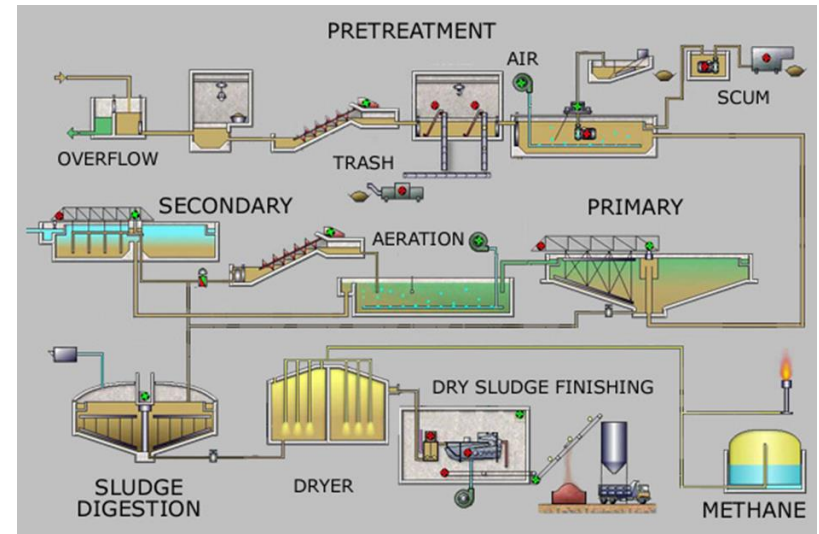


Model as a
boundary
object

Working groups for sharing and learning amongst researchers and postgrads (e.g. RU TD group)

Aims to:

- **support** post-graduate students.
- provide a **'safe' space** for discussion with the end goal of **strengthening TD practice** and the TD network at RU. Adopted guidelines for engagement.
- constantly **reflect** on: are we really doing TD research? Are we succeeding in knowledge co-production?



Schematic process
diagram as a
boundary object

Some final take home messages

- **Ethics of co-production** and how we train around this needs much more attention. **E.g. role of researcher in these processes** – power of different voices, etc.
- We need to keep **pushing the University system** for those disciplines where TD and knowledge co-production are important and to experiment.
- More learning about **cutting edge learning theory** as per Heila's talk.
- We need not just training of students but **training of teachers/lecturers** (e.g. in SARUA case).
- We need to find ways to build in **internships** (especially with NGOs).
- We should **expand short courses** such as our TD workshop.
- Need **case studies** that can be used in formal training – **mentioned – e.g. KZN case and learn from others – need to write up experiences** (database?)

Acknowledgements

- Members of the RU TD group and TD training workshop facilitators.
- Members of the SARUA Curriculum Development team.
- Staff and students of RU Environmental Science

Thank you for your attention and looking forward to the discussion!