Co-Navigator set to be used at University of Maryland

Interdisciplinary Tool Helps Fast-Track Interdisciplinary Learning and Collaboration

By Katrine Lindvig & Line Hillersdal, University of Copenhagen
David Earle, Braintrust

CoNavigator began as an interactive introduction for an interdisciplinary graduate course at the University of Copenhagen and is currently being developed as a tool for interdisciplinary courses in general – building on knowledge and experience from our research on interdisciplinary learning and collaboration. As a spinoff from the presentation of the tool at the AIS conference in Ottawa, hopefully, come fall, the tool will be part of the curriculum in undergraduate courses at University of Maryland, Baltimore County.

Mobilizing interdisciplinarity in monodisciplinary structures. The University of Copenhagen (UCPH) is a traditional European faculty-structured university with a strong monodisciplinary subject-based framing, leaving little room for interdisciplinary teaching and learning. Nonetheless, the university offers an increasing number of interdisciplinary courses and programmes, which reflects the political mobilization of interdisciplinarity oriented towards solving problems which cannot be solved by "one discipline alone."

This mobilization has, in a Danish and European context, led to large funding initiatives directed towards interdisciplinary research projects. In turn, this has caused a push towards more interdisciplinary educational activities.

In a monodisciplinary UCPH setting, creating interdisciplinary activities has therefore often been an art of the possible and resulted in one-off events that appear as various disciplines "glued" together by a common theme or a joint problem. In other words, the political mobilization has promoted the production of interdisciplinary activities but not necessarily enough to secure proper embedding or pedagogical cohesion.

How it all began. Our collaboration – and essentially the tool CoNavigator – is a very direct result of one such politically mobilized project, namely an interdisciplinary research project called "Governing Obesity." In this project Hillersdal, as a social anthropologist, was exploring how politically mobilized interdisciplinarity was translated into practice. Lindvig was simultaneously studying the ways in which this interdisciplinary research project translated their research into educational activities (e.g., PhD programmes, undergraduate courses, summer schools). At the end of a two-year field study on these educational activities, Lindvig was approached by one of the course administrators and asked to step in and contribute to a summer school arranged by the research project. In order to make this happen, Lindvig teamed up with Hillersdal and Earle, who as a partner at the think tank Braintrust, was used to creating and developing interdisciplinary tools and processes.

We were invited to present the concept of interdisciplinarity to the students attending the two-week summer school. The tool we developed was inspired by a more lengthy workshop format (Braintrust Labs). The idea was to boil the format down, from two days to just three hours, adding our knowledge and experience on interdisciplinary teaching and collaboration and thereby changing it into something that could be implemented in an interdisciplinary course. This required it to be easy to explain to students coming from all types of disciplines and backgrounds. Furthermore, it had to create links between modules which had already been put in place, and a range of faculties at different levels of teaching.

The idea was to boil the format down, from two days to just three hours, adding our knowledge and experience on interdisciplinary teaching and collaboration and thereby changing it into something that could be implemented in an interdisciplinary course. This required it to be easy to explain to students coming from all types of disciplines and backgrounds.

Continued on page 4

Co-Navigator

Continued from page 3

Developing the Tool. Often the way to approach interdisciplinary learning and collaboration is to first find a common/joint topic to collaborate on and then set up the issues one might want to address. In this case, the topic and issues were already decided. The theme given was obesity and governing the issues related to the growing challenges of an obese population. While the students knew about the topic and issues, they did not know how their discipline and skills matched the other disciplines and skills present, nor even how their discipline and skills might be perceived by the others.

"How can we communicate across disciplinary and methodological divides without compromising, reducing or oversimplifying our research and without losing face or academic identity?" This was one of the questions that drove our collaboration. It stems from previous experience of facilitating and collaborating with other disciplines and the ways in which implicit politics of knowledge act as barriers. The grounded ideas of each discipline end up taking center stage – to the point where the parties involved are left as mere disciplinary representatives – and not as active collaborators. Furthermore, we saw a tendency to move as quickly as possible to finding solutions to complex problems, without first exploring the complex interdisciplinary connections and roles, or understanding the interdisciplinary 'landscape' of a given topic. In this sense, the tool addresses a problem which the participants tend not to think exists, that already is covered by the agreement to collaborate. With this tool, we have therefore tried to make tangible the assumptions, prejudices and knowledge from each present participant – synchronizing maps and expectations and even the meaning of the concept "expectations".

Overall, the tool encompasses three steps:

CoNavigator is a methodological tool which allows groups to collaborate on a 3-dimensional visualization of the interdisciplinary topography of a given field or theme. They can then explore possible connections between diverse areas and demonstrate how their own competencies could reinforce or drive new connections. (Photo provided.)

1. Making the Tacit Visible and Tangible. The first task of the newly formed group is the making of a Tool swatch by sharing one's own and others' competences through short interviews. By explaining their skills to a person with a completely different background, the interviewee is forced to re-evaluate, re-formulate, and translate skills in a way that increases their own disciplinary awareness. And by using open-ended questions such as 'What', 'Who', 'How', and 'Why', the interviewer gets the interviewee to not only draw from his or her usual disciplinary vocabulary, but to unfold and explain what, for instance, 'action research' or 'regression analysis' means in practice, and how it can be used.

Each competency that is identified is written onto a separate Tool Swatch, and each participant then 'presents' the competencies of the person they have interviewed to the rest of the group. This approach allows for a practical and situated approach to what disciplinary competence is. The participants define positively the competencies and experiences they have without having to represent ideal versions of their respective disciplines. Following this, the participants then begin the creation of elements to go in the joint map.

Each participant is encouraged to identify the key areas of the map from their perspective, rather than be initially influenced by the viewpoints of others within the group. Each point is written (or drawn) onto a single tile. Rather than specifying challenges and problems, participants are encouraged to identify themes and interests, so as not to direct or narrow down the scope too early in the process.

2. Negotiating and Organizing a Context . Once the individual tiles are created (as many as are needed), the group must negotiate how each tile will be positioned within the collaborative map. During the negotiation

Continued on page 5

Co-Navigator

Continued from page 4

phase, the participants stand up with all chairs pulled away from the table so they can freely move around and arrange the tiles together.

During this process the tiles begin to cluster into small or bigger areas, reflecting the specific interests of the group. The crucial element in this step is how the participants negotiate with each other – there is never just one right way to create and plan the topography of the map. Also - the individual tiles of the participant may very well carry themes, points and interests that are very different in terms of details and coverage, which must then also be taken into consideration when constructing the joint map.

This phase of the CoNavigator tool resembles other mapping exercises already existing in the field, however, one difference is the emphasis on themes and areas to be explored and navigated instead of problems to be solved. When we did the testing of the tool, we found that an orientation around the problem created divides on the map (between stated problems and stated solutions), which narrowed down the scope and eventually also created divides and discussions among the participants that we found were not particularly fruitful at this stage.

3. Infrastructuring. The last step of the tool is about "infrastructuring" new routes on the co-developed contextual mosaic. The infrastructuring process challenges the players to connect to and navigate through themes and interests of the other players. The more links the better.

The new infrastructures created are then related to each participant's individual Tool swatch developed at the beginning of the game. Each player then assesses where and how singular competencies can be used to deal with the newly developed infrastructure.

An important point at this stage is to keep the participants in the process and to let them explore connections and arguments which are open-ended, instead of leading them towards a common goal, project or solution.

Though it is tempting to finish off the process with a final conclusion/solution, the crucial thing is to stay with the diversity of the created map. Furthermore, if the tool is part of a longer interdisciplinary process (e.g., a course), large format posters can be made from photos of the finished construction. Revisiting it later on in the course can lead to new insights.

Inspiration and acknowledgements. In the process of developing this tool we have been greatly inspired by the idea of a Visual Lingua Franca, defined as visual languages systematically used to make communication possible between people not sharing the same mother tongue.

In the process, we have also drawn on works by Repko, Szostak, Newell and Klein, the Interdisciplinary studies project, Ground Zero as well as the td-net's toolbox to name only a few. Furthermore a number of students and groups of colleagues have helped us test the tool in various rounds (a special thanks to the Edinburgh team including Catherine Lyall and Laura Meagher).

What the future holds. At the AIS conference in Ottawa, we presented the tool in a shared a session with a group from Baltimore, led by undergraduate student Maniraj Jeyaraju. He and his colleagues Eric Brown, Stephen Freeland and Steven McAlpine all inspired us and shared our interest

The tactile nature of the tool is designed to encourage collaboration and negotiation, while the writable tiles and connectable cubes enable rapid, collaborative visualization. The topographies are easy to photograph for later use, while each participant takes with them their individual "tool-swatch", which can help them to identify and contextualize their role in future collaborations. (Photo provided.)

Continued on page 6

Book Announcement

Ordinary Wars: Doing Transdisciplinary Research

By Genevieve Durham DeCesaro and Elizabeth A. Sharp

Transdisciplinary projects are messy, complicated, and exhilarating. They stretch collaborators, sometimes uncomfortably, beyond the predictable, expected, and routine. Making public the private tensions of "ordinary" cultural expectations associated with singlehood, marriage, and motherhood, the authors used a kinesthetic analysis of social-science qualitative data to create an evening-length professional dance concert.

Ordinary Wars: Doing Transdisciplinary Research is an exploration of the project, from its inception through its current state. It focuses on providing readers with an understanding of the ways in which working collaboratively on a transdisciplinary project is both incredibly challenging and unpredictably rewarding. Readers are invited "backstage" as we expose our discomfort, missteps, confusion, successes, and lessons learned. We argue that transdisciplinary research is a vehicle for affecting transformative, cultural change.

ISBN: 978-1-61229-843-6 • 106 pages

Genevieve Durham DeCesaro is Vice Provost for Academic Affairs and Associate Professor of Dance at Texas Tech University. Her choreography has been commissioned nationally, with notable presentation at the John F. Kennedy Center for the Performing Arts. She maintains an active performance career and researches across areas related to feminism in dance.

Elizabeth Sharp is an Associate Professor of Human Development and Family Studies and an affiliate faculty member of Women's Studies at Texas Tech University and held an Honorary Fellowship at the Institute of Advanced Study, Durham University, England. She has published in Human Development and Family Studies, Sociology, Psychology, and Family Therapy.

Co-Navigator

Continued from page 5

in developing interactive methodologies and games for interdisciplinary learning. They showed an interest for the tool and, as a direct spinoff from this meeting, we have now started collaborating with the aim of introducing the tool at University of Maryland, Baltimore County (UMBC) this fall. This is something we really look forward to and we believe fits fully within the goals and aspirations of the annual AIS conference itself.

Broken into three incremental steps, each participant starts by putting their own discipline, competencies and skills into context with the others. They then build a 3-dimensional topography which enables participants to collaborate around a joint topic. After isolating specific interest nodes, they can then explore and negotiate potential connections between the nodes, and suggest how their own competencies could strengthen or build the connections. (Photo provided.)

Katrine Lindvig (b. Denmark), is a PhD research fellow at the Department of Science Education, University of Copenhagen (UCPH). In her dissertation she studies the linkages between interdisciplinary research and interdisciplinary teaching practices through an ethnographic case study of five large interdisciplinary research projects at UCPH.

Line Hillersdal (b. Denmark), is a social anthropologist working on eating, obesity and cultures of science. She currently holds a postdoctoral position at UCPH in a project on interdisciplinarity and obesity science, where she studies how obesity as an object of intervention emerge in interdisciplinary collaborations intertwined with technologies, people, and values in practice.

David Earle (b. Ireland), is a partner and visual consultant at Braintrust – a think tank based in Denmark – since 2012. David has focused on developing visual and tactile tools and methods to help students learn to navigate through their academic knowledge, and to work more effectively in multi- and interdisciplinary teams.