

Interdisciplinary Research: A Phenomenological Perspective on Participation

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Abstract: *To advance the efficiency and effectiveness of inter-disciplinary research, and to obtain valid strategies for inter-disciplinary projects, there is a need to define inter-disciplinary research approaches explicitly. The current study aims generally to further the understanding of inter-disciplinary ways of conducting research, and specifically to describe and explore the challenges and opportunities that characterize research projects which move across borders of different research areas as well as the various disciplinary homes of the collaborating researchers in a recently performed project focusing on Bildung and streamed art. Written reflections from the six participants in the project, representing the disciplines of music education, musicology, education, English literature, sound engineering as well as media and technology science was analyzed and interpreted in relation to Alfred Schütz' theory of phenomenological sociology. The results are presented through six themes, which together fulfill the aim of the study; (i) Crossed borders, perspectives, and contexts, (ii) Common concepts, definitions, and reconstructions, (iii) Status of theory and explorative freedom, (iv) State of the art and innovative potential, (v) Scientific identity and positioning work (vi) Place, activity, and performance.*

Keywords: Collaboration; quality; Bildung, Schütz; finite provinces; non-transferability, Inter-disciplinary research

Introduction

It can be stated that there is a need to define inter-disciplinary research approaches explicitly, to advance the efficiency and effectiveness of this type of research, and to illuminate its possibilities and challenges (Evely et al., 2010). Aboelela et al. (2006) conducted a literature review, to find a common definition that resulted in:



Interdisciplinary research is any study or group of studies undertaken by scholars from two or more distinct scientific disciplines. The research is based upon a conceptual model that links or integrates theoretical frameworks from those disciplines, uses study design and methodology that is not limited to any one field, and requires the use of perspectives and skills of the involved disciplines throughout multiple phases of the research process (p. 341).

Challenges that follow from such an approach are still to be reflected upon, to obtain valid strategies for inter-disciplinary projects. Studies of inter- or cross-disciplinary research have been conducted both within interdisciplinary research fields (Oh et al., 2005) and between disciplinary fields (Gibbons et al., 1994; Rhoten and Pfirman, 2007; Schmickl and Kieser, 2008). A variety of scholars have argued that interdisciplinary science has a positive influence on knowledge production and innovation (Gibbons et al., 1994; Rhoten and Pfirman, 2007; Schmickl and Kieser, 2008). There is a lack of understanding though, regarding the optimal conditions for interdisciplinary research (Rijnsoever and Hessels, 2011). Research has focused on impacts of the transition to interdisciplinarity and stated that such activities does not suffer from "a lack of extrinsic attention at the 'top' or intrinsic motivation at the 'bottom', but, rather, from a lack of systemic implementation in the 'middle'" (Rothen, 2004, 6, see figure 1).

Accordingly, knowledge about how inter-disciplinary research can be implemented in functional ways are important to develop. In this article we use Schütz¹ thoughts about communicative conditions in diverse provinces of meaning to analyse the experiences of taking part in an inter-disciplinary research project, aiming to give some perspectives on the implications when it comes to systematic management and structures.

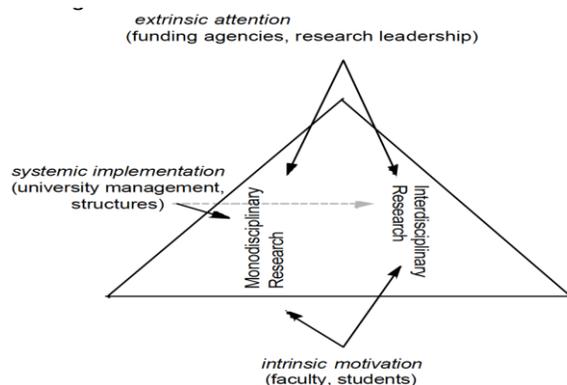


Figure 1. Rhoten's (2004) application of Huy and Mintzberg's (2003) "triangle of change" to the academic research environment

¹ Alfred Schütz was an Austrian social scientist that bridged sociological and phenomenological traditions to form a sociological phenomenology in the first half of the 20th Century.

When it comes to interdisciplinary research collaborations, primarily bibliometric research (Porter and Rafols, 2009; Rhoten, 2004; Porter et al., 2007; Thompson and Klein, 1990; Carayol and Thi, 2005) has resulted in recommendations about institutional arrangements. Rijnsoever and Hessels (2011) on the other hand, have focused upon individual aspects, and state that female scientists are more engaged in interdisciplinary research collaborations than male. Further, they underline that a scientist's years of research experience are positively related with both disciplinary and interdisciplinary collaboration, that interdisciplinary collaborations are more fruitful in strategic disciplines, and that disciplinary collaborations contribute more to career development. Based on these research findings, we argue that there is a need for deeper investigations when it comes to challenges and possibilities with inter- or cross-disciplinary research from a participants' perspective, not least related to projects involving researchers from both technical and humanities/social sciences.

The project that serves as the point of departure for the study of interdisciplinary research in this article homed in on the phenomenon *Bildung in relation to streamed art*. The background for the inter-disciplinary project was the situation regarding streamed music, characterized by rapid development and the far-reaching diffusion of algorithmic and adaptive digital technologies, which have meant a radical change in people's everyday lives. Therefore we, the two authors to this article, together with four other members of a multidisciplinary research group, set out to explore how the concept of *Bildung*² can be understood in a time where man, machine and art are brought together in hitherto unprecedented ways.

In this article the ambition is to further the understanding of inter-disciplinary ways of conducting research, and more specifically the aim of the article is to describe and explore the challenges and opportunities that characterize research projects which move across borders of different research areas as well as the various disciplinary homes of the collaborating researchers.

To place the current study, which we intend to define as inter- and cross-disciplinary, it can be relevant to share different definitions of co-operative research. Tress et al. (2005) contribute with the following. They state that *Non-cross-disciplinary Studies* take place within the bounds of a single, currently-recognized academic discipline, that such research is focused on answering a specific research question, and that academic researchers and non-academic participants in this kind of co-operations may exchange knowledge, but that the focus is not on the integration of the different knowledge cultures, nor are participants involved in defining research goals and agendas. *Multidisciplinary Studies* on the other hand, involve several different academic disciplines, who research one theme with multiple disciplinary goals (Tress et al., 2005). Here, participants exchange knowledge, primarily

² Bildung was decided to be understood with the help of the philosophical works of Hans-Georg Gadamer (2004, 2006), Martin Heidegger, (1969, 1977), Ehrmantraut (2004) and author.



aiming to compare results. *Interdisciplinary Studies*, as the current one, “involve several unrelated academic disciplines of contrasting research paradigms in a way that forces them to cross subject boundaries, to create new knowledge and theories, and solve a common research goal” (Evely, 2010, 443). In such studies the differences between approaches may have to be considered.

Finally *Transdisciplinary Studies* are defined as integrating academic researchers from disciplines with contrasting research paradigms, and non-academic participants, aiming to research a common goal and create new knowledge and theories. Hence, it can be stated that trans-disciplinarity combines interdisciplinarity with a participatory approach. “This approach integrates disciplines and subdisciplines, as well as non-academic knowledge, in an approach that shares power equally” (Tress et al., 2005, 443). Rhoten (2004) is skeptical though, when it comes to trans-disciplinary research centers, and argues that they risk becoming a meeting place for “individuals searching for intersections, as opposed to cohesive groups tackling well-defined problems” (p. 10).

Rhoten and Pfirman (2007) argue that inter-disciplinary researchers are driven to the edges of their fields by a shift in their epistemological values and intellectual interests. Co-authorship is stated as one activity that encourages fruitful interdisciplinary work, as transdisciplinary papers are perceived to have a greater impact on practitioners, and those reclassified as non-cross-disciplinary had the greatest impact on colleagues. They further stress that clear definitions for types of cross-disciplinary research should help to establish a firm foundation, for quality and possibilities to evaluate research impact.

While the number of cross-disciplinary studies is increasing, according to (Evely et al., 2010), cross-disciplinary research falls short of integrating disciplinary methods in much depth and does not have much impact on participants outside of academia. What becomes clear is that extra time must be invested to establish effective cross-disciplinary working teams, compared with traditional collaboration within disciplines, and that significant challenges associated with integrating philosophical and epistemological perspectives, world views and terminologies must be addressed (Evely et al., 2008; Miller et al., 2008).

Moreover, Evely et al., (2008) also point out that differences in incentives, culture, terminology, and jargon, might lead to opportunistic and counterproductive behavior. A final question is how multi-disciplinary research is made useful in practice (Evely et. al. 2010). Such a model, which is based on a relatively instrumental approach, based on outcome-based principles, differs from other quality declarations in qualitative research. It might therefore be relevant to discuss and reflect the value and qualities of interdisciplinary research in relation to the qualities emphasized in other traditions, such as hermeneutics (Madison, 1988; Ricœur, 1973) and even arts-based research (Barone and Eisner, 2012).

In the following we present the phenomenological sociological theory that makes the base for the study, including related concepts, followed by a description of methods, before the results



are communicated, and summarized. Finally, we discuss the results in relation to theory and earlier research.

A phenomenological take on meaning and reality

The above-mentioned shortcomings regarding interdisciplinary research, and in particular the insufficient relevance to the world outside academia, may seem a little surprising and contradictory (Evely et al., 2010). The alleged superiority of traditional, paradigmatic, and disciplinary research over interdisciplinary approaches, which aim to address the complex issues of a messy real world, suggests, on the one hand, that the latter approach is apparently not yet sufficiently developed in terms of research quality. On the other hand, the comparative shortcomings of interdisciplinary research indicate a need to both problematize the concept of research quality and examine the conditions and experiences that characterize researchers' disciplinary transgressions. Here the sociological phenomenologist Alfred Schütz might offer valuable analytical concepts and perspectives. In his strive for understanding the subjectively experienced and meaningful "life-world" Schütz also puts his finger on the intricate relationship between human activities, interests, and ideas in everyday life and in science. One particularly challenging aspect concerns how theorizing can be performed, communicated, and shared intersubjectively (Schütz, 1945).

One of the starting points in Schütz' (1962) sociological phenomenology is that he refuses all reductionism, including the phenomenological, concerned with the search for the purely essential as well as the identification of the a priori structures of the human mind. Instead, through concepts such as *interaction* and *subjectivity*, he describes a human being that is inevitably incorporated in a social and cultural world. However, the human world is to be regarded as pre-constituted and malleable at the same time. Schütz (1945) stresses the significance of human agency and of pragmatic work and practical interest of humans: "World, in this sense, is something that we'll have to modify by our actions or that modifies our actions" (p. 534). Thus, as human beings we are constructing as well as are being constructed by the surrounding world.

From birth, the everyday life-world provides human beings with "objects" that are already defined and conceptualized by society, as well as laden with cultural meaning. These objects allow individuals to define the goals of their own actions and identify the useful means to achieve these goals successfully. Moreover, the life-world is organized through "cultural patterns of group life" (Schütz, 1945, 499), defined by actions that have been performed and that can be observed from a third person perspective.

Research is not exempt from these organizing principles, but is characterized by its own practices, norms, and ideals, which man is both subjected to and reconstructs. The specific patterns that convey and maintain prevailing rules, norms, values, and typifications within the research domains enable the researcher to experience meaning and find the right means to achieve acknowledged goals. Inter-disciplinary research, with its own patterns of group life,



can in turn be said to be carried out in the joints between inherited traditions and structures, as well as reconstructive ideals and expectations.

According to Schütz (1967), meaning appears as the result of the interpretation of lived experiences across “cultural patterns of group life” or domains of life. These experiences involve different types of attention or tensions of consciousness that become “finite provinces of meaning” to the individual. Schütz’s analysis of the life-world also includes the idea of *multiple realities*, where each context has its own terms for making meaning. Schütz (1945) states: “To call a thing real means that this thing stands in a certain relation to ourselves” (p. 533). Hence, these specific realities that we are part of define us. In line with our ongoing argumentation, we would like to emphasize that inter-disciplinary research constitutes a distinct dimension of a reality called “The scientific world”. Its distinct dimensions and specific patterns offer one point of departure towards a deeper understanding of the challenges and possibilities of inter-disciplinary research.

Finite provinces, non-transferability, and possible openings

In what ways can the Schützian perspectives concerning *finite provinces of meaning*, *multiple worlds* and *life-world* contribute to the understanding of researchers’ experiences of inter-disciplinary research? Schütz (1967) shows that knowledge about the world (or “life-world”) emerges from inter-subjective construction and presupposition of multiple realities, beginning with the everyday life, or “world of daily life”. Every world is a finite province of meaning that may be ascribed a certain kind of reality. However, there is an incompatibility between different kinds of finite provinces of meaning, which means that experiences and senses of meaning cannot be transferred, transformed nor shared across these provincial borders. The world of everyday life is ascribed a unique position in that it is common to all and offers a paramount reality.

As Schütz (1945) addresses the so-called multiple realities, he tries to clarify the relations between the “world of daily life” and “theoretical scientific contemplation”. In his investigation he uses the “worlds of phantasm” and “the world of dreams” to show that we leave our daily life and go into other roles that to some extents are artificial. In these worlds the intersubjective as well as the communicative possibilities are restricted, and the human subject must return to daily life to be able to communicate. This is what he means is the case in “theoretical, scientific contemplation” (or, the scientific world, as we label it) as well. As we leave the world of daily life and go into phantasy, or dreams, we aim to make the world understandable, and a better place, just as we do in the different worlds of science. When going into a specific scientific world or contemplation, the researcher becomes safe, by learning how to use for example scientific concepts, methods, theories, and approaches: “... ‘Me’, namely the theoretician, ‘acts’ within the province of scientific thought” (p. 567).

In the world of science subjectivity, everyday systems of orientation and fundamental anxiety are bracketed, according to Schütz. It is a theorizing mode of being that allows neither



attentiveness to nor interest in life. To engage in life and to contribute to knowledge that matters, the researcher must go back and forth to the world of daily life, which is a more insecure world, full of anxiety. But there is also a risk that researchers do not leave the scientific world and thereby produce results that do not have any meaning in the common world.

Each scientific world is pre-constituted and handed down to the researcher by its historical tradition. The researcher will, according to Schütz, participate in a universe of discourse embracing the results obtained by others, problems stated by others, solutions suggested by others and methods worked out by others. “This theoretical universe of the special science is itself a finite province of meaning, having its peculiar cognitive style with peculiar implications of problems and horizons to be explicated” (p. 569).

Schütz sees each scientific world as delimited, as a solitary and non-communicative stratum of the shared inter-subjective life world. This detachment from real life is characterized by the non-temporal, non-bodily, and non-subjective engagement with the world. As a constructive and fruitful way forward, Schütz (1945) emphasizes the importance to acknowledge, establish and foster social environments and relations. He further states that communication is just possible outside the pure scientific sphere, in the strata of the life world. Such an approach is interesting in relation to inter-disciplinary research, where researchers are to communicate between different artificial models of the life world, in inter-subjectivity. He states that terms and notions that are valuable in a specific province, must be treated and negotiated, otherwise they risk becoming totally meaningless, as coins that are brought across borders.

Ways of doing a communicative and transformative shift

Among other philosophical possibilities, Schütz (1945) offers an analytical perspective to meet the challenges of engaging in inter-disciplinary research. He draws upon the concept of epoché, deeply rooted in the phenomenological tradition, but revised in aim and meaning. Where epoché, in its original use, is a way of suspending our aptitude for pre-assumptions and statements about the nature of the world, the concept may also inspire the openness that interdisciplinary engagements require. Schütz explains the revised concept:

The suggestion may be ventured that man with the natural attitude also uses a specific epoche, of course quite another one, than the phenomenologist. He does not suspend belief in the outer world and its objects but on the contrary: he suspends doubt in its existence. What he puts in brackets is the doubt that the world and its objects might be otherwise than it appears to him. We propose to call this epoché “the epoché of the natural attitude (p. 551).



By such approach human beings also make themselves open for being shocked (Schütz, 2013), or hit, by experiences they meet in the common world, and by that drawn into unknown provinces of knowledge, which should also be seen as a prerequisite for border crossing research activities. Schütz argues that switching between different provinces of meaning is accomplished through shocks which alter the accent of reality and offer meaning when moving from one province to another. Such shocks have the potential, as Schütz sees it, to open up for so called *sub-universes*. Hence, the concept of epoché is modified as every sub-universe is characterized by its own epoché (Schütz, 1962), which demands alterations of meanings and reinterpretations of intentional objects. As stated above, entering a scientific province of meaning demands from the scholar to use a specific key—to admit another system of relevancies suggested by ‘the historical tradition of his science’ (Schütz, 1962, 250).

In his article *Crossing the Finite Provinces of Meaning. Experience and Metaphor*, Gerd Sebald explores how Schütz deals with finite provinces of meaning and the problems of border-crossing activities and the transfer of knowledge and meaning between these provinces.

With references to the French philosopher Paul Ricoeur, Sebald (2011) points out the function and significance of symbols, and more specifically metaphors, as innovative, meaning-making and interrelational semantic bridge-builders between the meaning provinces of theoretical thinking and the everyday world. A conscious and innovative work with the language could thus constitute an aspect of establishing a communicative exchange and we-relationships. It has the potential of initiating new forms of connections and to enable ways of moving back and forth between the scientific and everyday world, and thus broaden horizons towards new and relevant issues and problems.

Individual reflections as research material – methodology and analysis

The research project, which constitutes the base for the current analysis, with the overarching aim to explore the phenomenon of Bildung in relation to streamed music was formed by scholars in music education, musicology, education, English literature, media- and communication studies, and sound engineering. Hence, technical, as well as humanities and humanistic disciplines were represented. The researchers were situated in three cities in Sweden, in Canada and in the USA. In addition to monthly team meetings via a web-based video conferencing system, joint physical project meetings took place once – or sometimes twice – a year in relation to various research conferences.

During the three year long project period four significant, but nonetheless interrelated, forms of research activities emerged: 1), internal group negotiations regarding interpretation, definition and implementation of concepts and theories which served both as a point of departure and as an object of research), 2) open presentations and problematizing discussions performed at national and international conferences, regarding current concept



development, preliminary results and interpretations, 3) investigations, treatment of data and formulations of results, conducted in more or less inter-disciplinary sub groups, eg. task specific cooperative constellations, 4) production of scientific text, such as conference papers, book chapters and articles together with joint popular scientific book writing. These activities can be viewed as the participants' primary frames of reference when it comes to their reflections on the values and the challenges that characterize border crossing research project participation.

To be able to grasp the phenomenon of border crossing research from a participant's perspective, each of the project members, including ourselves, were asked to contribute with empirical material in the form of written reflections (van Manen, 1997; Ferm, 2006) concerning activities performed within the inter-disciplinary research project in February-March 2020. The individual reflections were guided by three questions and were sent to one of the authors for juxtaposition. The receiving author treated the generated material, which consisted of approximately 10 Letter/A4 pages, in a way that made it impossible to track the identity of the sender, before it was presented for the other author, and became available for common analysis and interpretation. The model for content analysis is defined as openly thematizing, in line with Braun and Clarke's (2006), Maguire and Delahunty's (2017), and not least Shreier's (2012) recommendations. The analysis was further based on the manifest content, which outcome is presented in the result part of the article, followed by a more latent interpretation of the result. The questions that directed the participants' written reflections were formulated as follows:

1. What border-crossing aspects have you experienced as most prominent in the project?
2. Can you please share some impressions and reflections regarding personal, professional and scientific values and challenges that could be related to the border-crossing character of the project?
3. Taking advantage of the golden opportunity to practice hindsight: Which are the most prominent insights that you will bring to the next border crossing research project?

Before the actual coding and thematizing work was started, the material was thoroughly read through as a whole, aiming to create an overall understanding of the content, and to get a sense of similarities and differences (Shreider, 2012; Tanaka, 2019). Thereafter, various codes were created and applied to identified meaning entities represented by specific phrases, parts of sentences, and one or several sentences. Each code consisted of one or several words that grasped and represented something significant and meaningful in the various text units. As the analytical process proceeded, new codes were added while others were re-used. Then the coded units were grouped in different tentative themes. After a new reading of the original material a review of the initial coding outcome was made, which resulted in new, revised and merged codes. The generated codes were then grouped into tentative thematization drafts, which were repeatedly tested and revised based on the aim of the study and the empirical material in its totality (cf. Braun and Clarke, 2006). Finally, the processing



of the empirical material generated six overarching themes, which together capture what was crucial in the participants' experiences and insights regarding their partaking in the inter-disciplinary research project. The results are also participant validated (Slettebø, 2020).

Results

In the following sub-sections, we present the result of the analysis of the participants' written reflections. Six themes are presented under subheadings. In short, the themes are: (i) Crossed borders, perspectives, and contexts, (ii) Common concepts, definitions, and reconstructions, (iii) Status of theory and explorative freedom, (iv) State of the art and innovative potential, (v) Scientific identity and positioning work (vi) Place, activity, and performance. The sub-themes will be presented in italics, embedded in the text.

Crossed borders, perspectives, and contexts

One of the themes that appeared through the participants' reflections regarding being involved in a border crossing research project, concerns varied experiences of widened borders, perspectives, and contexts. The project as such was perceived as innovative, not least when it comes to ambition, design, and activities. Starting in the first exploratory meetings, and continually throughout the regular meetings with the research group, the participation is described as influenced by encounters with new people, as well as with others distinguished, and unfamiliar interests, research perspectives, and terminologies.

One of the participants reflects upon the first meeting with potential co-researchers representing different fields of research: '[Merely] meeting with new people, with names to learn, roles, positions, life-works, and professional contexts to try to grasp – and value the relevance of [and the own relation to] suggested points of entry to the research themes – felt border-crossing'. The inter-disciplinary atmosphere has been clearly present as the conversations have covered the fields of philosophy, sociology of knowledge and technology, computer science, media- and communication studies (history, economics, and law), music education, musicology, sound engineering, pedagogy, as well as language and literature science (including text and literacies) and psychology. In that respect the project, from the very beginning displayed and confronted the participants with a universe of both familiar and unfamiliar scientific discourses, as the ongoing interactions within the research group challenged and encouraged the understanding for other fields of research, including traditions, norms, and terminologies.

One obvious aspect of shifting the borders seems to be the opportunity to view a phenomenon through the eyes of the other, in other words to, in a concrete way, take over the others' perspectives, or to move one's own horizons in direction towards others. The phenomenon in focus has been Bildung, while the specific case of study has been Spotify, a chosen example of a digital streaming service. The participants express how previous notions of Bildung and the Spotify service have been enriched and expanded. Examples of enriched,



expanding issues are the understanding of Spotify as a potentially pedagogic, both self-formative and cultivating resource, as lived experience which offers meaningfulness in everyday life.

Another aspect is the access to new, hitherto unknown actors, fields and networks, and research groups. The participants define the inter-disciplinary dimensions by emphasizing the ways the project has opened for other research settings, performances, and scientific conversations. Not least, the national and international conferences are highly noticed as significant events, which the whole group, or parts of it, has visited together. Through participating in conferences focusing music, music education, and music production, as well as information-, communication, and media science, the project participants have been able to take part in scientific presentations, problems, and reflections, that had not been offered within the ordinary uni-disciplinary research contexts.

The reflections on the relevance of these events are reminiscent of the Schützian statements on the significance of being part of pregnant communities of time and place. In addition to the conferences, the participants also emphasized the possibility to write for scientific journals within fields beyond one's own, and consequently having to adapt to review processes and critical reviewers influenced by unfamiliar, but not less interesting or relevant, perspectives and values. Hence, the project is described as contributing to widened contexts, mediating new contacts, and giving access to unknown informants, research topics, and exciting cases.

Common concepts, definitions, and reconstructions

Another theme that occurs through the analysis regarding participation in a border crossing research project accentuates the central function of meaning making work when it comes to identify, define, and re-negotiate the possible ways concepts can be understood and used within the frames of the common project. Such cooperative concept defining work is described as crucial for a fruitful border crossing research project. It becomes clear that some of the co-operations within the group, that interdisciplinary borders, consciously have chosen to use lots of time to discuss and create common theoretical frameworks. This has been a prerequisite for being able to perform research, but not least to write publications together. One of the participants shared the following reasoning:

To be able to build upon a inter-disciplinary starting point, demands common work with definitions and explanations of conceptual worlds. Without such a basic building, it becomes challenging to develop further in a scientific spirit. You shouldn't underestimate the formation of the ground per se, as inter-disciplinary work to a high extent is about making one's own conceptual world possible to understand within another paradigm.



Even if some of the participants question the necessity and the value of a shared theoretical foundation, working with common understanding and construction of concepts is regarded as crucial by most. Nonetheless there are some deviant views visible in the material, regarding how the project succeeded in establishing consensus on the understanding of various concepts. Some of the participants experience that the monthly project meetings, characterized by ongoing negotiations and reflections, have created a good feeling of wholeness and commonly rooted views. Others, on the other hand, rather focus on the discursive gaps of this sub-universe and describe the strive for a common ground as time consuming, challenging, and hard to reach. In the final phase of the project, one of the participants expressed that the group is still not united in their views of art and quality, nor when it comes to the central concept of Bildung.

One reason for such a state is defined as that concept definition work has not got the time it needed within the frames of the project. Another aspect of the theme that is lifted in the reflections, accentuate individual characteristics and initiatives. Here insights regarding interdisciplinary and collaborative co-operations lead the participants to stress the need for shared spaces for interpretation and negotiation, and especially, a mutual openness toward alternative perspectives and approaches.

In addition to such openness, it is stated that cooperative processes would gain a lot if at least one of the parts have had some level of pre-understanding of the other parts' field of research. Such a view can be found in one of the participant's reflections regarding the importance of prioritizing to take part of other participants' own or recommended articles. To do that would, according to the participant, facilitate border-crossing dialogues, as well as enrich the perspectives on one's own sub studies within the project.

The status of theory and the explorative freedom

The third theme formed through analysis of the written reflections, is based on the many thoughts and insights connected to what is defined as the state of theory, and the exploring freedom. Not surprisingly, philosophical dimensions and the scientific approach are predominant in the participants' reflections. This is in line with that the actual aim with the project is to explore and challenge the meaning and usefulness of a long-time established concept as Bildung. In addition, this exploration takes place in a digitalized changing time. Still, the reflections say something more general concerning theory and method, ontology and epistemology, as potential fields of tension in border-crossing projects that the participants seem to describe and relate to in different ways.

For example, the participants reflect in different ways upon the meaning of the theoretical approach in relation to the project, as well as when it comes to level and need of agreed upon views among the participants. Some of the participants welcome the common phenomenological-hermeneutical starting-point regarding the concept of Bildung. The approach to and work with the concept, is perceived as contributing with different knowledge



generating directions and research activities. In that way, varied fields of research, and perspectives on for example music, and meaning of music, have been possible to connect to each other.

Even the scientific and philosophical approach is perceived as enriching the project, which one of the participants describes as follows: “It has been fun to relate to artistic and creative experiences in an philosophical atmosphere, which allows that lived experiences regarding listening to music both with and without streaming involved, are placed in the center”. Other participants, on the other hand, chose to use everyday life as a starting point, e. g. the case and the case study, as a common ground for the project participants.

The value of interdisciplinarity, has shown itself not least in gatherings of varied methodologies and theoretical stands around a given phenomenon. In addition, participants put attention to the pluralistic approach, that in positive ways have made it possible for the project to move between the empirical and the theoretical driven, or even the speculative dimensions of research. As one of the participants expressed, it made it possible to: “(...) get several views on specific issues, and approaches to the ‘thing’, not just to approach the ‘thing’ from one perspective”.

The project is described as having been moving within a broad spectrum, where the one extreme is a philosophical view on central themes, and the other an empirical approach that is based on quantitative measuring and calculations. Between these extremes, a third form of research is performed, a form which unites the extremes by applying both empirical and theoretical approaches. In addition to accentuating the role of the theoretical approach, the participants also reflect upon insights and knowledge development when it comes to the handling of theoretical approaches in border-crossing projects. Such a reflection regards deepened knowledge about the meaning of being based in different scientific traditions and related views and values when it comes to trustworthiness, relevance of conclusions, and scientific quality. Such insights and knowledge are crucial when it comes to publishing in unknown or nearby disciplines.

Another reflection concerns the need of being able to think in terms of theoretic plurality. Hence, multi-theoretical approaches are promoted as the most fruitful way for border-crossing project formations. Such an approach diminishes the risk that the theory in use does not allow for a meaningful interaction with the empirical material – or does not address the phenomenon in a fruitful way at all.

State of the art and potential of innovation

The analysis exposes an apparent sense of being a part of something different and innovative among the participants, when it comes to research ideas, subject conglomerate, and ways of conducting research. The feeling of belonging to, and performing a high qualitative border-crossing project, has, according to the participants, been strengthened through meetings with

other researchers in varied contexts. One of the reflections underlines the feeling of being in the forefront and of: “accomplishing what many scholars might be searching for in a border-crossing project”.

A smaller part of the written reflections is devoted to pointing out in what ways the border-crossing project has succeeded in contributing to state-of-the-art research, or to new knowledge and insights. Certainly, it is stated that the border-crossing project had contributed to an increased institutional understanding of streaming media. One example of that is insights regarding how Swedish IT-development, economy, education and culture politics are interrelated. Most clearly though, is that attention is directed towards how the project has promoted development of new research methods used for sound quality investigations. The project has, according to the material, moved positions regarding sound quality beyond analogue vs. digital sound quality, towards bit streams’ different qualities and their meaning.

Accordingly, technical criteria have been infused with meaning. The written reflections concern experiences and discoveries connected to moved positions at a more personal level. Partly such movements regard how the border-crossing activities, co-operations and conversations have contributed with new perspectives on research design and formulation of research problems. Partly, newly acquired insights regarding research gaps and varied aspects that are still to be investigated, are accentuated. Further, the material underlines how the border-crossing project has generated movement in the surrounding fields of research. One example is an initiated, edited special issue in a well-known scientific journal, which encouraged and published border-crossing research, focusing on streaming from a broad variety of perspectives. Another example is that participants have been asked to take on tasks in new research areas, such as reviews. Moreover, the outcome of participating in a common conference, and in this setting present sub-studies in an unusual scientific atmosphere for an unfamiliar audience is also something that is emphasized and highly valued.

Despite the interest and response towards the border-crossing presentations, these occasions are viewed as situations where scientific horizons are moved and enriched in specifically notable ways. Research outcomes are not just about what is presented, but also about how that is done. In that respect, the border-crossing co-operation enhances performances and possibilities to publish, as these are negotiated in more deeply treated ways. This concerns both pedagogical and communicative regards. Particularly, the border-crossing process of negotiation that has characterized the project, brings about the importance of assessing results has to be done based on developed criteria lists, expanding the tradition that dominate each discipline respectively.

(...) the level of quality, seen from my own discipline, it can be hard to reach the same quality level. But the state of the art becomes something else as soon as it gets to inter-disciplinary research, so that is not a loss, but rather a complement, to think that the breadth is as important as the height.



Hence, the border-crossing research project can be viewed as a meaningful start, as both innovative scientific and pedagogical negotiated and assembling intervention, whose outcomes and way marking indications need to be developed and further explored in many extents.

A scientific identity and positioning work

Even if the analysis shows that the participants engage themselves a great deal in the common, social, and collaborative dimensions of the project, individual and self-forming positioning work also appears as a clear theme in the reflections. Border-crossing research is perceived both as a way of getting aware of, and to move oneself over one's own and each other's' borders, instead to delete them.

To cross borders demands that borders must exist. Border-crossing in that way becomes a way of getting to know the borders at the same time as you have a common focus that is situated outside the border of each discipline.

Hence, border-crossing activities partly concern disciplinary aspects of relevant research areas, scientific knowledge, and quality, as well as agreed upon methods. In addition to this, border-crossing research activities also involve deeply personal aspects, such as individual ontological and epistemological positioning, self-assessed scientific skills and abilities, and one's own willingness to adapt and to change.

Personal border activities are described as an aware step into the hitherto unknown, which in turn demands an initial self-positioning regarding one's own views on the world, knowledge, and relations to others. For some participants such unknown situations give rise to specific statements, such as expressing one's sense or experience of lost scientific ground. Such experiences can be based on a lack of earlier experiences of collectively negotiating, arguing for and choosing between certain research methods, or insecurities regarding language and concepts to be used in international border-crossing settings. In other words, it is demanded, as one of the participants expresses it, that:

(...) each and every participant is clear when it comes to ontological and epistemological grounds, as well as agreed upon methods and approaches toward research, ethical statements etcetera, and that you based on that can take one step into the unknown and think about what has to be put in the background, and what could function as important starting-points, worthy to discuss together.

To be able to explore the unknown and from such a position be able to form common research activities, the participants accentuate the importance of that the group is impregnated with curiosity as well as respect, when it comes to each other's subjects and scientific traditions. Additionally, it is expressed that such exploration demands openness for the insofar unseen. Besides a great openness for questions, reflections, and disputes – and willingness regarding the changing and shifting of positions – creative associative abilities



among the participants are specifically pointed out. In such a way, this is not solely about identifying, but also to continually develop, common denominators and points of congruence.

Further, border-crossing projects demand that the researcher's own understanding of concepts and performing repertoires are re-formed and re-formulated, in ways that make connections to other researchers and their ways of thinking about and relate to research possible. Some of the participants stress the project's ability to apprehend the varied scientific values, interests and approaches: "The most prominent border-crossing feature is that we have succeeded in including all perspectives, without erasing too much of the differences that characterize the different research attempts". Other excerpts say something else, in a more self-critical manner, and underline those co-operations within the same, or with near-by disciplines have contributed to less friction.

In addition, some reflections express a feeling that the project has not fully succeeded in building a safe atmosphere, which is seen as an important prerequisite for both openness and creative cooperative research work: "We have tried to open our eyes, dared to lose control to some extent, but what we developed might have not been enough to create an atmosphere that was safe enough to let us go in the common". Hence, some of the work and the activities in the research group, even towards the end of the research project, have been hindered by traditions and internalized imaginations established within the different disciplines. In addition, some participants have been attributed with, or claimed, specific areas of expertise, or project defined tasks, that has been withdrawn from necessary, common scientific discussions and processes.

The participants offer slightly different explanations to why safety and unreserved co-operation and participation are challenged in specific ways within border-crossing research. One explanation is based on what can be compared to an avoiding, or self-diminishing attitude. That means that personal insecurity creates a desire to evade challenging tasks and rather rely on others, instead of concentrating on one's own abilities and possible contributions.

Another explanation is instead based upon observations of a self-empathizing approach, where perceived insecurity, accompanied by self-perceived demands to show legitimacy and one's own value for the project, make participants claim different processes that should be common or shared. The participants' reflections show that border-crossing to a great extent concerns the individual participant's ability to identify, value and balance their own views on scientific values and qualities, which results in a capacity to in aware ways preserve some of them and sacrifice others.

Further, the reflections accentuate trust in their own scientific competency, which constitutes a prerequisite for participants to feel comfortable with challenging their own scientific ideals and traditions. Such challenging approaches can't be put solely on the individual but must be treated commonly in the group, which in turn demands continuity and time.



Place, activity, and performance

The last theme of the analysis represents the value of the spatial situated, e. g. experiences of gathering somewhere around something specific. Some of the participants express that the screen of the laptop and the video conference application have, to some extent, functioned as such a gathering place. One of the participants describes how it has become more and more natural, during the project, to meet the project colleagues situated in Sweden, Canada, and USA, through the web interface from home once a month.

The positions have, relatively unnoticed, been moved forward throughout the project process, both regarding common project meetings and collaborative working meetings, via a web-based video conference system, combined with common writing in shared web-based documents. It has been perceived as more and more natural and effective.

Even if the material mediates an extended agreement, when it comes to the value of continual communication and dialogue regarding creation of commonness and progression within the project, the insufficiency of virtual gatherings is often marked. Instead, the participants underline the superiority values of physical gatherings and conversations. Physical meetings create preconditions for collaboration and release transcendental possibilities that the technological mediated gatherings fail to do.

Increased time, and possibilities for increased focusing, could be interpreted as reasons for good experiences. Compared to virtual meetings, physical gatherings consume time and economical resources as the research group is spread out over the world. Hence, such meetings are connoted to higher expectations among the participants and are given higher priorities compared to other every-day-, professional- or personal commitments. In that way, discussions and reflections regarding research questions, values and interests, scientific philosophical approaches, and terminologies, have become deeper and more extensive during physical meetings. One of the participants expressed that physical meetings are needed, as: “where we have crossed borders in different ways in different constellations.” Another participant argues that physical gatherings are needed as they give space for the non-expected and spontaneous to take place. One example concerns a common hotel breakfast, during one of the conference travels, where a relaxed conversation contributed with insights in the other participants’ gathered knowledge.

The conversation also contributed to a deeper understanding of their passionate relationship to subject areas connected to other traditions, values and thinking patterns, including totally new concepts. The aspect of being able to gather around something specific does not solely concern physical or virtual communicative dialogues, but also involves the value of common performances.



According to the participants, common presentations include both co-operations related to conference presentations, and shared work with scientific publications, such as articles and book chapters. One of the participants formulated it as follows: “To develop something together has been really valuable”. The analysis holds, in other words, the big value of, within the frames of the project, participating in collective scientific creativities. Such creation can be understood as both an integrated part of the project’s many-folded border-crossing movement, but also as a performance of something gathering and holistic.

Discussion

Drawing on the empirical findings in this case, previous research and Schütz’ theoretical framework two main dimensions emerge as especially significant when it comes to understanding and managing the potentials and challenges of inter-disciplinary research. One dimension concerns *to negotiate and define the essential characteristics of a joint border-crossing leap*, while the other concerns *to stage and effectuate the leap itself*. In other words, inter-disciplinary research is dealing with both the merging of possible horizons of research and the implementation of collaborative research activities – of addressing what inter-disciplinary research can and should be, and how such a research project could be designed and carried out. These dimensions can be seen as reciprocal and should therefore not be attributed different importance or a definite sequentiality – effectuated leaps can thus involve renegotiations of what inter-disciplinary research could be.

However, it is apparent that in this research project much focus and energy has been brought to staging and effectuating the inter-disciplinary leaps. No doubt, the phenomenon at the center of the project – Spotify as a case of *Bildung* – certainly has been exposed to inter-disciplinary and, hence, multi-perspective approaches. Embracing the Schützian call for both an openness where “the world and its objects might be otherwise than it appears to [me]” (Schütz, 1945, s.551) and a willingness to place the study object within the common everyday world has proved crucial. In that way, inter-disciplinary perspectives, activities and findings have been made possible.

Nevertheless, the result shows that explicitly reflecting on and negotiating the essential characteristics of a joint inter-disciplinary leap have not been at the very forefront of the activities within the research group. Thus, establishing what Schütz describes as *cultural patterns of group life* – in accordance with this specific domain of the scientific world – as well as granting the vivid presence of the We-dimension a particular sense of unity emerges as especially challenging aspects of inter-disciplinary research. Rather, the open and unconditional discussion and positioning work, of what inter-disciplinary research can and should be, have tended to be overshadowed by the seemingly more pressing concern of exploring and agreeing upon feasible ways of doing research that transcends the disciplinary borders among the researchers.



A concern that, as the researchers' reflections show, proved to entail considerable challenges. Rhoten's (2004) critical argumentation regarding the challenges and issues actors are facing when they engage in academic processes of change and interdisciplinary activities seems highly relevant in this case: The factors of intrinsic and extrinsic motivation, marked by high levels involvement among the partaking researchers as well as commitment from funding actors, have been at place. At the same time, the researchers' accounts indicate accustomedness within the academia in general and the university organization to acknowledge organize and conduct profound research activities across disciplinary borders and provinces. Thus, this research group has in many respects experienced a new beginning, where this specific form of research has been discovered and developed.

The practicalities of dealing with lines of disciplinary demarcation

The researchers' reflections portray a few insights into how inter-disciplinary research can be practically orchestrated and conducted. One notable insight concerns the significance of acknowledging and addressing the spatio-temporal dimensions of the research community formation. Arranging meetings, where the participants can be fully present and "free from theoretical disguise" have enabled the individual to externalize experiences, imaginations, values, and convictions.

Through joint participation at conferences and workshops, the participants have got access to common everyday spaces, where they have got the chance to learn to know each other, and thus being able to establish a common ground for closeness and understanding, communication and more open forms of shared meaning making. Such meetings have allowed the partaking researchers to encounter otherness and other possible ways of being. Besides echoing Schütz's view of the importance of a coherent community, socially and bodily situated in time and place, there are also obvious parallels to his theory regarding the paramount reality-dimension of the everyday world.

Opening a space for both intersubjective views of reality, and authentic interests in everyday practices, appear as a fruitful base for the formation of inter-disciplinary projects hitherto unknown research possibilities. Such an aware approach should counteract habitual withdrawals to a "preconstituted world of scientific contemplation handed down (...) by the historical tradition of (...) science" (Schütz, 1945, s. 568).

Another insight, also related to the dimension of how *to stage and effectuate the leap itself*, concerns the significance of identifying and practicing communicative activities that transcends existing disciplinary conceptions and expands mutual understanding. It has become clear that specific forms of communication are needed within a multidisciplinary research group to establish negotiations, and a broad acceptance, regarding basic values, views of knowledge, aims for research, choices of methods, and use of concepts.



Being able to communicate in an open and unconditional manner about these issues and aspects has been crucial to harness the possibilities of interdisciplinary research. At the core of these communicative activities lie their potential to shock, to push people and their imagination beyond the finite provinces of meaning. As the results of this study show, these shocks mainly arise in linguistic encounters and joint presentations, in which the participants' ability to mediate between different conceptualizations, epistemologies and worldviews is brought to a head. Among the transcendental events mentioned in the participants' reflections are joint analyzes of empirical material, pilot interviews conducted between researchers in the project, internal reviews of each other's conference paper and article drafts.

Of particular importance is the collaborative writing, regarding journal articles and, especially, the overall anthology, which placed additional demands on the researchers' abilities to negotiate, adapt and find common positions. Although it is not explicitly expressed in the written reflections by the participants, Sebalds's (2011) notion of the mediating and transcending potential of symbols and metaphors, became visible in the analysis. Through the use of metaphorical descriptions of the streaming service Spotify – for example in terms of jukebox, Gestell, standardizer, museum, exhibition hall, temple, archive, marketplace, and jam session partner – everyday experiences were knit together with, mirrored to, and gave new perspectives on the theoretical concepts in use.

Various explorative expressions and use of words can work as simple entrances to new domains of reality, alter a socially constructed everyday world – and, therefore, change the horizons and approaches among the researchers.

Diverse research projects being ahead of themselves

Although this research project may provide some thought-provoking examples and, in many respects, demonstrate the possibilities of inter-disciplinary approaches, a number of challenges also emerge. Some of these have some points of contact with the criticism that has been leveled at this form of research, while others require further discussion. It is obvious that one of the main challenges of the project is, the first dimension mentioned above, to negotiate and define the essential characteristics of a joint border-crossing leap. Based on the participants' reflections, some partaking researchers feel that the project has not offered a free space sufficient enough for theoretical exploration and innovative methodological applications.

Others point out that the group's various research studies have, to a certain extent, been characterized by collaborations between researchers with related disciplinary affiliations and similar epistemological attitudes. These descriptions point to the challenge of achieving, what Schütz addresses, a We-dimension characterized by a state of unity – or Rhoten's (2004) ideal of a cohesive group engaged in in a thoroughly defined research problem.



The descriptions also point to the difficulty of fully pursuing interdisciplinary collaboration to the point where existing methods are integrated and new theories are allowed to emerge (Evely et al., 2010). A project that settles for less merging, more diversifying initiatives may also find it difficult to live up to Rhoten and Pfirman's (2007) description of the magnitude of the epistemological shift required to drive the inter-disciplinary researcher to the edges of his/her own field – let alone beyond.

Broadening the concept of quality

Another aspect in the result concerns the scientific value and contribution of the inter-disciplinary research expressed by researchers in the project, which calls for a wider discussion on the need for *broadening the concept of quality*. This is of course also important, if career development should be possible within the area of inter-disciplinary research. The call for strengthening the credibility of interdisciplinary research (Evely et al., 2010), as well as avoiding the risk of transforming interdisciplinary research projects into conversation circles in lack of direction and quality requirements (cf Rhoten, 2004), must be taken seriously. At the same time, it is imperative to take a relational perspective and thus also examine the reciprocity between the interdisciplinary researchers and the established research community, in its position as recipient, mediator and assessor.

Inter-disciplinary focal points, issues and practices are components which, to a certain extent, fall outside the established blueprints of *what* research should deal with, *how* it should be dealt with and, also, by *whom*. The relative overweight by female researchers, pointed out by Rijnsoever and Hessels (2011), suggests that the issues of relevance and quality in relation to inter-disciplinary research are a matter of tradition and structures of power, not least gender-related.

The apparently challenging task of transcending the inherited “province of scientific thought” (Schütz, 1945, 567), clearly apparent among some researchers in this study, cannot be understood without recognizing the research society – with its journals, conferences, and funding agencies – as especially prominent gatekeepers of provinciality. This provincial finiteness hampers the refraining from the subject-defined verticality as norm, and thereby acknowledging the values of horizontality.

Moreover, it loses sight of the potential qualities and values of inter-disciplinary research by subjecting to prevalent impact-oriented ideals. The calls for impact and usefulness (cf. Evely et al., 2010) are highly reasonable and relevant but the matter of quality and relevance goes far beyond quantitative measures like the number of publications in highly ranked journals or by acclaimed book publishers or by the number of citations and downloads.

When discussing quality, it could therefore be fruitful to look for inspiration from research traditions that have positioned themselves somewhat outside the predominant research paradigm. One such source of inspiration is hermeneutics, wherein qualitative dimensions



like creativity (Madison, 1988) and the outlining of new possible ways of being (Ricoeur, 1973) are represented.

Arts-Based Research could serve as another inspiring source, in relation to which Barone and Eisner (2012) suggests several quality criteria. Some of them clearly echoes the hermeneutical ideals of facilitating new ways of understanding and being with a criterion such as *generativity*, which addresses the potential for reshaping “our conception of some aspect of the world or that sheds light on aspects of the world we had not seen before” (p. 152), while *evocation and illumination* emphasizes the significance of offering meaningful encounters with hitherto unknown aspects of the world.

As Schütz (1945) points out one of the keys in research is to resist the detached scientific thinking and to find the way back to the malleable world that matters, that is, engage in changing practices and structures in the everyday world. Accordingly, for border-crossing research to be relevant and possible to communicate it has to be reclaimed by life itself and become a part of human beings’ everyday world of experience: “To call a thing real means that this thing stands in a certain relation to ourselves”, as Schütz (1945, p. 533) puts it.

Concluding thoughts

This inter-disciplinary research project – that serves as a point of departure for the article – might, in its strengths and weaknesses, provide an illustrative example of the possibilities and challenges of interdisciplinary research. From the outset the research group strived to reconceptualize Bildung and explore alternative approaches to the field of streaming media as well as to instill a critical awareness and a reflective approach among streaming media consumers. Furthermore, the project also had an ambition to contribute to a more transparent and authentic media industry and policy making.

The experience from this project shows that, based on a socially significant research problem, it is possible to orchestrate and carry out joint research activities where the border-crossing whole is greater than the sum of its disciplinary parts. The exploration of Schütz’s philosophical thinking regarding being in the everyday world, vs. discipline worlds, has created a growing awareness of the parallels with the core concept of the research project; evolving Bildung. What contribution such a synthesizing meta-perspective could offer for the understanding of both the concept of Bildung and the transformative dimensions of interdisciplinary research remains to be seen, however.

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