Inter- and Transdisciplinary Research for Global Health

Course Guide

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Course Coordinator: Dr. B. J. Regeer, Dr. M.E. Arentshorst
Lecturers: Prof. Dr J.G.F. Bunders, Dr. B.J. Regeer, Prof. Dr. J.E.W. Broerse and others

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Course Overview

Global health issues are often very complex. They can be rooted in deep organizational, political and social issues that involve many different actors, all with their own perspectives. For this reason, global health problems are often called 'wicked' or 'persistent' problems. Increasingly, the field of global health research is recognizing the importance of defining these problems through the eyes of all actors involved. This implies that multiple approaches, fields of science and frames of reference are integrated to build specific, practical, experiential and scientific knowledge about the problem with those directly confronted with the problem. An *interdisciplinary* research approach, that aims for integrated knowledge generation is essential to do justice to the multifaceted nature of global health problems, Moreover, *transdisciplinary* research is rapidly becoming a key paradigm in global health.

Transdisciplinary research is distinct from mono-, multi- and interdisciplinary research. It integrates knowledge from different scientific actors with the experiential knowledge of societal actors (e.g. patients, health professionals, NGOs, government, industry, and international organizations), jointly involving scientists and societal actors in defining problems and identifying and implementing interventions through mutual learning and co-creation. This new approach to global health research does come with some challenges. Among the challenges, transdisciplinary researchers must integrate various different knowledge cultures, incorporate actors needs and feedback, all while ensuring safe and open venue for mutual learning and co-creation.

In this course, PhD candidates will be exposed to, and will practice key skills within the design and implementation of inter- and transdisciplinary research. They will acquire a grounded understanding of epistemological cultures and how knowledge value systems can challenge mutual learning. During the course, PhD candidates will use a case study format to redesign a mono- or multidisciplinary research agenda into an inter- or transdisciplinary research agenda. This will ensure practical exposure to stakeholder analysis, critical stakeholder feedback, and careful stakeholder communication skills before participants design and build their own PhD research proposal.

This course consists of three parts. The first part concerns the preparatory reading before arrival in Amsterdam. Part two will be held at the VU University, Amsterdam and includes lectures, workshops and work with a Case Study. The third part comprises several (part time) weeks of distant learning in which relevant literature is studied and a reflection document is written on the relationship between the acquired knowledge and the candidates research proposal.

Learning Outcomes and Objectives

The primary aim of this course is to prepare PhD candidates for a PhD project using an inter- or transdisciplinary approach. The course reading, discussions, and assignments will form the input for a transdisciplinary research plan for the upcoming years.

The student will obtain in-depth knowledge and insights into:

1. Theories and different methodologies for inter- and transdisciplinary research;
2. Strengths and limitations of this type of research, also in comparison with other research methodologies;
3. Evaluation of interdisciplinary and transdisciplinary research (using quality criteria).

The student will learn to:

4. Independently select and combine research methodologies and techniques for interdisciplinary and transdisciplinary research;
5. Design and implement an inter- or transdisciplinary research plan.

Target group course

PhD candidates that aspire to conduct inter- or transdisciplinary research in the field of health and life sciences. Mandatory course for Erasmus Mundus Trans Global Health PhD candidates.

Study load

The total study load of the course is 160 hours of which 80 hours are covered in Part I in Amsterdam. The remaining 80 hours are done by self-study, partly before, and mainly after the visit to Amsterdam in September.

Individual Course Activities

Part I Candidates prepare by reading the mandatory reading (see appendix I) and reading their choice of the selected reading (see appendix I).

Part II In addition to the course lectures and workshops, candidates will be assigned individual work to prepare for the next day, or make reflections and conclusions of the day. These activities consist of course readings, reflections and the development of participants' individual external brain.

Part III Candidates are required to conduct more in-depth reading in the area of inter- and transdisciplinary research and write a reflection document on the relationship between the acquired knowledge (from lectures and reading) and the candidates' research proposal. Feedback on this document is provided by a peer-participant and the course coordinators.

Course Readings

Preparatory Course Reading

The course reading list is divided into three categories; mandatory reading, topic specific reading and select reading, to be prepared before Part II starts. From the 'Select Reading' list, candidates will be expected to read 3 of the articles suggested. These mandatory and selected readings will stimulate our collective learning and the depth of the discussions. Lastly, 'Topic Specific' reading is also mandatory and will be independently selected by each student, according to their research topic.

Assigned Course Reading

Periodically throughout the course, additional reading will be assigned. This reading will complement the workshop activity or lecture. Assigned readings will be communicated to the students via email before lectures.

Reflections

Through the process of reflection, the learning stimulated in this course can be applied to academic development. Throughout the course, you will be asked to consider a question and write a 400 word reflection. The intention is to tie the content of the course to your own research context. Reflections may, and are encouraged to generate more questions, curiosities, and plans. Through this process you are encouraged to keep those elements of learning in your external brain.

External Brain

Throughout the course, information, systems, frameworks, institutions and inspirations will be presented to you. No one should be expected to keep the diversity and depth of information ready and available. Rather, it is necessary to develop a record of your ideas, curiosities and resources in an organized, searchable and recallable way. To develop and practice this skill, candidates will be asked to contribute to an ever-growing resource: your 'External Brain.'

The 'External Brain' should be suited to fit your own tailored needs. Therefore, we will be using Trello as a dynamic collaboration board for you to store and share the knowledge you collect. The Athena

Institute and your course coordinators will maintain their own external brain throughout the course. Allowing you to access course content, resources and slides. Additionally, the Athena board will keep a record of the course learning questions. Allowing candidates to collaboratively address answers and solutions to learning objectives together. We encourage that you then take the information you need, and adapt it to your own Trello board.

Trello: www.trello.com (you will be invited to join trello)
VU Trello Page: t.b.a.

Collaborative Course Activities

In addition to the course work and the individual work, candidates will be engaged in collaborative course activities as well. These actives include case studies and peer feedback.

Case Studies

To gain operational knowledge of transdisciplinary and action research perspectives and methods, work groups will be created to explore and redesign existing research programs as a case study. Within your work groups, ideas throughout the course will be integrated into an analysis and revision of previously conducted research. In the first two sessions, each group will collaboratively apply key elements of transdisciplinary and action research, including: a) stakeholder analysis, b) participatory methodology and c) collaboration. This will culminate in a draft revision of the existing case as a transdisciplinary or action research program.

Once a new research program is made, individuals (from other work groups) will give individual feedback on the revision. Then, with these revisions in mind, members of the work groups will integrate the individual feedback into a final research program. This process will provide direct experience with the demands of integrating perspectives, accommodating stakeholders and collaborative idea development.

Work groups will be selected based on the case study that is most interesting or most closely resembles the style of research you will be conducting for your PhD. Case study options include research in the areas of:

1. Intervention research
2. Innovation research
3. Policy research

Peer Feedback

In order to support each other in the process of preparing an inter- or transdisciplinary PhD proposal, several rounds of peer review have been scheduled, both in Part II and Part III. In the first round of peer review, candidates will reflect on each other's research plan by way of a "yes, and" workshop in Part II. Receiving feedback on your proposal pitch will also take place in Part II. Finally, in part III, your reflection document will be reviewed by your peers as well as the course coordinators.

Preparation

Preliminary Course Reading (20 hours)	
In preparation for the course, candidates are asked to read: - mandatory reading list - 3 articles of the select reading list - 10-15 topic specific articles and complete the following: • Reflection 1: Learning Questions • Bibliography.	-------- Before Course Start -------- **Reflection 1: Learning Questions** After completing the mandatory and selected reading, generate 5 learning questions regarding inter- and transdisciplinary research that will guide your personal learning agenda over the course. Bring these five questions to the first class. **Bibliography** Create a formatted bibliography of the 10-15, topic specific literature you read in preparation for your proposal and this course.

Appendix I Reading List

(literature will be made available through wetranfer)

Mandatory reading (before Part II)

Regeer, B.J. and Bunders, J.F.G. (2009) *Knowledge Co-Creation: Interaction between Science and Society. A Transdisciplinary Approach to Complex Societal Issues* (RMNO/COS, Den Haag)
http://www.treccafrica.com/assets/Bunders%20and%20Regeer%20%282009%29%20Knowledge%20Co-Creation.pdf

Pisani, E. (2008) *The wisdom of whores. Bureaucrats, Brothels and the Business of AIDS*. Granta Books, London

> *This book shows the diversity of research approaches used in global health, ranging from epidemiology to ethnography and action research and the necessity of combining these. Although reading this book is not a prerequisite for understanding the literature about inter- and transdisciplinary research, we consider it well-written, highly recommended background reading, putting some flesh on the more abstract notions that feature in this course.*

http://getalifephd.blogspot.nl

> *Please browse through Tanya Golash-Boza's blogs on academic life, including tips on conducting literature reviews, combining interviewing and writing, etc. (go to archive on right hand side, first scroll down)*

Topic specific reading (mandatory, before Part II)

For this course you will be asked to read 10-15 articles in your topic area before Part II starts.
When searching for topic specific literature, consider the following guiding questions.

- What is known about this problem?
- Where is it a problem, and for whom?
- Why is it a problem?
- What has been done about this problem?

Select reading (read at least 3 articles before Part II)

The course will cover a range of topics for which we provide a selection of literature. Literature marked with an *asterix is strongly recommended if you are not quite sure where to start.

Introduction Transdisciplinary Research

Frodeman, R. (2010). Introduction. In: Frodeman, R., Thompson Klein, J., & Mitcham, C., The Oxford Handbook of Interdisciplinarity. Oxford, Oxford University Press, 2010

*Pohl C. & Hadorn G.H. (2008) Methodological challenges of transdisciplinary research. Natures Sciences Sociétés. 16:111-121. http://www.nss-journal.org/articles/nss/pdf/2008/02/nss8204.pdf

Thomson Klein, J. (2010). A taxonomy of interdisciplinarity. In: Frodeman, R., Thompson Klein, J., & Mitcham, C., The Oxford Handbook of Interdisciplinarity. Oxford, Oxford University Press, 2010

Nowotny H. (2004). The potential of transdisciplinarity (from worldfishcenter.org)

http://www.helga-nowotny.eu/downloads/helga_nowotny_b59.pdf

Stock, Paul, and Rob J.f. Burton. (2011) Defining Terms for Integrated (Multi-Inter-Trans-Disciplinary) Sustainability Research. Sustainability 3 (8), 1090-113. http://www.mdpi.com/2071-1050/3/8/1090

Madni A. M. (2010). Transdisciplinary System Science: Implications for Healthcare and Other Problems of Global Significance. Transdisciplinary Journal of Engineering and Science. 1:33-47. http://www.usc.edu/dept/engineering/sae/Publication/2010a-Madni-Transdiciplinary%20Sys%20Science-Dec%202010-ATLAS.pdf

Epistemic Cultures

*Knorr-Cetina, K. (1991). *Epistemic Cultures: Forms of Reason in Science.* History of Political Economy 23 (1): 105-122

Regeer, B. and Bunders, J. (2003). *The Epistemology of Transdisciplinary research: From Knowledge Integration to Communities of Practice*. Interdisciplinary Environmental Review. 5(2):98-118

Stock, Paul, and Rob J.f. Burton. (2011) *Defining Terms for Integrated (Multi-Inter-Trans-Disciplinary) Sustainability Research.* Sustainability 3 (8), 1090-113. http://www.mdpi.com/2071-1050/3/8/1090

Complex problems

Hisschemöller, M. and Hoppe, R. (1996) *Coping with intractable controversies: The case for problem structuring in policy design* Knowledge & Policy 8(4): 40. http://link.springer.com/article/10.1007%2FBF02832229#page-1

Rittel, H.W.J. and Webber, M.M. (1973) *Dilemmas in a general theory of planning* Policy Sciences 4(2), 155- 169. http://link.springer.com/content/pdf/10.1007%2FBF01405730.pdf

*Schuitmaker (2012). *Identifying and unravelling persistent problems*. Technological Forecasting and Social Change Volume 79, Issue 6, July 2012, Pages 1021–1031 http://www.sciencedirect.com/science/article/pii/S0040162512000224

Community Based Participatory Research

Chambers, R. (1994). *Participatory Rural Appraisal (PRA): Analysis of Experience*. World Development. 22(9): 1253-1268 https://entwicklungspolitik.uni-hohenheim.de/uploads/media/Day_4_-_Reading_text_6.pdf

Scoones, I. (1998). *Sustainable Rural Livelihoods: A framework for Analysis*. Institute of Development Studies. Working Paper https://www.ids.ac.uk/files/dmfile/Wp72.pdf

Loewenson, R., Flores, W., Shukla, A., Kagis, M, Baba, A., Ryklief, A., Mbwili-Muleya, C., Kakde, D. (2011). *Raising the Profile of Participatory Action Research at the 2010 Global Symposium on Health Systems Research.* Medicc Review. 13(3): 35-38 http://www.scielosp.org/pdf/medicc/v13n3/08.pdf

The Interactive Learning and Action Approach

*Bunders, J.F.G., Broerse, J.E.W., Keil, F., Pohl, C., Scholz, R.W. and Zweekhorst, M.B.M. (2010). *How can transdisciplinary research contribute to knowledge democracy?* In: In 't Veld, R.J. (ed.) Knowledge Democracy – Consequences for Science, Politics and Media. Heidelberg: Springer. http://link.springer.com/chapter/10.1007%2F978-3-642-11381-9_11#page-1

Broerse, J., Zweekhorst, M., van Rensen, A., and de Haan, M., (2010) *Involving Burns survivors in Agenda setting on burn research: an added value?*, Burns 36: 217-231 http://ac.els-cdn.com/S0305417909001156/1-s2.0-S0305417909001156-main.pdf?_tid=af2a960c- 172c-11e4-9442-00000aab0f6b&acdnat=1406644321_7ff407e711707f5c0f12883d19898a34

Swaans, K., Broerse, J., Meincke M., Mudhara, M., & Bunders, J. (2008). *Promoting Food Security and Well-being among Poor and HIV/AIDS-affected Households: Lessons from an Interactive and Integrated Approach.* Evaluation and Program Planning http://www.ncbi.nlm.nih.gov/pubmed/19004496

Evaluation of Transdisciplinary Research

Caron - Flinterman, J.F.,Broerse, J.E.W.,Teerling, J., Alst, van, M.L.Y., Klaassen, S., Swart, L.E., & Bunders - Aelen, J.F.G. (2006). *Stakeholder participation in health research agenda setting. The case of asthma and COPD research in the Netherlands.* Science and Public Policy, 33(4), 291-304. http://spp.oxfordjournals.org/content/33/4/291.abstract

Van Mierlo, B., B. Regeer et al. (2010). *Reflexive Monitoring in Action. Guidelines for the monitoring of system innovation projects.* Oisterwijk: Boxpress