Traveling Concepts in the Classroom: Experiences in Interdisciplinary Education

Tessa Diphoorn, Martijn Huysmans, Susanne C. Knittel,
Brianne McGonigle Leyh, and Merel van Goch
Utrecht University, The Netherlands

ABSTRACT

Interdisciplinary research is widely valued and practiced within higher education. However, there is less attention on interdisciplinary teaching and learning, and existing examples often focus on problem-based approaches. The purpose of this special issue is to explore the potential of a concept-based approach to interdisciplinary education, working with the notion of traveling concepts. Traveling concepts refer to the metaphorical traveling or use of concepts within and between disciplines that impacts their meaning, reach, and operational value. This special issue introduction provides a theoretical and conceptual framework around traveling concepts, which special issue contributions then use to reflect on specific interventions. These reflections highlight the importance of interdisciplinarity beyond a problem-solving frame and provide concrete classroom examples to inspire teachers.

Keywords: Education, Interdisciplinarity, Traveling concepts, reflection

INTRODUCTION

The importance of interdisciplinarity has become a popular refrain in universities around the world. Interdisciplinary research is often regarded as the only sustainable means to solving complex societal problems. Yet much less attention has been given to interdisciplinarity in education and the ways in which interdisciplinary perspectives, skills, and tools can be used for learning purposes (Angerer et al., 2021). In this special issue, we aim to

address this gap by reflecting on our experiences of teaching in an interdisciplinary setting.

Our teaching practice is guided by a shared framework and approach: each of us has been inspired by the work of Dutch cultural theorist Mieke Bal in her 2002 book, *Travelling Concepts in the Humanities: A Rough Guide*. Bal argued that a focus on concepts rather than methods provides the most productive approach to interdisciplinary work. Scholars across disciplines have taken on Bal's proposition and have explored how concepts develop and transform as they move within and across disciplines and thus become productive sites of interdisciplinary exchange (Bal, 2002; Bear, 2013; Neumann & Nünning, 2012; van der Tuin & Verhoeff, 2022; Veen & van der Tuin, 2021). Thus, traveling concepts can act as a tool to understanding interdisciplinarity more broadly.

Yet, traveling concepts are primarily explored in relation to interdisciplinary research, while their potential for interdisciplinary education has as of yet been overlooked. We aim to address this gap by showcasing various ways in which the framework of traveling concepts can be used in interdisciplinary education to enable students to develop the necessary skills for interdisciplinary thinking. To translate the notion of traveling concepts into the educational domain, we draw from Allen F. Repko and Rick Szostak's prominent model of interdisciplinarity (Repko & Szostak, 2021) and a four-stage learning model developed at Utrecht University on the basis of Repko and Szostak's approach.

We are all scholars working at Utrecht University in the Netherlands, and are engaged in interdisciplinary research and education. We come from a wide range of disciplines including cultural anthropology, economics, law, literary studies, educational psychology, and philosophy. In our contributions to this special issue, we provide examples and insights from our teaching at different levels (undergraduate and graduate) and in different settings and at different scales (from the seminar to the program level) on how traveling concepts can be used to facilitate new forms of interdisciplinary education. By reflecting on our experiences as teachers, we aim to explore both the pitfalls and promises of using traveling concepts in interdisciplinary education. We hope that by reflecting on our experiences, we can provide novel and helpful insights to our peers working in interdisciplinary education settings.

INTERDISCIPLINARITY IN EDUCATION

For decades, interdisciplinary research has been promoted around the world as a key to solving global challenges (National Academies of Science, 2005; Visholm et al., 2012). Terms such as inter-, multi-, and transdisciplinarity have become buzzwords in academic discourse (Moran, 2010), and there is

much discussion on the benefits of knowledge produced outside and between traditional disciplinary boundaries and with new and integrated methods. In the Netherlands, for example, scholars have noted that interdisciplinary research collaborations are "urgently needed," asserting that the complexity of global challenges can only be addressed through "the involvement of many different parties and approaches, new connections and alliances" (De Graaf et al., 2017, p. 38). International and national funding streams and entire university research structures have responded to these calls for greater interdisciplinary research. In tandem with these developments, the theory and practice of interdisciplinarity have become an object of study with an ever-growing number of books, special issues, and conferences dedicated to the topic (e.g., Aldrich, 2014; Angerer et al., 2021; Baptista, 2021; Frodeman et al., 2017; Klein, 1990, 2021). Nevertheless, interdisciplinarity remains an elusive concept, whose definition varies greatly depending on the authors and the context in which they employ it. Moreover, the focus of these publications is largely on interdisciplinarity in research rather than in education. There is a growing body of scholarship on interdisciplinary education (Scholarship of interdisciplinary Teaching and Learning) with its own literature, associations, and conferences (Alexander et al., 2019; Jacob, 2015; Lindvig & Ulriksen, 2019; Millar, 2016; Repko & Szostak, 2021; Rooks & Spelt et al., 2009; Weingart, 2014; Winkler, 2012), but this work focuses either on the theory of interdisciplinary teaching and learning or on prescribing methods and tools. In this special issue, we aim to shift this balance by explicitly focusing on real-life experiences and reflections of scholars engaged in interdisciplinary education.

Interdisciplinary teaching and learning entail two key challenges, which revolve around a particular way of thinking. The first concerns the ability to convey (the benefits of) interdisciplinary research to students, to show that interdisciplinarity is key to addressing complexity and that it entails drawing "insights from relevant disciplines and integrates those insights into a more comprehensive understanding" (Newell, 2001, p. 2). The second concerns teaching students how to engage in interdisciplinary research. This challenge involves interdisciplinary methodology and approaches on the one hand and specific competencies, skills, and attitudes on the other. Here it is important to note that a distinction should be made between education in which interdisciplinarity is the *goal* (e.g., to teach students interdisciplinary research competencies), or the *means* towards a goal (e.g., to analyze complex societal challenges), and between interdisciplinary education and education on interdisciplinary research. The contributions to this special issue address both challenges in various ways. Some focus more on the experience of teaching in an interdisciplinary setting, while others outline the practicalities of teaching certain skills and approaches to foster interdisciplinary thinking.

More specifically, we aim to provide self-reflexive accounts of our experiences in working with concepts in interdisciplinary education. Interdisciplinarity in the classroom tends to depart from a problem-based approach, where students and educators are encouraged to combine methods and approaches from various disciplines to tackle a concrete and predefined societal or scientific problem in search of a solution. For example, at our university, there are a number of excellent problem or challenge-based interdisciplinary educational initiatives for students, including the Da Vinci Project, the TIC to TIC program, and the Inter-University Sustainability Challenge. Such initiatives are worthwhile and productive, yet they also face several limitations. Very often, problems are not well defined, the questions posed are not themselves critically discussed, and those involved find it difficult to find a common language to solve the identified problem. It is hard, if not impossible, to find a common language if those involved do not have a full understanding of the assumptions underpinning different disciplinary perspectives.

As highlighted in the extensive work on interdisciplinarity, there are significant differences between disciplines in how they construct and approach their objects of study, work with theory and methodology, and conduct their research more generally—all of which crucially inform teaching practices (Klein, 1996; Repko & Szostak, 2021). Approaches, theories, and concepts are not only imbued with, and shaped by, scientific, historical, linguistic, cultural, and geographic traditions, they also come with ideological freight and often unconscious biases. Such disciplinary approaches and traditions, as well as the unacknowledged assumptions that come with them, often make it difficult to have productive interdisciplinary conversations, especially in the classroom. To address these challenges, we need to know: What tools and skills do teachers and students need to reflect on these assumptions and biases in the classroom? Which processes and elements are crucial to providing space for the identification and development of a common language? Existing research has identified certain competencies for enhancing interdisciplinary collaboration, but the learning processes associated with these are unclear (Culhane et al., 2018; Parker, 2010).

We contend that a productive framework for conducting such self-reflexive interdisciplinary conversations is to focus on concepts and the way they travel between different disciplines. This approach is inspired by Mieke Bal's *Travelling Concepts in the Humanities: A Rough Guide* (2002), which takes concepts as "tools of intersubjectivity" (p. 22) that allow teachers and students to find common ground as they speak across disciplines. In other words, we propose traveling concepts as a useful addition to the repertoire of "interdisciplinary habits of mind" (Newell & Luckie, 2019, p. 6).

TRAVELING CONCEPTS

In *Travelling Concepts in the Humanities*, Bal proposed a focus on concepts rather than methods as the most productive approach to the problem of interdisciplinarity. Concepts are not merely descriptive; they are theoretical tools or "miniature theories" (Bal, 2002, p. 22) that have been developed and used in different disciplinary contexts to name and define themes, problems, and relevant questions. By giving a name to abstract ideas or phenomena, concepts allow people to communicate and to talk about their experiences and the world, facilitating discussion "on the basis of a common language" (Bal, 2002, p. 22) Concepts such as 'memory,' 'identity,' 'truth,' or 'nature,' for example, are never merely neutral or self-evident, but rather are performative, programmatic, and normative (Bal, 2002, p. 28). This is particularly evident when it comes to controversial or hotly debated concepts in society, such as 'gender,' 'race,' 'equality,' or 'justice.'The fact that they are hotly debated testifies to the power of concepts to shape social life.

In addition to this shaping power, concepts also have the capacity to metaphorically travel between and beyond disciplines, academic communities and cultures, differing in meaning, reach and operational value, sometimes even transforming disciplinary boundaries. Concepts are thus not fixed or static entities. As such, they can facilitate interdisciplinary discussion and innovation "not because they mean the same thing for everyone, but because they don't" (Bal, 2002, p. 11). The differences should not be seen as an impediment to interdisciplinarity but as a catalyst and a necessary precondition. It is through their ongoing travels that concepts become richer and invested with new meanings. Concepts are not simply given, but they are made – *conceived* - and historically situated.

The meaning of a particular concept, therefore, emerges from practice: from the ways it is used, "appropriated, translated and kept up to date over and over again and always with a difference" (Neumann & Nünning, 2012, p. 4). Its power "resides in the scholarly activities it propels, i.e. in traveling processes, rather than in what it is 'in itself'" (Neumann & Nünning, 2012, p. 4). A focus on traveling concepts thus places the emphasis on making explicit the underlying and unquestioned assumptions contained in the concepts we use to describe the problems we face. This, we argue, is a crucial step for interdisciplinarity to succeed. As Bal wrote, because concepts "are key to intersubjective understanding, more than anything they need to be explicit, clear, and defined"(Bal, 2002, p. 22). Only then can they "help to articulate an understanding […], enable a discussion on the basis of common terms"(Bal, 2002, p. 23).

Traveling concepts have become an important point of reference for interdisciplinary research within the humanities. Through the notion of traveling concepts, we have gained insight into how different disciplines

construct, assess, and disseminate knowledge in different ways. Yet it is not only important to focus on the *concepts*, but also on the conception of *traveling* itself. There are various metaphors for the movement of concepts between cultures, discourses, and disciplines that are employed in different contexts, each with its own set of implicit and explicit assumptions and connotations.

Transplantation, for example, which has been theorized in the context of comparative legal studies (cf. Baer, 2012; Berkowitz et al., 2003), describes how a given concept is taken and incorporated into a new discipline, sub-field, or other context. As in the case of organ transplantation, the concept can either be accepted or rejected, depending on the intrinsic compatibility between the 'donor' and the 'recipient.' Clearly, however, while this metaphor may be fitting in certain contexts, it does not cover the full range of possible ways in which concepts move. Furthermore, the metaphor of transplantation presupposes distinct bodies and is too dependent on a rigid separation of the disciplines, whereas the basic principle underlying our approach to the movement of concepts is that disciplines are not islands or discrete bodies, but fundamentally entangled and connected.

Other metaphors for how concepts move between disciplines and discourses are less intentionalist and describe more gradual, decentralized, and dispersed processes. Migration, for example, refers to the way concepts gradually 'settle' and take hold in a new place (cf. Baer, 2012). Like the migration of populations, migrating concepts often encounter formal and institutional resistance and barriers. This metaphor also has its limits, however, not only because it can be difficult to track where specific concepts came from, but also because it can be made to imply that certain concepts are authentically or organically 'native,' while others are foreign, whereas in fact migration – both of human populations and of discourses and concepts – is the default state. Diffusion is yet another way that concepts travel and spread. Bal noted, for example, how at certain moments, particular concepts seem to take on a life of their own and come to proliferate, cropping up in all sorts of appropriate and inappropriate contexts. This, she writes, can result in a dilution of the concept that strips it of its "conceptualizing force" (Bal, 2002, p. 33). Bal here pointed to an inherent risk in interdisciplinarity, namely that through careless application the concepts may become hollow and superficial. In other words, it is not always clear that traveling is a good thing, particularly when beyond disciplinary boundaries (cf. Baer, 2013).

By focusing both on the concepts themselves and different modalities of movement within and between disciplines, the framework of traveling concepts can become crucial in understanding the promises and barriers to interdisciplinarity. Yet, while the potential of traveling concepts for interdisciplinary research has been much discussed, the question of how traveling concepts can be made productive for teaching has so far not been

explored. If we contend that concepts are tools and "partners in thinking and making" (van der Tuin & Verhoeff, 2022, p. 6), then we also need to understand how they act as tools in the classroom. It is important to uncover whether and how traveling concepts are bolstering or thwarting understandings and learning processes and whether the framework provides a means for students to identify, explore, and develop interdisciplinary ways of thinking.

TRANSLATING TRAVELING CONCEPTS INTO TEACHING

In order to translate the framework of traveling concepts into the field of interdisciplinary education, we draw inspiration from our colleagues from the Interdisciplinary Education team at our university, who employ a four-stage learning model for stimulating interdisciplinary thinking and for learning interdisciplinary skills. This model draws on existing theories on interdisciplinary and cognitive development by Alan Repko and William Perry and acts as a foundation from which interdisciplinary courses and learning activities can be designed.

The first phase in this model is *disciplinary grounding*. In order to engage in interdisciplinary work, one must first have a comprehensive understanding of the various disciplines involved: their key concepts, approaches, and theories; their epistemology (how knowledge is constructed within a particular discipline); how theories and ideas are validated (which methods are used); and how ideas and insights are communicated. With regards to traveling concepts, this phase entails realizing that a particular word functions as a concept and becoming aware of the work it does or is being made to do, its "travel history" and "baggage" (cf. Veen & van der Tuin, 2021, p. 146).

The second phase is *perspective-taking*. This phase entails analyzing a specific problem or issue from the perspective of each discipline. At this stage, the approach remains multidisciplinary rather than interdisciplinary: the disciplinary insights are considered in parallel as different perspectives, but not yet integrated. For perspective-taking to work, it is crucial that participants see the merit of other approaches and ideas and are willing to identify and reflect on their own prejudice, assumptions, and expectations. For many of these processes, an open mind and willingness to embrace difference are essential.

Once perspective-taking has occurred, space emerges for the identification of commonalities and initiating the third phase, namely *finding common ground*. Combined, the phases of perspective taking and finding common ground entail a self-reflexive process of making one's own use of and disciplinary assumptions about a concept explicit. This process requires situating oneself in a particular disciplinary tradition or community, as part of

a particular 'we' who use a concept in a particular way and to mean a certain thing. Furthermore, this means acknowledging that one's own definition of a concept is not the only one and that in other contexts, a different definition may be more fitting and productive.

As noted above, a key challenge and advantage of interdisciplinary thinking is the development of a common language. At this point, when such a common language can be found, one can speak across and through different disciplines about a particular topic or problem. Hence, identifying and discussing traveling concepts can be particularly fruitful at this stage. Finding common ground is thus very often a creative process that entails constant modification, redesign, and reflection.

The fourth phase is *integration*: this phase entails fusing the different perspectives together and creating an innovative and different comprehension or approach. This new understanding is one that could not have been arrived at from one single disciplinary perspective, but that draws on and inherently requires the various disciplinary perspectives involved. This last step is also often a creative process and results in novel models, theories, or methods. This process is then, ideally, applied to a particular topic or problem. Integration cannot occur through one discipline alone. Repko and Szostak (2021) highlighted that integration often demands outside-the-box thinking. For some scholars, integration occurs through dialogue and interactions across two or more disciplines, while others, referred to as integrationist interdisciplinarians, argued that integration "should be the *goal* of interdisciplinary work because integration addresses the challenge of complexity" (Repko & Szostak, 2021, p. 20; emphasis in original).

This four-stage learning model can be applied in numerous ways in and across courses, modules, and entire education programs. Not all four steps will receive equal weight in all cases. In some cases, perspective-taking may be the learning goal, while in others, integration is the ultimate learning goal. This, like all education, depends on what the expected learning outcomes are. In this special issue, we bring this four-step model of interdisciplinary education into conversation with Bal's notion of traveling concepts. We aim to provide pedagogical tools and approaches by which students (and teachers) can understand the meaning, shaping, and making of a concept, as well as its traveling. In the various contributions to this issue, we show how we have done this at different scales and within different educational settings and contexts.

TAKING OFF: PILOTS IN INTERDISCIPLINARY EDUCATION

This special issue consists of a number of case studies that are based on our own teaching practice and experiences. This contrasts with the more top-down approach that is commonly found in interdisciplinary education (e.g.,

de Greef et al., 2017; Newell, 1994). Each contribution explores ways in which we, as scholars, have experimented with developing, designing, and testing different learning activities at various levels of education.

Most of us are not scholars of education, and our experiences in interdisciplinary education forced us to step outside our comfort zones. With a pioneering spirit, we traveled across disciplinary divides. We are all deeply committed to interdisciplinary work, and most of us practice this in our research as well as in our teaching. Based at Utrecht University, we have formed a close collaboration within the framework of the Young Academy (YA), a platform for interdisciplinary research and education, as well as societal engagement and university policy. We all came together due to our interest in and experience in various interdisciplinary projects in teaching and research. At the outset, we shared ideas on interdisciplinarity and discussed various tools and means to understand interdisciplinarity, such as threshold concepts (Meyer & Land, 2005; Zepke, 2013), boundary crossing (Akkerman & Bakker, 2011), and, of course, traveling concepts (Bal, 2002), which quickly emerged as one of the most productive frameworks for these interdisciplinary conversations. During these interactive sessions, we realized that many of us were engaged in experimenting with interdisciplinary education in various settings. This realization was the point of departure for a more sustained collaboration over the course of four years.

This special issue presents our reflections on that process and on our experiences in the classroom. We reflect on how our interdisciplinary interventions and the notion of traveling concepts allowed us and our students to develop interdisciplinary skills and knowledge. We primarily draw from our first-hand experiences to outline both the promises and pitfalls of interdisciplinarity (see Ashby & Exter 2019; Lattuca et al., 2004; Rooks & Winkler, 2012). Our aim here is not to provide a guidebook on how to practice interdisciplinary education (as, for example, provided by Kelly et al. (2019) in the context of interdisciplinary research). Rather, we aim to share real-life experiences on the difficulties, challenges, and enjoyments of creating an interdisciplinary classroom setting. Our hope is that our reflections can inspire and assist others who are working in interdisciplinary education. We also include the experiences and perspectives of students (Baker & Pollard, 2020), drawing on various sources such as surveys, reflection reports, course evaluations, and informal feedback.

The contributions in this special issue chronicle our experiences with the notion of traveling concepts in a range of different educational contexts and scenarios: undergraduate and graduate courses, in regular education and in honors education, in individual class activities or lectures, in the design and teaching of a course, or an entire minor program. The special issue consists of three core articles, each describing a particular case-study, followed by a reflective conclusion that brings together the contributions, both in terms of

the content of the intervention, as well as the experiences of the scholars engaged in the activities. Through reflection and critical analysis, we offer an honest account of the promises and pitfalls of interdisciplinary teaching and learning and provide recommendations for educators interested in working with traveling concepts in interdisciplinary teaching.

The contributions are ordered according to the size of the intervention. In the first contribution, "The Market for Kidneys: Bridging Introductory Courses in Economics and Ethics," economist Martijn Huysmans describes an intervention in a course in the interdisciplinary undergraduate program in Philosophy, Politics, and Economics (PPE). He finds that a short knowledge clip on the traveling concepts of *voluntariness* and *value* can help students build more general interdisciplinary skills. In the second article, "Travelling in the Classroom: Podcasting as a Learning Tool for Interdisciplinarity," cultural anthropologist Tessa Diphoorn and legal scholar Brianne McGonigle Leyh reflect on the making of their podcast series *Travelling Concepts on Air* and discuss how they have been using episodes from this series in their teaching. They show how podcasting can function as a useful tool in education more broadly, but especially for understanding and practicing interdisciplinarity as a form of active learning. Thereafter, philosopher Annemarie Kalis analyzes the interdisciplinary classroom as a behavioral setting in "How Concepts Travel while Students Eat Pizza." She shows the importance of informal exchanges among students in an interdisciplinary honors program bridging philosophy and physics.

Finally, in the concluding article "Scholarly Learning of Teacher-Scholars Experimenting with Interdisciplinary Education," educational scholar Merel van Goch presents a reflection on the contributions in this special issue, drawing on interviews she conducted with the authors. Bringing the different experiences, approaches, and reflections together, she discusses what scholars can learn from engaging in interdisciplinary education, academically as well as personally.

With this special issue as a whole, we hoped to emphasize that interdisciplinarity in education is always an ongoing process requiring continuous practice (Klein, 1990), both for the student and the educator, and never a final state with a final destination. Continuing the analogy of traveling, the notion of travel has very different connotations depending on who is traveling and whether the journey is made for leisure and self-actualization or out of necessity, whether the journey is undertaken willingly or reluctantly, and so on. As literary scholars Birgit Neumann and Ansgar Nünning (2012) wrote, "[v]ariations in scale and scope, the multidirectionality of travels, flows and exchange processes as well as the exercise of power are often overlooked" (p. 6). Yet, they continued, it is precisely *because* of the association of mobility and travel with a certain history of classed and gendered privilege that a critical reflection on

modalities of travel may serve to remind us of the fact that "concepts are never neutral or uncontaminated" (Neumann and Nünning, 2012, p. 6) . This statement is important to keep in mind when conducting interdisciplinary research, but it is even more important when it comes to interdisciplinary teaching.

REFERENCES

Akkerman, S.F., & Bakker. A. (2011). Boundary crossing and boundary objects. *Review of Educational Research, 81*(2), 132–169. https://doi.org/10.3102/0034654311404435

Aldrich, J. (2014) *Interdisciplinarity: Its role in a discipline-based academy.*Oxford University Press.

Angerer, E., Brincker, L., Rowan, E., Scager, K., & Wiegant F. (2021). *Interdisciplinary Orientation. Learning to navigate beyond your discipline*. Utrecht University.

Ashby, I. & Exter, M. (2019) Designing for interdisciplinarity in higher education; Considerations for instructional designers. *TechTrends*, 63, 202–208. https://doi.org/10.1007/s11528-018-0352-z

Baer, S. (2013). Traveling concepts: Substantive equality on the road. *Tulsa Law Review*, *46*, 59–80. https://digitalcommons.law.utulsa.edu/tlr/vol46/iss1/9

Baker, M., & Pollard J. (2020). Collaborative team-teaching to promote interdisciplinary learning in the undergraduate classroom: A qualitative study of student experiences. *College Teaching, 9*(2), 330–354. https://link.gale.com/apps/doc/A662496410/AONE?u=anon~769c964&sid=googleScholar&xid=1f7a7cf9

Bal, M. (2002). *Travelling concepts in the humanities: A rough guide*. University of Toronto Press.

Baptista, B. V. (2021). Reconfiguring interdisciplinary and transdisciplinary spaces for Arts, Humanities and Social Sciences integration. *Revista EducaOnline*, 15(2), 45–65.

Berkowitz, D., Pistor, K., & Richard, J. (2003). The transplant effect. *American Journal of Comparative Law, 51*(1), 163–203. https://doi.org/10.2307/3649143

Culhane, J., Niewolny, K., Clark, S. & Misyak, S. (2018). Exploring the intersections of interdisciplinary teaching, experiential learning, and community engagement: A case study of service learning in practice. *International Journal of Teaching and Learning in Higher Education*, *30*(3), 412–422. https://eric.ed.gov/?id=EJ1199419

De Graaf, B. A., Rinnooy Kan, A., & Molenaar, H. (2017). *The Dutch National research agenda in perspective: A reflection on research and science policy in practice*. Amsterdam University Press.

de Greef, L., Post, G. Vink, C., & Wenting, L. (2017). *Designing interdisciplinary education: A practical handbook for university teachers*. Amsterdam University Press.

Frodeman, R., Klein, J. T., & Pacheco, R. C. D. S. (Eds.). (2017). *The Oxford handbook of interdisciplinarity*. Oxford University Press.

Jacob, J.W. (2015) Interdisciplinary trends in higher education. *Palgrave Communications* 1(1),1 − 5. https://doi.org/10.1057/palcomms.2015.1

Kelly, R., Mackay, M., Nash, K.L. Cvitanovic, C., Allison, E.H., Armitage, D., Bonn, A., Cooke, S.J., Frusher, S., Fulton, E.A., Halpern, B.S., Lopes, P.F.M., Milner-Gulland, E.J., Peck, M.A., Pecl, G.T., Stephenson, R.L., Werner, F. (2019). Ten tips for developing interdisciplinary socio-ecological researchers. *Socio-Ecological Practice Research,1*(2), 149–161. https://doi.org/10.1007/s42532-019-00018-2.

Klein, J. T. (1990). *Interdisciplinarity: History, theory, and practice*. Wayne State University Press.

Klein, J. T. (2021). *Beyond interdisciplinarity: Boundary work, communication, and collaboration*. Oxford University Press.

Lindvig, K., & Ulriksen, L. (2019). Different, difficult, and local: A review of interdisciplinary teaching activities. *The Review of Higher Education*, 43(2), 697–725. http://doi.org/10.1353/rhe.2019.0115

Millar, V. (2016) Interdisciplinary curriculum reform in the changing university. *Teaching in Higher Education*, 21(4): 471–483. https://doi.org/10.1080/13562517.2016.1155549

Menken, S. and Keestra, M. (Eds). (2016). *An Introduction to interdisciplinary research: Theory and practice*(3rd edition). Amsterdam University Press.

Meyer, J. H., & Land, R. (2005). Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *Higher Education*, *49*(3), 373–388. https://doi.org/10.1007/s10734-004-6779-5

National Academies of Science (2005). *Facilitating interdisciplinary research*. The National Academies Press.

Neumann, B. & Nünning A. (2012). Travelling concepts as a model for the study of culture. In Neumann, B. & Nünning, A. (Eds.), *Travelling concepts for the study of culture* (pp.1-21). De Gruyter.

Newell, W. H. (2001). A theory of interdisciplinary studies. *Issues in Integrative Studies*, *19*(1), 1–25. http://hdl.handle.net/10323/4378

Newell, W. H. (1994). Designing interdisciplinary courses. *New directions for teaching and learning*, *1994*(58), 35–51. https://doi.org/10.1002/tl.37219945804

Newell, W. H., & Luckie, D. B. (2019). Pedagogy for interdisciplinary habits of mind. *Journal of Interdisciplinary Studies in Education*, *8*(1), 6–20. https://doi.org/10.32674/jise.v8i1.584

Parker, J. E. (2010). Competencies for interdisciplinarity in higher education. *International Journal of Sustainability in Higher Education*, *11*(4), 325–338. https://doi.org/10.1108/14676371011077559

Repko, A.F. & Szostak, R. (2021). *Interdisciplinary research: Process and theory* (4th edition). Sage.

Rooks, D. & Winkler, C. (2012). Learning interdisciplinarity: service learning and the promise of interdisciplinary teaching. *Teaching Sociology*, *40*(1), 2–20. https://doi.org/10.2307/41503319

Roy, S. G., de Souza, S. P., McGreavy, B., Druschke, C. G., Hart, D. D., & Gardner, K. (2020). Evaluating core competencies and learning outcomes for training

the next generation of sustainability researchers. *Sustainability Science*, *15*(2), 619–631. https://doi.org/10.1007/s11625-019-00707-7

Spelt, E. J. H., Biemans, H. J. A., Tobi, H., Luning, P. A., & Mulder, M. (2009). Teaching and learning in interdisciplinary higher education: A systematic review. *Educational Psychology Review*, *21*(4), 365–378. https://doi.org/10.1007/s10648-009-9113-z

Van der Tuin, I. & Verhoeff, N. (2022) *Critical concepts for the creative humanities*. Rowman & Littlefield.

Veen, M. & Van der Tuin, Iris (2021). When I say… travelling concepts. *Medical Education*, 55(2), 146 – 147. https://doi.org/10.1111/medu.14400

Visholm, A., Grosen, L., Nom, M.T., & Jensen, R. L. (2012). *Interdisciplinary research is key to solving society's problems*. Danish Energy Agency. https://dea.nu/i-farver/publikationer/interdisciplinary-research-is-key-to-solving-society-s-problems/

Weingart, P., & Padberg, B. (2014). *University experiments in interdisciplinarity. Obstacles and opportunities.* Bielefeld.

Zepke, N. (2013). Threshold concepts and student engagement: Revisiting pedagogical content knowledge. *Active Learning in Higher Education*, 14(2), 97–107. https://doi.org/10.1177/1469787413481127

TESSA DIPHOORN, PhD, is an Associate Professor at the Department of Cultural Anthropology, Utrecht University, the Netherlands. Her research and teaching focuses on policing, security, and everyday authority. Email: t.g.diphoorn@uu.nl

MARTIJN HUYSMANS, PhD, is an Assistant Professor in the School of Economics, Utrecht University, The Netherlands. His research is focused on political economy, and he teaches in an interdisciplinary PPE program (politics, philosophy, economics). Email: m.huysmans@uu.nl

SUSANNE C. KNITTEL, PhD, is Assistant Professor of Comparative Literature at Utrecht University. Her research focuses on the cultural representation of violence, trauma, and atrocity. She teaches courses on modern and contemporary literature, literary theory, cultural memory, ecocriticism, and posthumanism. Email: s.c.knittel@uu.nl

BRIANNE MCGONIGLE LEYH, PhD, is Associate Professor of human rights law and global justice. Her research and teaching focuses on conflict and security, international criminal law, transitional justice, victims' rights, and documentation and accountability for serious human rights violations. Email: b.n.mcgonigle@uu.nl

MEREL VAN GOCH, PhD, is Assistant Professor of Liberal Arts and Sciences at Utrecht University, The Netherlands. She is interested in how and what students and scholars learn, especially in interdisciplinary contexts. Her research topics include metacognition, creativity, and other competences relevant to higher education, and her teaching methods emphasize students' self-directed learning. Email: m.m.vangoch@uu.nl