

Kristine Bærøe

Institutt for global helse og samfunnsmedisin

Det medisinske fakultet

Universitetet i Bergen

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Tackling global challenges: First step in a systematic approach to teaching and learning impact-pursuing research in health

“How do you know what you are doing in research is right?” two medical students from ‘Forskerlinja’, asked me during a seminar dinner for our research group. I was first a bit perplexed, and for several reasons. First, as a teacher in philosophy of sciences for Master students in biomedicine and health science, much of my teaching centers on the fundamental conditions for doing research and how to do it in a justifiable manner. However, this teaching does not include students in our research group. This is a multi-disciplinary research group that aims to tackle global challenges by combining empirical research and ethics to make policy-relevant recommendation for the health field. Thus, discussions of scientific conditions for doing research across disciplinary boundaries ‘right’ could be useful to the students in the group. Second, the ‘young’ and multidisciplinary field ‘bioethics’ (broadly understood to also cover healthcare priority setting) is a field with a less obvious, nor a well-established response to this question. Addressing this question about the rightness of what we are doing, is an ongoing part of the disciplinary development within the field. Also, it can be perceived as a task for all researchers in bioethics to be self-reflexive about (Bærøe 2014). Finally, as previously participating in a project team aiming for a discipline-transcending outcome, I have experienced myself how difficult it can be to exceed our own discipline-based training and get the research ‘right’, epistemically and socially considered, on a common, cross-disciplinary ground. Nevertheless, my bewilderment quickly turned into appreciation and enthusiasm, and we agreed on addressing this question with the rest of the group in a research meeting.

This anecdote sets the background for the SoTL project assignment given in the UPED620 course. How we can know that what we are doing in research is right, is obviously a relevant

question for everyone involved in doing research. It is also a question one might expect anyone with a position as ‘researcher’ to be able to provide an answer to. However, this may not always be the case. When the overall aim of research is practical—it is to tackle challenges—it is not merely a question of following algorithms of an accepted method.

Tackling challenges can be broken down to distinct steps: identifying the challenge, knowing what would make a welcomed change, knowing how to implement it and how to assess the occurring change. All these phases can be described in light of the aim to enacting impact on the world as it occurs to change it into a new and improved state. How do we know one what is right throughout these different phases of impact-pursuing research?

Tackling global challenges is part of the University of Bergen’s strategic research plan. In the university’s priority research agenda 2016-22, “Global Challenges” is one among three areas for inter-faculty attention: “The University of Bergen (UiB) has a long history of research in global sustainable development. Challenges in areas like health, the environment, democracy, equality, and social redistribution demands collaboration across both disciplines and borders. This research is imperative to understanding the background, connections and changes occurring in the challenges in society” (University of Bergen 2017). The call for learning impact-pursuing research within our research group is shared by any research aiming at tackling global challenges. The university offers a course for all PhD-students at the university (SDG900: PhD for Innovation. Interdisciplinary course from systems thinking through creative problem-solving to RandD management), located at the institute of geography. Judging from the literature list and described learning outcomes and skills, the ethics of pursuing impact in a societal context does not seem to be given priority in this course. Tackling health challenges globally is deeply embedded in issues of just distribution of a social good, and tangled up with poverty, power and political influences. The ethics of social entrepreneurship in tackling UN’s sustainable development goal 3: *Ensure healthy lives and promote wellbeing for all at all ages*, is challenging. Are the boundaries to what impact our researchers should try to achieve and where should we draw them? How should our students address these questions in their own research? How can we do so in our research group at large?

Senior researchers in our group cover the teaching in philosophy of science, research ethics, clinical ethics and public health ethics at the medical faculty. This means we should be well placed to develop a learning program for our students with a special focus on the ethical challenges involved in pursuing impact to tackle the SDG3. If we can work systematically on

developing such a learning program within our group by designing teaching interventions and exploring students' experiences of learning situations over time, then structural elements of this learning process can be scaled up to a program targeted other PhD-students at the Medical Faculty.

For our research group, the question about doing research 'right' translates more concretely into a question about how we can educate students to do innovative and acceptable impact-pursuing research in the field of global health priorities. The overall aim of this paper is to start the work towards systematically building up a learning program for our group's members in impact-pursuing research in this area. More specifically, the aim is i) to explore whether a mini-lecture on fundamental meta-conditions for science shared by any scientific approach is experienced as a useful perspective to promote understanding of how research produce 'right' results, and ii) to consider how a proposal on building up a culture of ethical and scientific self-reflexivity regarding one's own work is received.

As there is no consensus on what should be learned in this area, I will need to spend time on identifying what kind of elements it could be useful to put into a learning program for impact-pursuing research in health. To see the relevance of my suggested 'interventions', several assumptions leading towards articulation of learning outcomes must be clarified. Such clarifications are a substantive part of designing a new course. I start by describing the essence of impact-pursuing research. I follow up by providing some theoretical support for this description and spell out what inter- and transdisciplinary thinking is. Based on these accounts, I identify relevant learning outcomes a course in impact-pursuing research should strive for. Against this backdrop, I describe the content of a mini-lecture and a culture-building intervention that both might go into a learning program in impact-pursuing research. Finally, I present the feedback it received when these interventions were presented in our group and conclude on whether these interventions should be implemented or not.

Impact-pursuing research

Impact-pursuing research is carried out when researchers aim to tackle practical challenges by (i) directly implementing change in the world according to their own research and the normative worldview it represents, or (ii) indirectly implementing change by promoting certain kinds of evidence emerging from research carried out under the overall aim of initiating change (Bærøe et al. 2020). Thus, impact pursuing research involves both development of knowledge and pro-active moves to make the knowledge matter in real world

contexts. This inherent transition between knowledge production and implementation has both epistemic and practical-political implications.

First, epistemologically, the impact requirement shapes the knowledge production. According to the impact-agenda, the outcome of knowledge production must be applicable in the context it aims to improve. This means it both has to accurately describe what it claims to describe (the data must be 'true'), and the data must adequately capture a normative understanding of what needs to be changed in order to attain improvement (the scope of the data must be justified according to this goal). Producing applicable knowledge accordingly calls for research that comprehensively integrates *general* knowledge about how the world is with *specific* knowledge of the context for implementation to tackle a global challenge and achieve a change, locally.

At the same time, impact-pursuing research is not only about translating general knowledge into specific contexts and circumstances (from theory to practice), it is also about enabling changes that might be welcomed or not. Independently of researchers' motivation for pursuing impact, the implications of doing so are embedded in culturally, socially, and politically shaped contexts. These dimensions of society are subjected to ideas of what constitute a good life. Enforcing research-based interventions (e.g. introducing new technology or a new policy) runs the risk of clashing with cultural, social and political values endorsed by those the impact is intended for. This is the practical, ethico-political consequences of impact-pursuing research. For the change to be sustainable, the knowledge production needs to be sensitive to the perspectives and needs of those who are to implement and live with the change, i.e. distinct communities/society at large. For example, global health donors can be convinced by researchers to implement their research-based program to fight a specific disease. By doing so, the local healthcare system is shaped according to the required infrastructure of the program (social), the populations own perceptions of their health-related needs are put aside (cultural) and their ability to develop their own sustainable health care system is put on hold (political). On the other side, researchers (e.g. health or social scientists) pursuing impact can indeed also constructively assist communities in getting rid of arguably suppressing, historical practices with little public support, e.g. female genital mutilation (FGM). The substantial content of impact can be judged good or bad, right or wrong, but – as for all kinds of evaluations – the challenges remain: Who is to judge? And on what grounds? (Bærøe et al. 2020) Researchers have – and should have – a role in influencing societal changes by developing scientific knowledge and informing policymakers. However, it is not

clear how, and to what extent, researchers should carry out societal changes by advocacy (Couture 2017). For example, how should they convince stakeholders, orchestrate, or facilitate local solutions to global challenges according their own research and normative ideals? These efforts are embedded in real world politics. When the task is finding fair and sustainable solutions, such approaches must be sensitive to exactly that and the research process must reflect how this is taken into consideration. Exactly how-and where-to draw the boundaries of ethically acceptable impact pursued by researchers aiming to tackle global challenges is yet to be systematically explored (Bærøe et al. 2020). What seems clear, however, is that training of impact-pursuing researchers must address such boundaries somehow.

To summarise, we can now see that impact-pursing research require integration of different kinds of knowledge related to the nature of the challenge (whether it is about e.g. health issues, climate, poverty or a nexus of all of these) and to the description of the context in question (in terms of e.g. demography, economics, organisational structures). In addition, this kind of research must be sensitive to the social, cultural and political aspects of whatever impact it aims to produce; knowledge derived from humanities and social sciences is required to achieve this. Traditionally considered, exploring these different areas of knowledge relates to distinct disciplines. Impact-pursing research calls for crossing of disciplinary boundaries and integration of disciplines.

Theoretical background

Knowledge can be produced under different objectives. In one perspective, knowledge is developed for its own sake within silos of respective disciplines. In another perspective, knowledge is produced to serve the aim of solving concrete problems. According to Gibbons and colleagues, the way of establishing knowledge has been transformed from traditional, discipline-bound approaches (Mode 1) into a new approach where the users of the knowledge are influencing on the knowledge production itself (Mode 2) (Gibbons 1994). In Mode 2 the aim of finding solutions to practical challenges is crucially shaping the conditions under which the knowledge is brought out.

The description of Mode 2 resonates well with how consensus-based calls for tackling global challenges, influence today's researcher communities, like by e.g. UN sustainable developments goals. National research funding bodies are promoting a global political agenda through funding agendas which, in turn, structures research applications. Research projects

are pushed towards shaping activities as responses to calls for tackling local and global challenges. Thus, the production of knowledge is not governed by the cognitive and social aspects of one discipline. On the contrary, the given aim of finding practical solutions governs the relevance of the disciplines, reducing disciplinary contributions to parts of a process of activities that enables workable solutions.

The integration of disciplinary contributions within such processes can take on different forms. In the literature these are identified as either inter- or transdisciplinary. According to Choi and Pak, “Interdisciplinarity analyzes, synthesizes and harmonizes links between disciplines into a coordinated and coherent whole. Transdisciplinarity integrates the natural, social and health sciences in a humanities context, and in so doing transcends each of their traditional boundaries” (Choi and Pak 2006) (p. 351). Inter-disciplinarity can thereby be conceptualised as basically focusing on merging the epistemologies of disciplines in order to produce new knowledge. Transdisciplinarity address social and cultural impact in addition by including stakeholders’ negotiation of perspectives in the production of knowledge. Transdisciplinary represent thus a more comprehensive approach and can be used to promote relevance, fairness and legitimacy of tackling challenges by both integrating knowledge and protecting against undue, social and cultural influences.

Conditions for developing competency in impact-pursuing research

Impact-pursuing research can now be described as research that produces inter- and/or transdisciplinary knowledge. From an ethico-political point of view, this research must be carried out within the frames of what is perceived as culturally and socially acceptable by those who are subordinated to the effected change (Bærøe et al. 2020). This means that impact-pursuing researchers need additional training beyond basic, discipline-related research education; they need knowledge of and skills in inter- and/or transdisciplinary knowledge production as well as in exercising self-reflection regarding where to draw the boundaries for the acceptability of this impact on a case to case basis. For impact-pursuing health research, the researchers must in general be specifically attentive to the cultural, social and political implications associated with impacting on healthcare distribution and -systems.

Towards learning outcomes of a learning program in impact pursuing research

In the literature, there are reports on how inter- and transdisciplinary research has been tried carried out. Typically, these reports refer to specific projects and include descriptions of

challenging barriers to cross-disciplinary knowledge production (see e.g. (Morse et al. 2007, Lunde, Heggen, and Strand 2013)). Fortuin and Bush offer helpful insights into learning outcomes of an interdisciplinary course in a paper describing the organisation of an interdisciplinary course in environmental research (Fortuin and Bush 2010). They sum up learning outcomes in terms of knowledge, attitudes and skills which are instructively categorised into three domains: ‘crossing disciplinary boundaries’, ‘crossing cultural boundaries’ and ‘crossing boundaries between theoretical knowledge and practice’.

From (Fortuin and Bush 2010), Table 1, Crossing boundaries in the EUW, page 21:

1. Crossing disciplinary boundaries

- a. Know: being aware of different perspectives
- b. Attitude: see the value of using different disciplinary perspectives
- c. Skill: make use of different perspectives; make use of different disciplines and make connections between them

2. Crossing cultural boundaries

- a. Know: being aware of differences in cultural perspectives
- b. Attitude: see the value of using different cultural perspectives
- c. Skill: being able to collaborate, negotiate and make decisions in an intercultural setting

3. Crossing boundaries between theoretical knowledge and practice

- a. Know: being aware of differences between theory and practice
- b. Attitude: being flexible and open to uncertainty
- c. Skill: being able to deal with complexity and uncertainty

Based on the account of impact-pursuing research provided above, I will argue that an additional categorisation is needed for students within our area of research: “4. Avoiding

crossing unacceptable ethical and political boundaries when pushing impact". This is a relevant research ethical concern for both national and international research aiming to tackle health challenges. And the sub-categories could be described as follow:

- a. Know: being aware of structural limits to influencing impact as researchers and grey areas that are calling for explicit justification of pursued impact*
- b. Attitude: being self-reflexive and open about what impact one is justified in pursuing as researcher*
- c. Skill: being able to identify and deal with ethico-political challenges in pursuing impact with research*

There is no obvious ways to design courses for teaching and learning self-reflexivity among researchers (Fortuin and van Koppen 2016). Moreover, it is not apparent how to enable teaching and learning in inter-and transdisciplinary research, either. Advancing into meaningful integration of two or more disciplinary approaches requires that one masters research within at least one discipline well. At the same time, cultural barriers to cross discipline boundaries are emerging when researchers identify too closely with a certain discipline and the conditions that shape its methodological approach(es). Interestingly, such barriers are negotiated and socially constructed to protect the autonomy of the disciplines in the first place (Fortuin and Bush 2010). Crossing disciplinary boundaries might not come naturally to discipline-educated researchers given the cultural aspects of identifying with one. Rather, it would require a motivation that not everyone can be expected to have (Fortuin and Bush 2010). Thus, the teaching and learning environment need to be carefully arranged to accommodate this motivation as well as motivation to exercise self-reflexive regarding limits to one's impact as researcher. In the following, I'll narrow in on some conditions that can help accept other disciplines and provide helpful influence on this required motivation.

Towards teaching and learning interventions to promote impact-pursuing research competency

To get closer to the essence of interdisciplinarity, we will need to have a conceptual grip on what a 'discipline' denotes. An academic discipline involves both *cognitive* and *social* aspects (Becher and Parry 2005). These aspects are interconnected, but still distinguishable. The *cognitive* aspect refers to the basic knowledge that falls under the boundaries of a discipline that delimits it from others. This knowledge is usually associated with specific ways of

establishing knowledge, i.e. inquiries and methodologies. Moreover, a discipline can maintain and increase its area of investigation and conceptualization. The *social* aspect captures that the discipline must be part of an organizational structure of promoting knowledge and must be present in several academic institutions and across institutions offering research and education. Moreover, at least some basic culture must be shared, and the discipline must be recognized as intellectually acceptable by the Academia at large, i.e. in the eyes of the peers.

Interdisciplinary practice can meaningfully be understood as an academic field that possess the same aspects as distinguishable disciplines. The cognitive aspect of interdisciplinary research is geared towards "...integrate knowledge of two or more disciplines to produce a cognitive advancement in ways that would have been impossible or unlikely through single disciplinary means" (Spelt et al. 2009) (p.366). The field is still working on describing the exact nature of such integrations which are likely to require different kinds of justification on a case-to-case basis (se for example (Ives et al. 2018)). This means that *what* should be cognitively processed when learning about crossing disciplinary boundaries is still subject to research on its own right. The field is still negotiating how inter-and transdisciplinary research should work and developing a learning program in this area is precisely one way to contribute to this negotiation. Also, such initiatives support the social aspect of establishing an organizational structure within institutions that maintain its status as a distinct area of research. Learning programs can impact on that process by establishing a shared culture among researchers. Furthermore, when course designers are being very careful and ensuring justification of every step involved in developing the course design, this justify acknowledgement by the academia at large.

Targeted teaching and learning for impact-pursuing researchers in health must address both the cognitive and the social aspect of inter-disciplinary activities. Preparing students for impact-pursuing research should be based on research identifying the most effective ways of teaching and learning. Basic aspects of teaching can be described according to the dimensions of pedagogical philosophy, approaches to learning, approaches to teaching and subject design. Against this background, Philips, among others, describes two models for learning transfer: Espoused Theory and Theory in Use (Phillips 2005). Espoused Theory is characterized by a constructivist pedagogical philosophy, it is deep in its approach to learning, is student-centered in its approach to teaching and outcome-based in its subject design. Theory in Use is characterized by an instructivist pedagogical philosophy, it touches the surface in its approach

to learning, is teacher-centered in its approach to teaching and content-based oriented in its subject design.

Based on an Epoused Theory approach to learning, I assume that successful teaching involves leaving students to acquire knowledge relevant for inter- and transdisciplinary by active cooperation over dealing with challenges while aiming for an outcome. In such activities, opportunities emerge for negotiate perspectives, ideas, approaches, aims and justifications which base the social construction of understanding of what is at stake, what can be done and what should be done. But constructing knowledge, attitudes and skills in inter-and transdisciplinary research, also plays out against the disciplinary knowledge one already possesses. Demonstrating knowledge and skills within one area of disciplinary expertise, can be considered as a prerequisite for mastering inter-and transdisciplinary research, and an important part of the teaching and learning process, as well. Learning based on more traditional teaching methods in terms of transferred information between teacher and students can help gear the focus of attention as to inherent structures that can be found within all disciplines. In the following, I will describe conditions for impact-pursuing research learning that are already in place and point out some of the conditions a learning program for our group will have to address.

Teaching intervention 1: addressing cognitive conditions

Our research group's focus on how to prioritize healthcare fairly when resources are scarce, is exactly an example of knowledge production directed towards finding solutions to pressing practical issues. At the same time, most of our PhD students have medicine as their educational background. Thus, they are trained in a profession based on elements from a variety of disciplines, rather than being thoroughly trained in one specific branch of science. For this reason, they have less of the experience of familiarity that comes with spending years digging into a delimited area of inquiry and participating in the surrounding cultural practices of distinguishable disciplines. On the other hand, they do have experience with understanding and handling the variety of different disciplines within this multidisciplinary professional education. For cultivating interdisciplinary thinking, this is likely an advantage. The aim of academic training in non-professional disciplines is directed towards accumulating understanding and knowledge intellectually, not primary to be embedded into practical skills in tackling challenges. The general aim of medical training is practical, i.e. to find solutions for real world health challenges. However, a fundamental understanding of the conditions that

constitute a discipline, the methods, methodologies and conceptualizations of what makes it scientific, occurs as a crucial prerequisite for being able to ‘produce a cognitive advancement in ways that would have been impossible or unlikely through single disciplinary means’ (Spelt et al. 2009), (p. 366). So, to develop cognitive impact-pursuing competency the students need to focus thoroughly on at least one disciplinary approach to research in order to understand what scientific knowledge is. Still, to integrate one disciplinary approach with one or several others to tackle societal, health-related challenges, also requires knowledge about the fundamental conditions that structure these other disciplines. Such knowledge can be hard to establish if the research environment does not explicitly accommodate it.

A way to respond to the question the students asked me “How do you know what you are doing as researchers is right?” would be to show that all scientific approach share an inherent structure of methods, methodology, and specific theories of science that can be perceived as responses to more fundamental and general questions posed by philosophy of science. When demonstrating to the students by the use of examples that this structure is common for both science of nature, humanities and social sciences and point out in what respect the responses to the philosophical questions differs across methodologies, it becomes clear how we can make claim on rightness within the distinct disciplinary approaches, based on equal structures of justification. For research in global health priorities, integration of medicine, health economics, social sciences, ethics and political philosophy is required to make the claim that a resulting health priority is ‘right’. To disentangling different disciplinary contributions and discuss their ideal impact along a time span of a priority setting research process, can be the next task for the research group to discuss. But before getting there, the student must be aware of different perspectives presented in research. This is learning goal 1.a described above. So as a first step in developing a learning program in impact-pursuing research in health, I prepared a mini- lecture on the structural ‘skeleton’ of justification shared by different scientific, disciplinary approaches (Attachment 1). This might help students better see how different approaches and perspective can complement each other while both claiming to be ‘right’.

Teaching intervention 2: addressing social conditions

At the university of Bergen, it makes sense to claim that cross-disciplinary cooperation is acknowledged by the organization. Given the university’s research strategy, the crucial condition of institutional acknowledgment of research that promotes development and impact

is in place to encourage training in impact-pursuing research. As our research group centers on ethics and justice, it tends to attract students with an idealistic attitude who are already highly motivated to work for the betterment of society and lives of individuals. Thus, they are eager to contribute in relevant ways that can make a change to injustice in health. However, more teaching and learning preparations can be done to develop a culture that promotes inter- and transdisciplinary learning and impact critical assessments. For example, we could try to establish a common vocabulary that helps us distinguish the scientific character of this impact-pursuing field of research from research based on distinct disciplines, and a shared platform of relevant literature. Moreover, we could more systematically address, discuss and try to understand the scientific conditions for producing ‘right knowledge’ within this complex field. This is what I suggested as the second interventions to accommodate learning in this field (described in Attachment 1). I proposed that students and senior researchers could self-reflexively assess their own projects when presenting in the group according to the rightness of the scientific approach, the situatedness of the research and the social implications. This would initiate discussions based on concrete examples (as opposed to the more abstract, structural level of the mini-lecture) and base the research groups collective attempt on constructing meaning and getting our impact pursuing research ‘right’. This intervention aims to promote learning outcomes 2.a, 2.c, 4.a-b, and partly 4. c (i.e. identify ethico-political challenges)

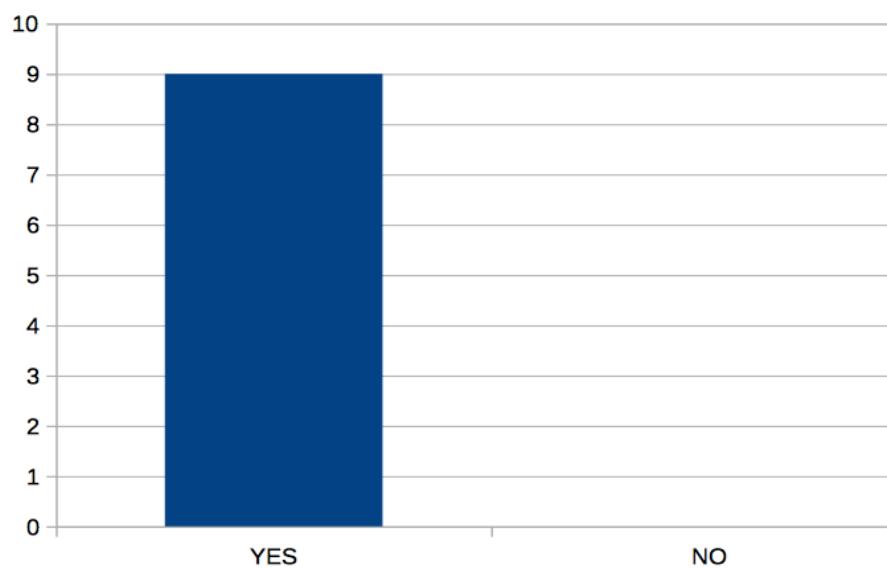
Intervention 1 and 2 mirror a Theory in Use and an Espoused Theory approach, respectively. However, when integrated with each other as described above, they might together accommodate successful learning. As a first test of this, I arrange an anonymous survey for the research group in one of our ordinary research meetings. I first held the mini-lecture on the structural composition of disciplinary approaches and proposed a systematic approach to stimulate to learning through self-reflexivity exercises and discussions. Then we had a lively discussion in the group before I asked the participants to fill out the survey form. In the survey, I asked the respondents to assess the usefulness of the mini-lecture (including questions about the quality) and explored whether they felt motivated to apply the developed exercises when presenting their own work (Attachment 2).

Results of the survey

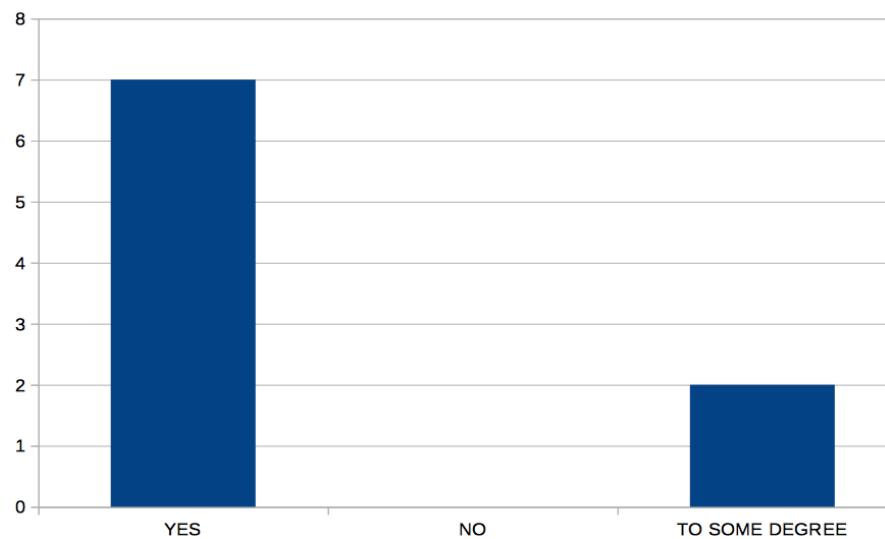
The main hypothesis that was tested was the following: Presenting the fundamental structures of justification that all research can be seen to have in common, can provide useful

information to help students conceptualize a way of understanding what it means to get something ‘right’ in research. In addition, students’ motivation for systematically create a culture for self-reflexivity in research was explored. Some participants in the meeting did not fill out the form (one from the administration and two who participated online). 9 participants responded. This included research track students, PhD students and a few senior researchers. The questionnaire can be found among the attachments (Attachment 2).

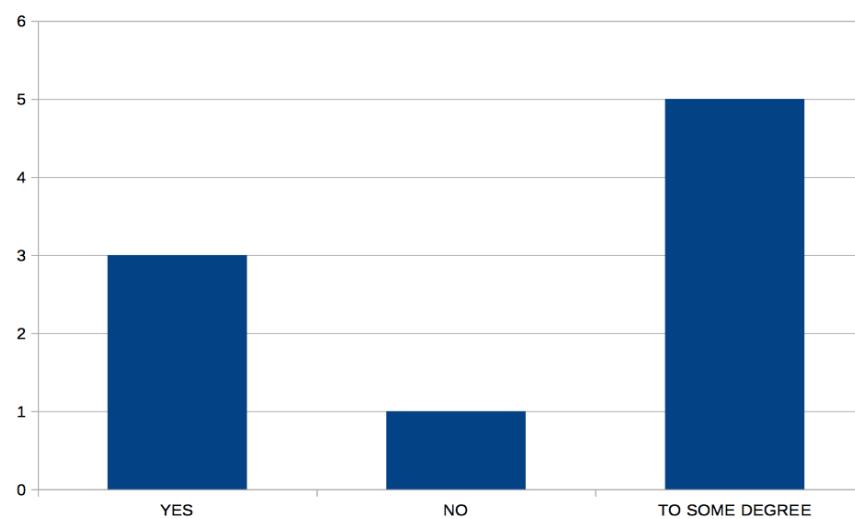
1. Have you been wondering about how researchers know what they are doing is right (beyond following a method correctly)?



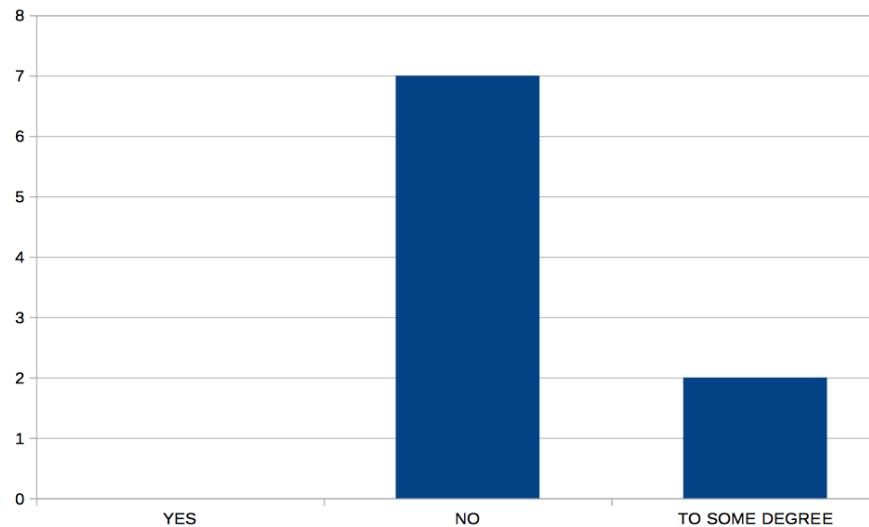
2. Did this account of the ‘rightness’ of research make sense to you?



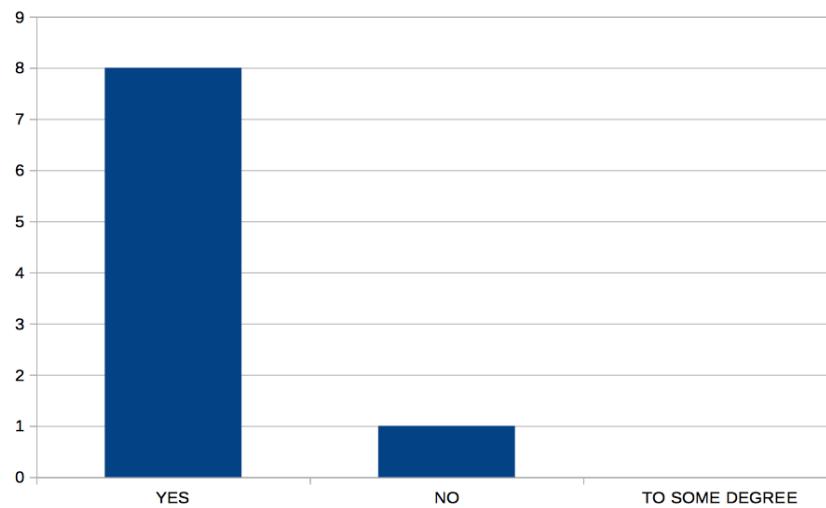
3. Did you already think of your research in this way?



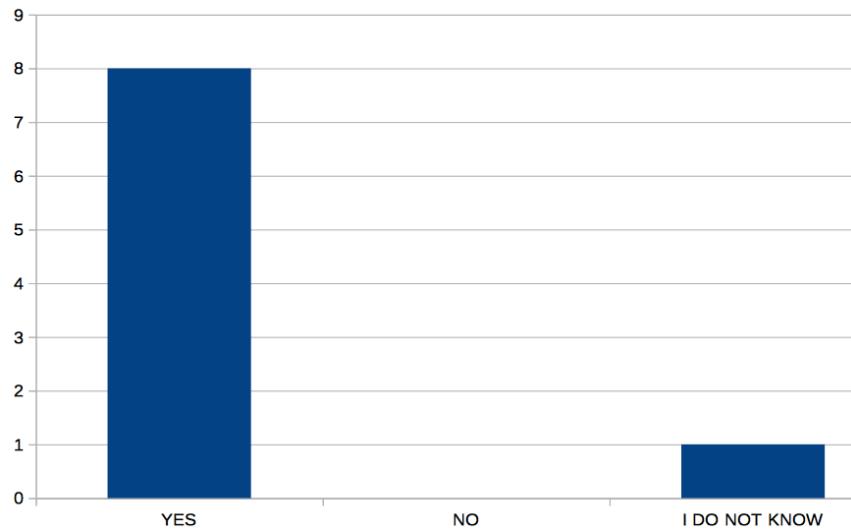
4. Was the presentation difficult to follow?



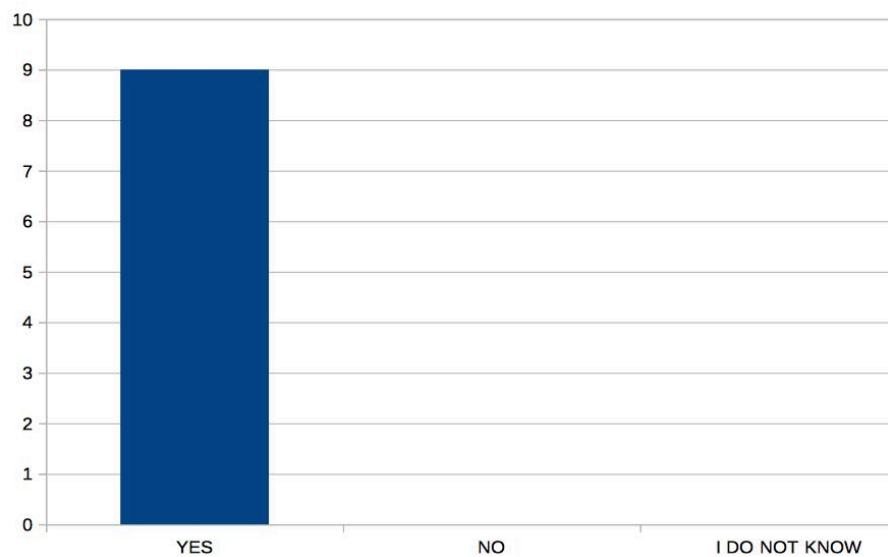
5. Were the slides clear?



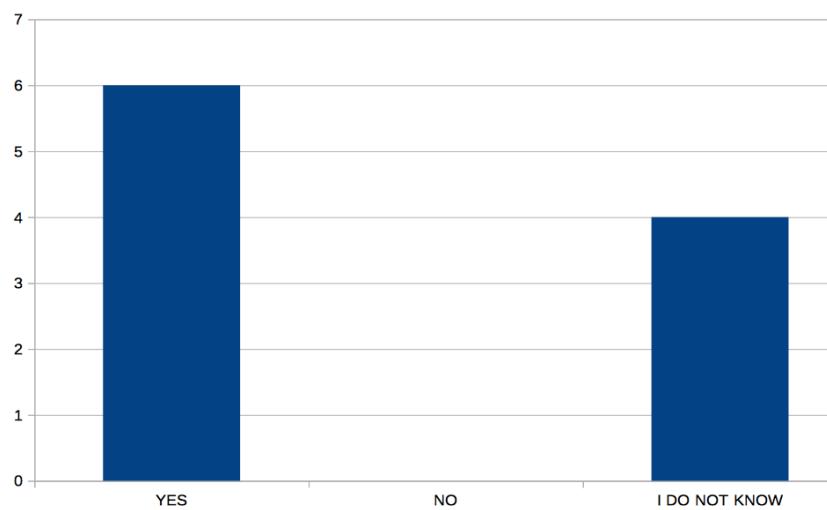
6. Would it have been useful to have this account presented earlier on in your research career?



7. Do you think it is a good idea for you to allocate some time to reflect up on the suggested questions for self-reflexivity?



8. Do you think it is a good idea to make such reflections part of presentations at research group meetings? (Here one respondent ticked off on two alternatives, there for 10 responses)



Other comments

«I think this was extremely helpful, and believe it would be beneficial for all researchers – especially young researchers – to attend a lecture with this content. (Something for MEDMET also!).»

- Anonymous

«Giving this presentation to various other research groups at medfak could be extremely useful.»

-Anonymous

«I think this should be up to individual presenter, but should work as backdrop for discussions within the group.»

-Anonymous

«Inspiring and educational lecture.»

-Anonymous

Discussion and conclusion

The mini-lecture was overall well received. Most of the participants reported they had been thinking about their research in a similar way to some degree. This means it transferred some new perspectives to a question everyone reported they had been wondering about. Also, as all except one (who did not know) responded that it would have been useful to have this account presented earlier on in his/her research career, underlines the relevance of this lecture. The free text quotes strongly support the assumption that this way of ‘dissecting’ scientific

approaches would be clarifying to students in this multi-disciplinary research environment. The majority was happy with the quality of the slides and clarity of the presentation. However, the fact that a few found it difficult to follow to some degree, gives reason to carefully revise it.

Everyone thought it would be a good idea for you to allocate some time to reflect up on the suggested questions for self-reflexivity I presented in the lecture. Almost half of the respondents did not know whether it would a good idea to make such reflections part of presentations at research group meetings, while a small majority thought this was something to pursue. None was negative to this as such, but as one wrote: this should be up to the individual presenter, while it should be useful for group discussions. This makes me think we should start by discussing these questions on general terms, using a given example of a research project. This will be a way of demonstrating how this can be done, which in turn might positively influence the individual motivation to initiate an assessment along the same lines when presenting one's own work. More important perhaps than being able to immediately provide answers in this exercise of self-reflexivity is to pose questions one has no clear-cut answers to right away. This would further a continuous learning process about doing research.

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MEDPRI 17th of June 2020, "How do you know what you are doing in research is right?", by Kristine

Please answer the following questions anonymously. I will use your responses for two different purposes: i) to improve the presentation, and ii) to complete a practical assignment in a University Pedagogic course for employees at UiB.

It is voluntary to respond. By doing so, you consent to letting me present the results anonymously in the course assignment.

Questionnaire

	Yes	No	
Have you been wondering about how researchers know what they are doing is right (beyond following a method correctly)?			
	Yes	No	To some degree
Did this account of the 'rightness' of research make sense to you?			
Did you already think of your research in this way?			
Was the presentation difficult to follow?			
Were the slides clear?			
	Yes	No	I do not know
Would it have been useful to have this account presented earlier on in your research career?			
Do you think it is a good idea for you to allocate some time to reflect up on the suggested questions for self-reflexivity?			
Do you think it is a good idea to make such reflections part of presentations at research group meetings?			
Any other comments?			

Thank you for responding!