Designing for the materialization of networked learning spaces

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Abstract

The potential of a Networked Learning (NL) space comes into being when participants establish communication, build connections among each other, and create a dialogic space. Moving from this premise, this article poses a complex question: How to design for the materialization of a NL space? It bases its theoretical framework on Bakhtin's idea of centrifugal and centripetal forces, the concepts of network core and periphery, as well as the idea of the strength of weak ties. Through these lenses, the article presents a cross-case analysis of two projects aiming at technology education in Denmark. Forces, connections, and movements are exposed and analyzed, showing the importance of unstructured communication processes that nurture a networked community. These results lead to new speculations for future educational design of NL spaces.

Keywords

Networked Learning; Centrifugal and centripetal forces; Core and periphery; Connections; Dialogue.

Introduction

The long-standing concept of Networked Learning (Goodyear et al. 2004) has faced a recent collective redefinition towards a more situated sensibility, a broader conceptualization of cognition, and the acknowledgment of the 'messiness' that characterizes learning processes (NLEC et al., 2021). The critical and emancipatory roots of Networked Learning (NL) have expanded to include socio-technical, sociomaterial, postdigital, and postphenomenological perspectives. In this effort of reconceptualization, it is stressed how learning is a complex, emergent, and holistic process that appears inseparable from the surrounding environment, while the network can be considered an assemblage of actors and organizations where agency is distributed and decentralized. On these grounds, it is crucial to understand how the connected actors taking part in a network can create a space for NL or, in other words, how their agency materializes in a specific, situated, and unique space-time (Orlikowski, 2007).

Thestrup et al. (2018) suggest that a NL space comes into being when participants become aware of the potential of NL, establish communication, and build "experimenting communities" (NLEC et al., 2021, p. 21). In this sense, a NL space is a dynamic ecosystem (Miranda and Pischetola, 2020) where participants take responsibility for their own learning while navigating the network multiple dimensions and layers (Blaschke et al., 2021). Thus, a NL space is first and foremost a relational space (Jones, 2004; Jones et al., 2008), that is, made of elements and the relations between them (Mol and Law, 1994). Yet, a NL space escapes formal structures (Fawns, 2019) and cannot be conceived as stabilized through a set of well-identified nodes (Lamb and Ross,

2021), as its fluidity is essential to nurture the network itself. Bearing this in mind, this article poses a complex question: *How to design for the materialization of a NL space?*

In the attempt to answer this question, the paper moves from the analysis of the dynamics that characterize the formation of a NL space and explores the forces at work in networked dialogic processes. It embraces Bakhtin's concept of centrifugal and centripetal forces (Bakhtin, 1986) and the concepts of network core and periphery (Dahlander and Frederiksen, 2012), as well as the idea of strong and weak ties (Granovetter, 1973). These concepts can easily be placed in a dualistic relationship to each other with the centripetal, the core and the strong ties on one hand, and the centrifugal, the periphery and the weak ties on the other. A dichotomy that calls for a choice – a choice of what is better, more useful, more effective in relation to learning. However, we believe that in a networked perspective – when the aim is to create new knowledge, instigate political discussions and social change – it is not a question of choosing, but a question of finding a way to *move between* these two kinds of 'beings' or positions in the network. In fact, in line with the reconceptualization of NL, we defend that it is in the movement between the nodes that the energy is created, and the potential of change is situated.
Building on these theoretical grounds, we present two cases of design for the materialization of a NL space and examine their potential for the creation of living, experimenting communities of networked learners. Ultimately, the paper seeks a concrete way to put NL to work, by strongly intertwining theory and practice (Mazzei, 2017), as the authors themselves are sharing experiences of creating a long-standing NL space for education professionals in Denmark.

Materializing a NL space: forces, movements, and connections

In the NL tradition, dialogic communication has often been highlighted as the main element for the establishment of connections among the nodes (Goodyear et al., 2004; Hodgson and Watland 2004; McConnell et al., 2012). However, despite the well accepted idea that the construction of knowledge is a socially negotiated activity, in educational settings dialogue can also be seen in an instrumental way and narrowed down to a tool (Mishra, 2015; Pischetola and Dirckinck Holmfeld, 2021), rather than understood as a necessary condition for any human relationship (Matusov, 2011). This has also been among the critical aspects that raised the need for redefining NL in first place (NLEC, 2021).

In this paper, we embrace the theoretical perspective of Bakhtin on dialogue, understanding its material power (Hetherington and Wegerif, 2018; Naumann and Pischetola, 2017) for the creation of NL spaces. In fact, a Bakhtinian perspective on dialogic communication can help us analyze the forces at work in this materialization, and discuss the value of any types of relationships, including those between people and resources (Jones et al., 2008) and those that have been defined as 'weak ties' in literature (Granovetter, 1973). Moreover, Bakhtin's perspective can support us to explore how different forces *move* within the network, between the core and the periphery and in the constant recombination of participants' roles and positions (Dahlander and Frederiksen, 2012).

Centripetal and centrifugal forces: creating meaning

According to Bakhtin (1986), dialogue is shaped both by *centripetal* and *centrifugal* forces, or 'official' and 'unofficial' forces (Mishra, 2015). Centripetal forces tend towards discipline, regulation, and a fixed order. They work for unification, homologation and monologism (Matusov, 2011). They consider authority as absolute and unquestionable. Centrifugal forces seek constant transformation and thus lead towards chaos, or 'laissez faire' (Elden, 2007), and they might "open the pathway for ideological becoming" (Mishra, 2015, p. 79), as they comprise more than one unified truth about the world. In this sense, centrifugal forces challenge established authority and fixed societal assumptions.

In an educational perspective, the result of the encounter between centripetal and centrifugal forces is the development of an individual and self-authored voice (Bakhtin, 1986). The movement between these forces also has a relationship to the creation of meaning in time. Bakhtin argues that an utterance made in the present is always related to utterances made in the past. In this sense, every utterance carries with it some traces of history –of previous meanings of the sign and the signified, of the word and of that what it tries to describe. At the same time, an utterance is also always connected to the future, as every utterance contains the seeds for future

utterances. If we accept Bakhtin's idea that our utterances contain the past, the present and the future, it becomes relevant for the materialization of a NL space to bring together people from different contexts, as they will all come with different pasts embedded in their present utterance and therefore also different contribution for the future shape of this space and the related outside networks of the participants. Any communicative act is interdependent with other communicative acts and dialogic communication is thus "an opening of a difference that is the source of meaning" (Wegerif, 2011, p. 9). Difference enables pluralism in the current/future dialogue, and it allows for a fruitful exchange between unifying and divergent forces.

Movements between core and periphery: making space for innovation

Individuals mutually constitute each other, as through dialogue they build meaning and knowledge, also about themselves (Bakhtin, 1986). This view is in line with a relational understanding of networks, where the individuals acquire an identity in a context, depending on the position they occupy in the network (Jones et al., 2008).

According to Dahlander and Frederiksen (2012, p. 989), a person's position in the network "can range on a continuum from core to peripheral". Individuals positioned at the core are more likely to gain credit, recognition, and credibility for their ideas, which mobilize resources (Hargadon, 2005). However, they also need to conform to an established system of beliefs, norms, and ways of thinking. An institutional framework could be considered in this way, as a core of an established set of relationships, standards, and practices (Cattani et al., 2014). In this sense, we understand the core as strongly connected to centripetal and homogenizing forces in the network. In the perspective of this work, we understand the core as the university, or the stable node.
On the other hand, a position closer to the network periphery allows people to explore practices and ideas that the core members might have ignored. In fact, the periphery members – called cosmopolitans' by Dahlander and Frederiksen (2012) – are also taking part in other communities, which are external to the network, and they "transfer, translate, and transform experiences from one community to another" (ibid, p. 990). In contrast to the core members, the cosmopolitans might experience more heterogeneous practices and alternative ways of thinking. The centrifugal forces are at work here at the boundaries of the network, towards divergent ideas and innovation.

In our understanding, a NL space materializes when the core members support cosmopolitans' insights and their movement within the continuum core/periphery. In a NL space, knowledge construction is in constant evolution, and so is its own conceptualization (NLEC et al., 2021).

Connections as constellations of ties: giving value to knowledge creation

In a NL perspective, it becomes important that educational settings – seen as knowledge-creating contexts – bring people together in new networked constellations. However, it is not clear how these constellations are built, or how they come to being.
In the attempt to find a bridge between micro-level interactions and macro-level patterns of networks, Granovetter (1973) characterized the strength of interpersonal ties through four key elements: amount of time dedicated to the interaction; emotional intensity of the exchange; intimacy; and reciprocal services. According to his analysis, "weak ties are more likely to link members of *different* small groups than are strong ones, which tend to be concentrated within particular groups" (Granovetter, 1973, p. 1376). The major implication of these findings, the author concludes, is that individuals' experience is tied-up with larger social structures: weak ties, often dismissed as irrelevant in sociological theory, are the connections that mostly provide integration into communities and local cohesion.
Four decades after this theoretical contribution, Jones et al. (2008) have applied this model to virtual networks, finding the strength of weak ties even more relevant for the materialization of hybrid NL spaces.

In the following, we will through examples explore and discuss what materializes a NL space emphasizing three aspects, related to forces, movements, and connections, respectively: (1) shared meaning making through dialogues shaped both by *centripetal* and *centrifugal* forces; (2) space for innovation through movements between *core* and *periphery;* (3) value of knowledge exchange and knowledge creation in the dynamics that acknowledge the strength of weak ties.

Research methods

The methodological approach presented in this paper is structured around a cross-case model of analysis. Khan and VanWynsberghe (2008) propose that mobilization of new knowledge occurs when studying different cases at the same time. According to Byrne (2005), a comparative method of analysis is well suited to explain the complexity of a phenomenon, and it also has the potential to contribute to reshaping the investigative tools in human and social sciences. Particularly, case-based methods can offer us "a new way of seeing how things have come to be" (Byrne, 2005, p. 101), that is, their process of materialization. This idea recalls the dialogic space theorized by Wegerif (2011), which understands knowledge as the result of the clash between different perspectives, seen from both the outside and the inside. In a cross-case analysis, we are operating with the same principles of dialogic and relational theories: we are looking at the *relationship* between the cases, rather than considering the studies as separate parts, or comparing/contrasting their results.

In a review of cross-case analysis approaches, Khan and VanWynsberghe (2008) divide them in two main categories: (1) a variable-oriented approach, where similar factors are used to evaluate both cases independently before comparing them; and (2) a case-oriented approach, where similar processes are highlighted in diverse sets of studies. The latter "can show how a story unfolded in different cases, how researchers can make sense of the original case, or suggest new typologies, classes or families of a social phenomenon" (Khan and VanWynsberghe, 2008, p. 9). A key strength of a case-oriented approach, say Rihoux and Lobe (2009), is that it is a holistic approach, meaning that it does consider each case in its complexity, considering all different combinations of conditions that can produce a certain outcome. It also forces researchers to justify their choices from a theoretical perspective, with additional observable implications than the original one-case analysis (Beach and Rohlfing, 2018). In this sense, it proves to be an interesting methodology for the purposes of this paper.

It is important to underline that the authors of this article have come together in a shared interest in digital technology and learning. We are all involved in the two cases presented, as teachers, educational designers, researchers, and managers. This constellation has a strength in that we are all internal observers of the two cases described, but we also provide and outside-in view to each other's project. In this sense, we are trying to create our small NL space, through the cross-case analysis that follows.

Case studies

The format we choose to report the two cases of this study is the one of a narrative based on participants' observations during workshop activities and qualitative interviews. The two cases examine the importance of combining centripetal/centrifugal forces and their movement between the core and the periphery for the emergence of a strength among weak ties in these spaces. By exploring the enaction of these concepts in existing NL spaces, they try to address the research question: *How to design for the materialization of a networked learning space?* The cross-case analysis is built around the scoping of both interventions: building NL spaces that aim at professional development.

Case 1: Master in ICT and Learning (MIL)

Master in ICT and Learning (MIL) is a two-year, 60 ECTS, part-time continuing adult education established in 2000 as a collaboration between four universities in Denmark: Aalborg University, Aarhus University, Copenhagen Business School, and Roskilde University. Over the years MIL has produced more than 450 masters and more than a thousand students have participated in its modules[1].

In this paper we will describe a six-week, 5 ECTS, elective discipline which is offered in the Spring of 2022. The elective is called 'Leadership, education and technologies - Post COVID-19'. The course is aimed at managers and executives in the educational sector with an interest in the interplay between technologies, organizational learning, and pedagogical development. The elective is organized as a mix of physical, online

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[1] For a full description of the program, see https://www.aau.dk/uddannelser/efteruddannelse/master/ikt-laering

and hybrid participation and individual fieldwork. The assessment criterium is pass/no pass based on an uploaded portfolio documenting the students work and learning throughout the elective subject.

Over the years, technological development has been fast, and technologies are no longer nice-to-have in an educational context, but more and less a prerequisite. A development that the COVID-19 lockdown has fueled, as educators and educational institutions have gained massive experience with teaching with and in technologies. This development calls for practitioners who cannot only use and design with technologies – but also feel empowered to instigate and facilitate critical discussion about the access and use of technologies in education, as well as what we want future technologies to enable. Discussions that need to take place at all levels and in all corners of the educational system.

A total of 17 students have signed up for the elective. They come from different types of educational institutions and agencies, high schools, business-, health, agriculture and university colleges. Some are leaders and head teachers, and others are teachers, 12 women and five men. Some take this elective as part of their master in MIL, while others only join this elective.

The development and execution of the module is done by three teachers with a shared interest in MIL, in common theoretical frameworks, and in researching and teaching the theme of the module. Two of the teachers have experience as leaders. The elective is designed as a collaborative exploration of the influence of digital technologies in educational organizations and how to manage that. In the design, centripetal and centrifugal forces are used to enable the participants to move between multi-voiced processes, that will allow them to identify, challenge and develop a self-authored voice in relation to the interplay between leadership, education, and technologies. A voice that can be used in their home organizations as well as in the discussions with the educational sector as a whole.

The figure beneath (Figure 1) illustrates how there is a designed intention for movements between the forces during the course: centripetal – where the lines of the square meet or cross – and centrifugal – where the lines vertically are furthest part.
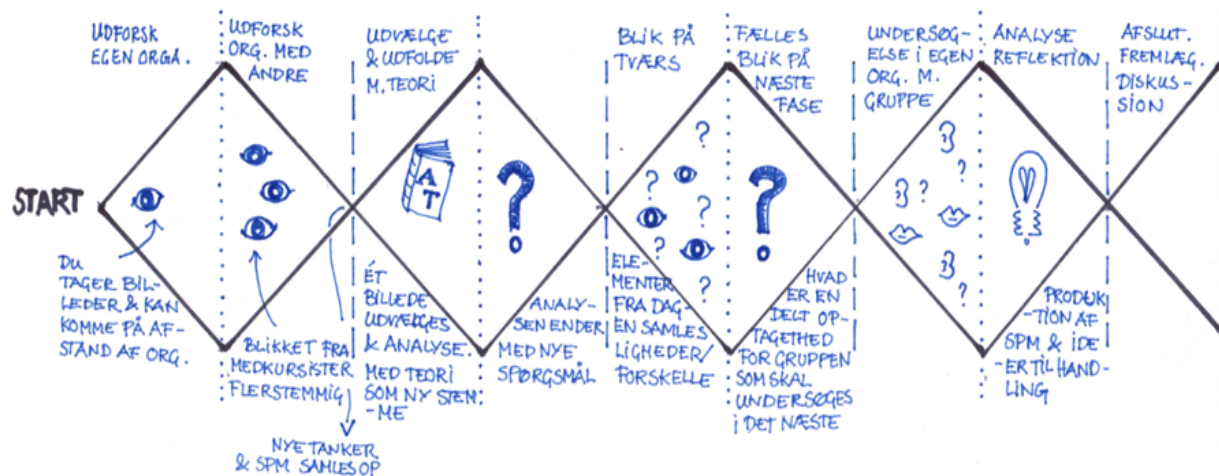
Figure 1: Design for movements between centripetal and centrifugal forces during the course

In the following, we will describe how the design enables connections, centripetal and centrifugal processes as well as movements.

The first day at the module

The first day at the module takes place as a physical meeting from 10 am to 3.30 pm at Aalborg University, Copenhagen. Bringing 17 people together from different parts of the country and different educational organizations is an example of the course design's centripetal force, as they are all there because they share an interest in the theme.

During the first course day the participants are taken through several centripetal and centrifugal movements.

As preparation, the participants are asked to produce and bring with them 30-40 printed photos of technologies in their home organization. The assignment is given with the idea of starting a centripetal process where the participants focus is pointed in the same direction, which allows for the creation of a shared material. This material is then used at the seminar to instigate a centrifugal process, where the richness of the pictures is unfolded as the participants are asked to share, introduce and discuss their pictures, in groups of 3-4 people. A process where the participants examines the different organizations, technologies and processes represented in the pictures and how their personal understanding of the same has guided their work when taking the pictures. This way of starting the module enables a collective discussion where the initial individual view of the participants is challenged by the pictures and perspectives of others and the participants together start to form a multifocal interpretation of the course theme.

After having explored each other's pictures and discussed their initial meaning, students are asked to interpret the pictures using a presented theory. At first this creates a centripetal force as all participants are united around discussing their data from a certain theoretical point of view. Secondly, it also allows a centrifugal force to come into play, as using the theory opens several new perspectives, questions and discussions related to the data and the participants' understanding of their organizational reality represented by the pictures.

At the end of the seminar the participants are asked to bring the analysis and reflections from the day together in a centripetal process of formulating a 'research question' that can guide their work for the coming six weeks of the course.

The six-week online period

After the initial physical seminar, the course continues online with a mix of online seminars for the participants as a whole and work in the groups supported by a supervisor.

During the first two weeks of the online period, the participants are asked to interview actors in their home organizations, with the aim of creating a new centrifugal process that will allow the encounter of more and various voices.

After creating data in the home organizations, the participants will enter into a period of analyzing, discussing and reflecting on their collective material (pictures, theory and interview data), with the aim of bringing the many and diverse voices present in the material together –a centripetal movement leading to new findings, understandings, questions and muddles related to the interplay between leadership, education and technologies.

The final presentation and beyond

At the end of the course, the participants will present and discuss their group work. The participants are asked to produce a text that (if they prefer to) can be posted on the social network LinkedIn. The goal of the post is to disseminate to others outside the course the understandings and questions that the participants have produced during the course, as well as the discussion points that they would like the Danish educational sector to put on the agenda. The aim is not only to instigate a dialogue with the network of participants, but also to facilitate a discussion between the participant and the larger network of actors in the educational sector.

The NL space at MIL

The following quotes are excerpts from the participants oral reflections on their learnings at the end of the first course day. As the course is not yet completed as this paper is written, a final evaluation has not yet been made, but the quotes give an impression of the participants' very first reflections.

> *I discovered that we share some of the same questions across organizations, but that we have different views on those common problems, in the groups.*

> *I would like to have the employees take pictures. I would like to understand the problem in new ways, see more problems.*

> *What I believed to be the 'problem' is maybe not really the 'problem'. The anthropological approach forced me to move my focus and recognize the organization.*

To us (the authors), these quotes reflect how the participants have realized working with both centripetal and centrifugal forces can open their eyes to new insights and learning. They recognize the force of moving between

the centripetal and the centrifugal when they see the theory as a helper in identifying problems, when they realize that sharing their individual pictures leads to identifying shared problems, when they think of having employees take pictures as a way to identify new problems and new understandings of the problems, when they realize that they as leaders are not capable of defining the problems alone, but they need the voice of others and thereby feel the need to recognize the need to move focus away from their own point of view to recognize the organization and its many points of views.

Case 2: Teknosofikum

Teknosofikum is a three-year project (2020-2023) funded by the Danish Ministry of Higher Education and Science as a follow-up of the national action plan in higher education "Digital Competences and Digital Learning" (UFM, 2019). The plan emphasizes the need for teachers to understand digital technologies in a critical way and with ethical considerations, which will drive their teaching practices in all disciplines and subjects. The goal of the project is to develop a 37-hour blended professional course in technology education for higher education teachers. Four institutions work collaboratively at this task: IT University of Copenhagen, Royal Danish Academy of Architecture, Design, Conservation, Design School Kolding, and University of Copenhagen - Faculty of Law[2].

At the moment of this writing, Teknosofikum has undergone a first mini-trial online in May 2021 with 7 participants and a second blended trial in November 2021 with 22 participants from the four partner institutions. The mini-trial lasted one week, while the second trial lasted six weeks. The learning path for this second version of the course included two full-day physical workshops (at the start and at the end of the course), 20 hours of online self-paced study, and a midway online group meeting with 4/5 participants, which was facilitated by the educational designers. Data were collected through surveys, qualitative interviews, and activities in groups during the workshops. In what follows, we present some excerpts, selected to discuss the forces/movements/connections at work in the materialization of a NL space.

I would like to have (...) more interaction with people to discuss things afterwards, because I'm so much on my own (L., final interview, trial 1).

I like the fact that you have several ways of being informed, because this only strengthens the way that we teach, or inspires us to how we can go about our things and makes us reflect: 'am I doing it the right way to what I want to achieve?' (A., final interview, trial 1).

I liked this exchange in the forum where I can also see different views depending on different professions. For me, it's very valuable to see the different view angles on some things, because when we had the first meeting in person, there was this one exercise, this implosion thing, which we did, and I actually liked that. But I don't see how I could apply this in my field with the specific things I'm teaching' (S., midway interview, trial 2).

What I like about our group is the age distribution. (...) You see the older people coming with experience and the younger ones with: 'let's just try something', because they can. And you see that this exchange would also work the other way around (H., midway interview, trial 2).

I did not expect to hear that colleagues that work with such different subjects had experiences so similar to mine with students, with the institutional challenges..I learned a lot today (M., workshop 1, trial 2)

I think something that is essential is to have some time to work with each other in an unstructured way. (...) To give each other this vocabulary about what is technology, and how we understand technology to be (T., workshop 2, trial 2).

It is so much easier now to call any of you because we have been in the same room, we have shared this experience before going online, so you are not total strangers. This aspect is very important, as networking is also relevant for us academics (H., workshop 2, trial 2).

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[2] For a full description of the project, see https://www.teknosofikum.dk

In this brief excursus of a few shared opinions about the Teknosofikum experience, we can delineate some results that highlight important aspects for the initial materialization of a community.

The NL space at Teknosofikum

Connections - First, interactions and communication among the participants - both online and in physical meetings - are mentioned as drivers for reflection, inspiration, and potential change for teachers' practices. In these results, we find evidence of the importance of weak ties. Teknosofikum course participants mostly did not know each other before the course. Not only do they belong to different institutions, but they also work in different fields: Law, Design, and Computer Science. Nevertheless, they appreciate the opportunity to connect with peers, to exchange ideas about teaching. For their own surprise, they found common challenges and common goals, in the conversation with their peers.

Forces - Second, on some occasions the participants defined Teknosofikum as a 'safe space', where they were challenged with new activities (which they both liked and disliked) but failure was accepted and even encouraged. The possibility to build such a protected environment, where rules are different from the established institutional norms, and outside of structural assessment and evaluation provided participants with eagerness to try. They experienced being pushed by divergent, centrifugal forces, and they made some experiments with teaching in their own disciplines. This happened because of the course requirements (e.g. in terms of producing a video or a mind-map) but also because of the meeting with the difference. In many cases, in fact, the participants mentioned how they learned from being with colleagues that were completely different from them, in age, discipline, or teaching perspective. Instead of representing an obstacle, this difference triggered their curiosity, and made them try out (or plan) something new.

Movements - In the case of Teknosofikum, the short duration of the two trials - one and six weeks, respectively - did not allow for the (re)combination of roles and positions in the NL space. However, it is relevant to mention that the participants asked for more. At the final workshop, they requested that the online course remained available to them for future incursions; and they asked the educational designers to plan Teknosofikum not only as a 37-hour course, but as lifelong and continuous learning.
Based on these findings, the next edition of the course (March-May 2022) will be designed as a safe space for dialogue among participants. This comprises the new initiative of forming pairs of colleagues from the same institution that will support each other along the course, so that weak connections can become stronger. After the second iteration of Teknosofikum, a new educational designer has been onboarded to take care of the workshops preparation and hold synchronous online meetings with groups of participants, which will be conceived as 'drop-in' supervision of their work.

Discussion and conclusion

The micro-analysis of interactions presented in this study are insightful in showing fundamental processes of materialization of NL spaces, which can inform future design of activities within the two projects.
In the case of MIL, the movement away from the solo-perspective, listening to multiple voices becomes useful for the students, and a method to see their own voice and their own organization in new ways. The students come to the seminar with a self-referential perspective supported by their 40 images, and then we take them through various movements that allow them to see their own voices and their own organization, but also to get a glimpse of other people's voices, what they see in the organization, and how the theories make us able to see new issues, tensions, and relations. In these movements, the students discover that they need each other. They are not alone. They have some common preoccupations, and they see the strength in the shared observations, but also where their views and their organizations dissociate. In these movements, the disturbances that we have used (the guiding questions, introduction of activity theory, presentations on anthropological methods), facilitate the transitions between the centripetal and the centrifugal at work, as well as between the peripherical and the centered positions in the network. The aim of the proposed activities is to develop the students' self-authoritative voices, to invite them to go out with their insights – not entirely alone – but with their group and engage in a discussion on LinkedIn or similar spaces, and to get back home looking for the many voices in their organization. To design for the materialization of NL is, therefore, to design for the movements – between

strong and weak ties, center and periphery, and the centripetal and centrifugal forces. There is no priority of the core or the periphery, but the strength of the design is in the movements themselves.

In the case of Teknosofikum, the networking aspect of the project was underlined by many participants, as well as the importance of having a space where they could exchange ideas and experiences about their own practices. In this perspective, the connections proved themselves powerful and useful for a cross-institutional exchange of voices and points of view. The forces at work show how the dialogue is built across disciplines and even disciplinary fields (Law, Design, Computer Science), on a different level than the usual institutional teacher professional development courses. Perhaps, these connections are initially more volatile and unstable, but nevertheless very meaningful for the course participants. These are the reasons to re-plan the next edition with a stronger focus on continuous dialogue and feedback among the participants, group activities along the course, and collaborative outcomes to present in plenary at the end of the process.

Following a cross-case analysis method, it is possible to highlight similar processes emerging from the two presented cases. First, the importance of exchange and collaboration emerges as the most relevant takeaway for the participants. Networking, connections, movements, and forces are at play in triggering unexpected outcomes, which are expressed in terms of wishes by the participants. The wish to share knowledge with peers stands out, with reference to teaching, communication, and institutional challenges.

Secondly, the two projects seem to attempt to design for the materialization of a common goal. Despite their differences in theoretical foundations, target group and pedagogies, MIL and Teknosofikum pursue professionalism not merely through the achievement of skills and competencies, but through a deeper reflection on professional' identity.

In line with other studies (Pischetola, 2021; Rientis and Kinchin, 2014), these findings indicate that educational research on teacher professional education can broaden its focus beyond formal programs and across disciplinary and/or institutional boundaries. If we agree with the definition of dialogue as "the interanimation of real voices where there is no necessary 'overcoming' or 'synthesis'" (Wegerif, 2011, p. 3), we will see that dialogue is what *creates* space in-between individuals in educational practices. In this paper, we have tried to work with this concept of dialogue: neither choosing between dualistic positions nor synthetizing them in one, but rather accepting the messiness of NL processes, and designing to support their creation.

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