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Supporting bachelor's and master's students' thesis writing: a rhizoanalysis of academic writing workshops in hybrid learning spaces

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ABSTRACT

Previous research has suggested that bachelor's and master's students seem to experience challenges with thesis writing, and the need for support might be greater when studying at a distance. To further develop supportive practices for thesis writing, this study points to a need to acknowledge materialities and spaces as active and necessary components in thesis writing. The study uses a rhizoanalytical approach that offers possibilities to study learning spaces in higher education and to explore the complexities and multiplicities of supporting thesis writing at a distance. Building on an action research project that developed academic writing workshops to support bachelor's and master's students' thesis writing processes, this study explores the academic writing workshops enacted in hybrid learning spaces (e.g. Zoom, Padlet, and Moodle). The study suggests that various hybrid thresholds make a difference in supporting students' thesis writing. The hybrid thresholds produce a closeness to the texts in becoming, suggested to be essential for enacting an effective writing pedagogy at a distance; an embodied distance to peers, calling for building personal relationships through other means than face-to-face interaction; and collaborative-and-individual support through (a)synchronous connections, no matter the students' geographical location. Taken together, the academic writing workshops enacted in hybrid learning spaces can potentially support students' thesis writing, enabling (un)predictable and spontaneous mo(ve)ments across hybrid thresholds and digital platforms that create a closeness to the theses in becoming.

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Introduction

Previous research has indicated that students experience procedural, technical, and emotional challenges with academic and thesis writing (Cameron, Nairn, and Higgins 2009; Dysthe, Samara, and Westrheim 2006; Itua et al. 2014; Jusslin and Widlund 2021), suggesting that they need support in their writing. The need for support in thesis writing might also be greater when students are away from the university campus (Könings et al. 2016). Although there is research on thesis supervision of bachelor's and master's students¹ studying at a distance² (e.g. dos Santos and Cechinel [2019]; Jaldemark and Lindberg [2013]; Könings et al. [2016]), it remains an understudied research area compared to research on supervising doctoral dissertations. In a recent literature review on remote supervision of doctoral researchers, Guerin and Aitchison (2021) questioned whether

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there is anything new or unique to remote supervision, as they found similarities between effective writing pedagogy in face-to-face and remote supervision. We suggest that this question also has a bearing for supporting bachelor's and master's theses processes at a distance. Nevertheless, these are significantly smaller projects with other goals and prerequisites than dissertations.

Previous research has pointed to opportunities and challenges in supporting bachelor's and master's students' thesis writing synchronously and asynchronously (Jaldemark and Lindberg 2013; Könings et al. 2016). While research has focused on students' and supervisors' perceptions of distance supervision practices and their associated methods and tools (e.g. dos Santos and Cechinel [2019]; Jaldemark and Lindberg [2013]; Könings et al. [2016]), we recognize a need to acknowledge materialities and spaces as active and necessary components – not merely as a backdrop or tools – in thesis writing (Boyle 2016; Gourlay 2015; Jusslin and Widlund 2021; Rule 2013) to further develop supportive practices for thesis writing. Relevant aspects of humans' multiple relations and connections with various materialities and spaces in thesis writing might have been previously overlooked, especially given the question of whether remote supervision brings anything new or unique compared to face-to-face supervision (cf. Guerin and Aitchinson [2021]). We suggest that a posthumanist perspective could recognize something otherwise due to its acknowledgment of writing as not reducible to humans but happening in relations between humans and materialities (Boyle 2016; Gourlay 2015; Jusslin and Widlund 2021; Rule 2013). A rhizomatic approach – decentering the human subject and challenging its hierarchical superiority to materialities (Deleuze and Guattari [1987] 2013) – could offer possibilities to study learning spaces in higher education, give voice to participants in such spaces (Grellier 2013), and explore the complexities and multiplicities of supporting thesis writing. Thus, this study presents a rhizomatic approach to studying how to support students' thesis writing at a distance.

The study builds on a posthumanist-oriented action research project that developed academic writing workshops for students writing their bachelor's and master's theses at Åbo Akademi University. This study focuses on the workshops held at a distance in 2020–2021 because of the COVID-19 pandemic and is a continuation study of campus-based (i.e. at the university campus) workshops previously investigated (Jusslin and Widlund 2021). Consequently, the study explores the academic writing workshops enacted in hybrid learning spaces. We understand that the spaces for writing are not neutral containers (Boyle 2016; Gourlay 2015) and use the notion of *hybrid learning spaces* (Hilli, Nørgård, and Aaen 2019; Nørgård 2021) to account for the intertwinements of the students and the digital technologies (e.g. Zoom, Padlet, Moodle) during and in-between the workshops. For example, the video conferencing service Zoom and the virtual bulletin board Padlet were used synchronously (in real-time) for collaborative discussions about thesis writing. In turn, some individual activities happened asynchronously (delayed) in the learning management system Moodle. As such, hybrid learning spaces cut across digital (e.g. Zoom) and physical spaces (e.g. home), dissolving dichotomies of synchronous/asynchronous communication and individual/collaborative coursework (Hilli, Nørgård, and Aaen 2019; Nørgård 2021).

We use a rhizomatic approach (Deleuze and Guattari [1987] 2013) to (un)fold the multiplicities, connections, and unpredictabilities of enacting academic writing workshops in hybrid learning spaces. A rhizoanalysis enables us to attend to how the workshops' humans and materialities move in relations to each other and various directions in the hybrid learning spaces and how they make a *difference* (see Deleuze [1994] 2014); through forces of difference, creation and invention of the new can happen (Masny 2016). Our analytic question is: How can academic writing workshops in hybrid learning spaces make a difference in supporting students' thesis writing processes in higher education?

Supporting thesis writing

Previous research has identified challenges in students' academic writing, such as confusion about academic writing requirements and negative emotions toward academic writing (Cameron, Nairn,

and Higgins 2009; Itua et al. 2014), which might also affect students' thesis writing. Several researchers have directed interest toward developing collaborative approaches to thesis writing to support students. Collaborative approaches can, for example, improve students' emotional and motivational welfare and increase learning opportunities from peers and tutors/supervisors (Dysthe, Samara, and Westrheim 2006; Jaldemark and Lindberg 2013; Jusslin and Widlund 2021; Miedijensky and Lichtinger 2016).

Previous research on supporting bachelor's and master's thesis writing at a distance points to opportunities and challenges of synchronous and asynchronous communication (Jaldemark and Lindberg 2013; Könings et al. 2016). Könings et al. (2016) found that participation in regularly scheduled online supervisory group meetings provided students with immediate feedback, which increased commitment and motivation in thesis writing. Still, providing feedback online was considered challenging as it lacked face-to-face interaction. Nevertheless, research also suggests that students and supervisors experience distance supervision as efficiently as face-to-face supervision (dos Santos and Cechinel 2019). Further, Jaldemark and Lindberg (2013) found opportunities with archived asynchronous communication (e.g. chats) as they can be returned to later and thus support students' thesis writing. The findings discussed above have similarities with Guerin and Aitchison's (2021) review, where best practices for remote doctoral supervision included explicit, structured, and scaffolded instruction on writing and feedback from peers and supervisors delivered synchronously and asynchronously.

In sum, collaboration among peers, a carefully planned structure, and synchronous and asynchronous feedback and communication are key aspects for supporting thesis writing at a distance. While several studies have investigated perceptions of distance supervision practices (e.g. dos Santos and Cechinel [2019]; Jaldemark and Lindberg [2013]; Könings et al. [2016]), this study adds further knowledge on supporting thesis writing by directing co-equal attention to the human participants and materialities that together contribute to producing potentially supportive hybrid learning spaces for thesis writing.

Hybrid learning spaces

We use *hybrid learning spaces* to signify the material and spatial entanglements of teachers, students, and digital technologies. As a concept, *space* has been researched from numerous perspectives (e.g. geographical, philosophical, and sociological) and understood as, for example, material, mental, and social (Lefebvre [1991]). In educational research, the functionality of digital spaces is often highlighted, such as access to course materials and social interactions, but the material opportunities and constraints of digital technologies have received less attention (Bayne et al. 2020). Following posthumanist perspectives, the materialities of space are important to consider because digital spaces become agentic and fluid in relation to the teaching and learning contexts. Digital spaces become entangled with affective and social matters, indicating that the above perspectives can be relevant depending on the effects that entanglements with space produce (Snaza and Weaver 2015).

There is no shared definition of hybrid learning spaces, resulting in various and confusing term uses (Nørgård 2021). Drawing on the concept of hybridity, hybrid learning spaces imply methodological shifts in thinking about, acting in, and responding to the spaces available to invite new, and sometimes challenging, ways of teaching and learning in higher education. To Rorabaugh and Stommel (2012), hybridity suggests hesitation at a threshold as we allow two things to rub up against one another (e.g. synchronous and asynchronous connections, individual and collaborative coursework), allowing them to interact and create random acts of pedagogy that are lively, but perhaps also unsafe, while creating something new and undetermined.

Echoing Rorabaugh and Stommel (2012), Nørgård (2021, 1716) suggested that hybrid learning spaces are 'always on the move towards something new, never fully formed or determined – either in the wild or through curious or controlled experimentation.' Nørgård theoretically

investigated the potential meanings of hybrid learning spaces, including numerous spaces, places, people, and processes relevant to learning. Based on these definitions, hybrid learning spaces dissolve boundaries inside and outside higher education institutions relevant to this study. Various spaces are at play in the writing workshops – such as home, work, Zoom, Moodle, Microsoft Word, and Padlet – to communicate and collaborate with peers and tutors, sometimes synchronously and sometimes asynchronously. We follow the philosophically grounded clarifications of hybrid learning spaces as open toward fusions, always creating something new when various binaries rub against each other (Nørgård 2021; Rorabaugh and Stommel 2012).

Requiring students and teachers to move in-between spaces while learning together and writing independently is not necessarily a straightforward process (cf. Rorabaugh and Stommel [2012]). For example, when exploring a transnational hybrid course, Nørgård and Hilli (2022) found that the students expressed frustration, and even irritation, over the diffuse and ill-defined collaborative processes that meant moving in-between spaces (e.g. Zoom, Google documents, WhatsApp, WordPress) while negotiating group work across national borders. Therefore, thesis writing across multiple hybrid learning spaces may require teachers to consider possible adverse effects of spatial and collaborative relations among students.

A rhizomatic approach

This study engages theoretically with Deleuze and Guattari's ([1987] 2013) philosophy of immanence. Deleuze and Guattari criticized a representational view of the world, connected to causal explanations that language could present a representation of the world. Instead, the world's humans, objects, and languages exist on the same level, interacting to produce new relations on an immanent plane. This refers to a decentered subject where humans are not hierarchically superior to materialities. Representational thinking is connected to being, whereas immanence embraces rhizomatic relations with differences and becomings (Deleuze and Guattari [1987] 2013). In this non-representational thinking, *difference* points toward uniqueness rather than being subordinate to sameness. More specifically, 'instead of something distinguished from something else, imagine [difference as] something which distinguishes itself' (Deleuze [1994] 2014, 37). Therefore, Deleuze suggested that differences are made or make themselves.

The *rhizome* is a core concept for Deleuze and Guattari ([1987] 2013), and it refers to a root system that spreads in irregular and infinite directions with multiple entry and exit points. A rhizome creates new connections, linking together elements of various kinds. It cannot be explained by simply focusing on separate parts; the whole rhizome must be considered. If broken, it can live on and find new lines, having neither beginning nor end as it always tries to find a way to develop. Thus, the rhizome is constantly and consistently unpredictable.

We connect these rhizomatic features to students' desirings in the writing workshops, which fueled the implementation of the course and the current analysis. The workshops built on students' here-and-now needs, making their desirings productive in the becoming of the workshops. For Deleuze ([1990] 1995), *desire* is about production, not the lack of something. The logic of desire is about emerging, producing, and becoming, emphasizing that desire happens through forces, intensities, and actions rather than being a 'thing.' What matters is not what it means – 'what matters is whether it works, and how it works, and who it works for' (Deleuze [1990] 1995, 22). We assume that students' desirings (un)fold how the writing workshops become enacted in the hybrid learning spaces. Also, desirings start prepersonally, leading up to the concept of *affect*, which encompasses bodies' abilities to affect and be affected by other bodies (Deleuze and Guattari [1987] 2013). Instead of being understood as expressed emotions and emotional reactions that can be put into words, affect encompasses prepersonal, volatile, and nonconscious intensities understood as diverse, embodied, and experienced materialities (Massumi [1987] 2013).

A rhizomatic approach provides possibilities for exploring the connections, multiplicities, and unpredictabilities when writing theses in the workshops. Writing is a way of becoming, not reducible

to humans, and happens within multiple composing spaces (Boyle 2016). The applied understanding of writing recognizes the mind–body connection, emphasizing writing as produced by material, embodied, rhizomatic, and affective forces (Boyle 2016; Rule 2013). An affective perspective enables conceptualizations of how writers respond to various materialities (Rule 2013), possibly the hybrid learning spaces in the current study. Texts affect and are affected by humans and materialities, highlighting how materialities are active and necessary components of writing (Gourlay 2015; Rule 2013). Thus, students' thesis writing in the hybrid learning spaces affect and becomes affected by materialities afforded by, for example, Zoom.

Echoing the rhizomatic framework, hybrid learning spaces are multiple, ever-changing, and open to new meanings, and they reject dichotomizing *ors* and instead focus on and ... and ... and ... (cf. Nørgård [2021]). With this rhizomatic approach, we analyze the academic writing workshops in hybrid learning spaces to explore how they make a difference in supporting students' thesis writing processes.

Methodological engagements

This study focused on the fourth and fifth research cycles (2020–2021) of a posthumanist-oriented participatory action research (PAR) project.³ The posthumanist perspective enables an ontological/epistemological shift in PAR, indicating that the action research recognizes the relationality in-between humans and materialities because researchers cannot change educational practices without changing and being changed by materialities (Allen and Marshall 2019). As in action research in general, the growth and becoming of the tutors, researchers, and students were a focus of the project, with previous studies indicating that tutors undergo development as writers and tutors by holding academic writing workshops (Hilli and Jusslin [2023]; Jusslin and Widlund 2021), but the growth and becoming are profoundly intertwined with the socio-material environment. The actions taken to develop the workshops happened in relations between humans (e.g. students, tutors, and researchers) and materialities (e.g. texts, Zoom, and Padlet) as they actively contributed to shaping the development of the workshops (see Hilli and Jusslin [2023]).

This study explored four courses, of which the first course in the spring of 2020 started as teaching on campus but was forced to move to Zoom after the first week. The workshops were arranged as courses (5–10 European Credit Transfer System credits) for students mainly enrolled in educational, social, and health sciences. Course participation was voluntary, and 77 students gave informed consent to participate in this study. This study was conducted following the recommendations of the Finnish Advisory Board on Research Integrity guidelines. Sofia (author 1) arranged the workshops, collaborating with another tutor in one of the courses. Their mission was to support, initiate, and follow up on discussions about thesis writing and research in general rather than supervising the choice of subject, theory, or methodology. The courses offered a shared time and space in Zoom twice weekly for three hours per workshop. Moodle, Padlet, and Microsoft Word were also used in the workshops.

The workshops encompassed three support structures: (a) tutor feedback focusing on students' drafts, (b) response group discussions with peers, and (c) whole-group thematic discussions with tutors and peers (see Jusslin and Widlund [2021]). Tutor feedback encompassed shorter non-scheduled feedback sessions with the writing tutors, and the response groups (3–4 students) included giving and receiving feedback on thesis work-in-progress. The thematic discussions broke the writing processes into smaller units to discuss emerging questions within specific themes (disposition, introduction, theory, method, results, discussion, literature searches, references, feedback strategies, writing strategies, and writing blocks).

Various types of data were produced throughout the PAR cycles. After the courses, 48 students voluntarily filled out electronic, anonymous, open-ended questionnaires. Tutor Sofia kept a logbook of her experiences in the workshops. The data also encompassed her bodyminded experiences of the workshops, which included emotional aspects and embodied acts of working as a writing tutor. Materials produced during the workshops (e.g. Padlets) were also included as data.

Rhizoanalysis

To explore how the academic writing workshops in hybrid learning spaces made a difference in supporting students' thesis writing processes, we performed a rhizoanalysis (Deleuze and Guattari [1987] 2013; Masny 2016). Rhizoanalysis analyzes processes that produce differences, such as how Zoom and Padlet produced differences, something new, in the writing workshops. There are multiple ways of enacting a rhizoanalysis, but a decentered subject, immanence, and differences are always present (Masny 2016; Sellers 2015). Therefore, rhizoanalysis differs from qualitative methods as it produces something new and does not assume that anything is 'to be found' in the data; the focus moves beyond searching for representation, sameness, and patterns through coding, interpretation, and categorization to account for productive differences, making the analysis post-qualitative (Masny 2016; Sellers 2015).

The rhizoanalysis included tracings and mappings (Deleuze and Guattari [1987] 2013; Masny 2016; Sellers 2015). Tracings work in structurally rooted, grounded, and vertical ways to identify deep structures, whereas maps in themselves are rhizomatic as they spread horizontally in various directions and ways. Nevertheless, Deleuze and Guattari ([1987] 2013, 12–13) submitted that tracings always return 'to the same' and, therefore, they must 'be put back on the map,' and tracings and mappings should not be perceived as opposites as both are needed to study multiplicities. Being entangled with the data and engaged in the workshops, Sofia performed the analysis in close dialogue with Charlotta (author 2). Tracings were enacted through reading the data multiple times, attentive to anything that stood out regarding how the workshops in hybrid learning spaces made a difference concerning students' desirings (e.g. sharing screens and camera use in breakout rooms). These tracings were then connected through mapping – being put back on the map – how the desirings moved the workshops into various directions in the hybrid learning spaces (e.g. connecting screens with the tutor and students sharing texts). Sofia worked visually with mapping, writing and drawing lines to follow the rhizome and how it spread in various directions, with neither beginning nor end. She experimented with several maps on paper and showed photographs of them to Charlotta when meeting in Zoom. The maps were altered based on their discussions, through re-visiting the data and theory, and finally digitalized into one map using PowerPoint. As such, the map(s) constituted both a process and a product of the analysis.

The rhizoanalysis created several hybrid thresholds that made a difference in supporting students' thesis writing in the hybrid learning spaces of the workshops. These thresholds are presented in boxes in the rhizomatic map in Figure 1. The thresholds contained both entries and exits, emphasizing their rhizomatic connections. As Jackson and Mazzei (2022, 6) argued, 'a threshold has no function, purpose, or meaning until it is connected to other spaces.' For example, the camera in Zoom (Figure 1) became a hybrid threshold, and it made a difference depending on whether it was on/off. We introduce the hybrid thresholds and their rhizomatic features individually, stressing that they are nowhere near linear. To highlight the voices in the hybrid learning spaces (Grellier 2013), we showcase data that made a difference and stood out when mapping the rhizome. We (re)present the rhizomatic map at each threshold, highlighting connections that made differences in the specific thresholds. Still, even though we focus on specific thresholds below, the whole rhizome is always present, shown with the gray lines (e.g. Figure 2). The intention is not to separate the thresholds from each other in the rhizome, as that would be impossible in a rhizoanalysis, but to aid the readability of the analysis.

Thesis writing moving in-between hybrid thresholds

In what follows, we showcase how the academic writing workshops in hybrid learning spaces were produced by hybrid thresholds in relation to students' desirings, which, in turn, supported students' thesis writing processes.

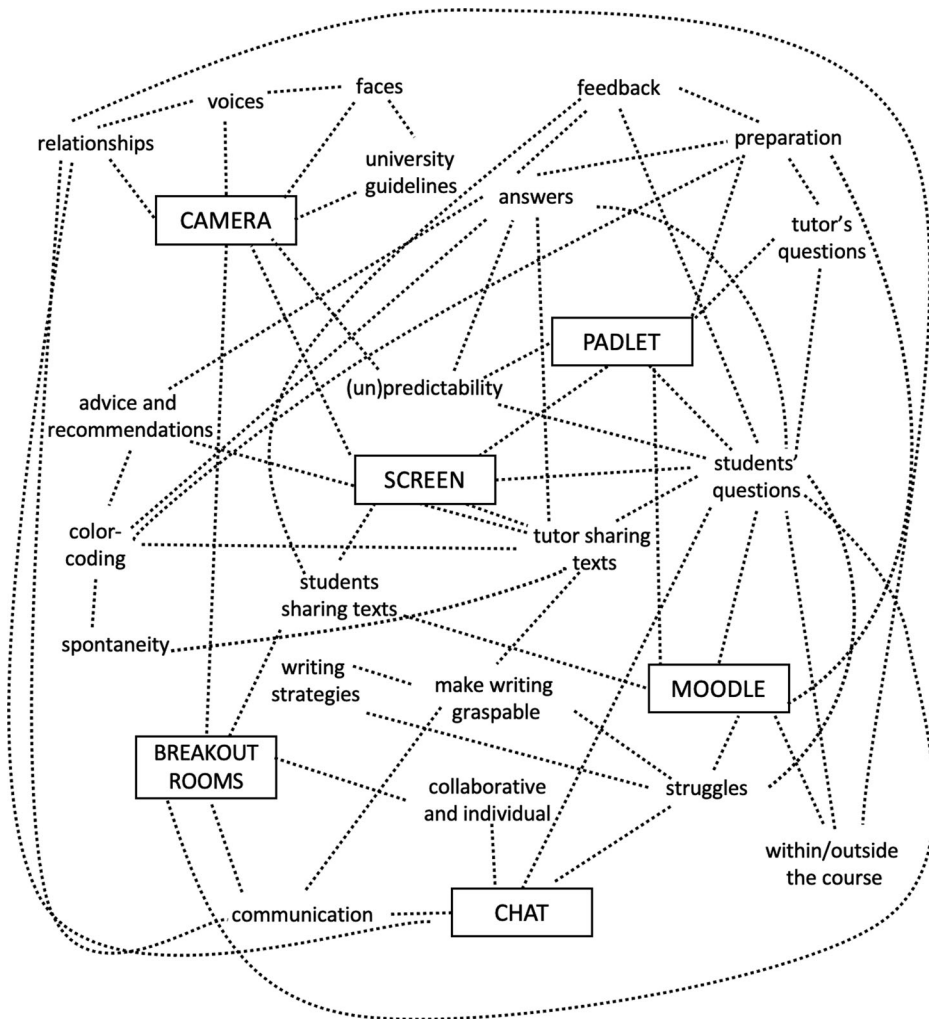


Figure 1. Rhizomatic map of the hybrid thresholds.

Through the screens in Zoom ... and thesis writing through the screens

One threshold was at the sharing of screens (Figure 2). Sharing screens enabled an unexpected closeness to various texts in the workshops. The 'Share screen'-feature in Zoom (un)folded opportunities to move in-between texts (e.g. drafts, published texts, websites, texts on Moodle) when needed in relation to the students' questions as well as the tutor's advice and recommendations and the tutor showing her writing strategies when writing academically.

When answering students' questions, Sofia sometimes color-coded her work-in-progress and published texts to highlight academic writing strategies (Figure 3) – an idea produced based on students' desirings. In addition to color-coding published texts (Figure 3), she sometimes shared private drafts, including notes, beginning thoughts, and mind maps to show academic texts in becoming and color-coded the texts while explaining how she worked with writing within that current moment in the text. In a way, the students were invited into a messy writing process, enabled through screen sharing. The students had never experienced teachers exposing their (un)finished texts, stating that it made thesis writing more graspable. This made a difference as the students felt it opened academic and thesis writing in-depth and transparently. They got to experience

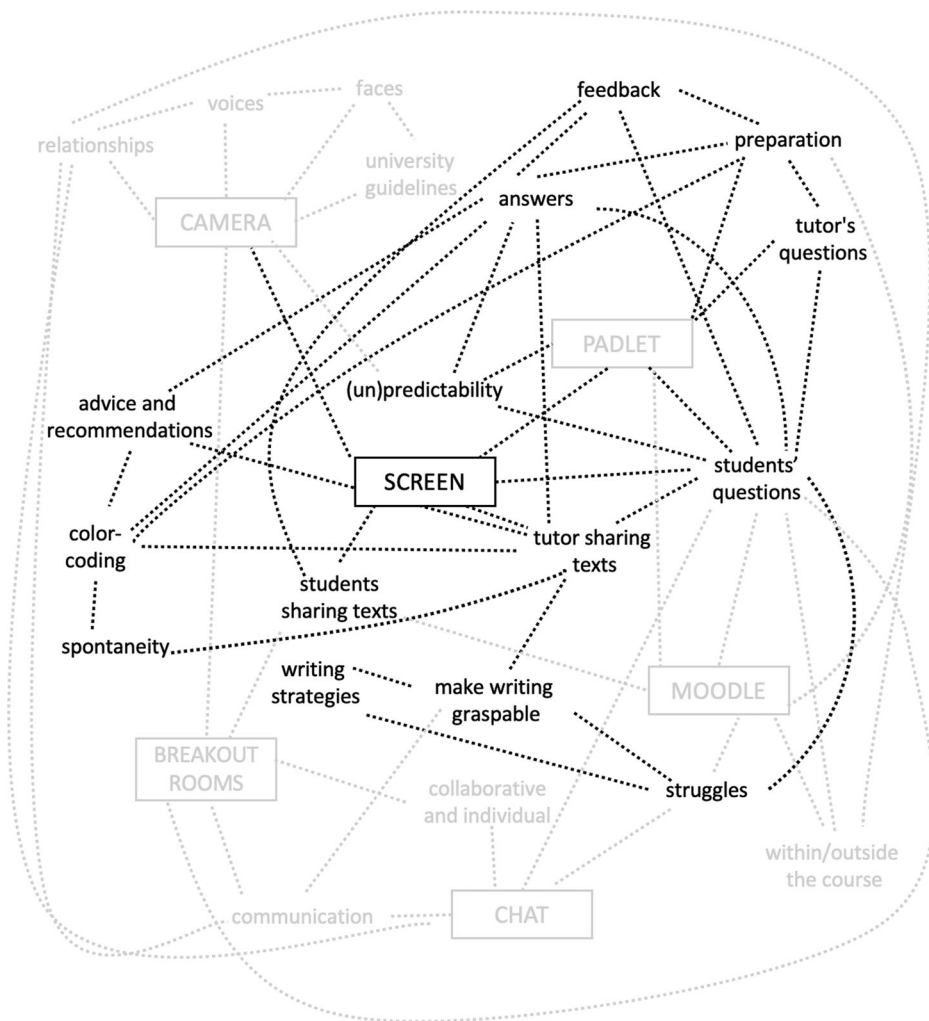


Figure 2. At the threshold through the screens in Zoom.

how a researcher grapples with academic writing concretely. Watching through the screen how Sofia utilized various writing strategies compared to merely hearing about how it could be done made a difference.

The tutoring was suitable for me, with concrete advice and instructions. I especially appreciated the pedagogical elements with color-coded parts in the tutor's texts to demonstrate dispositions, analyses, and it is otherwise difficult to grasp the connections between the many threads. (Student questionnaire)

Rewarding to see your [Sofia's] texts that you sometimes color-coded and to hear your thoughts on the subject! (Student questionnaire)

The threshold through the screens also let Sofia closer to the students' texts, as they screen-shared them to contextualize their questions for her.

When continuing with individual discussions, the students themselves also used "share screen" when they wanted to ask and show, "Are they doing it correctly?" (e.g. translating block quotes). Sharing the screen lets the students inside my texts, and they can let me inside their texts. It is a different way to work with the

We use ABR strategies alongside the adopted EDR methodology as we do research *with* and *through* different art forms; part of the knowledge generation is available in the art forms used in the project. ABR also enables us to make visible aspects of the design team that otherwise might be overlooked, and to deepen our understanding of entanglements in the team. Existing at the intersection of art and science, doing research with arts is emotional, captivating, and lived, and it moves and affects the participants by being personal and close (Anttila & Svendler Nielsen, 2019; Barone & Eisner, 2012; Leavy, 2018; Østern, 2017). Thus, an ABR approach enables us to shed light on the research process in an otherwise inaccessible way that focuses on affective, holistic, relational, transdisciplinary, participatory, and artistic aspects (Leavy, 2018). As such, ABR can, according to Østern (2017), arise a feeling of being affected and touched by the research process. This is how using and acknowledging the value of ABR strategies can contribute to the field of design research; participants involved in the research are inevitably personally involved and emotionally invested. Additionally, new materialist theory is well suited for ABR (Hickey-Moody, 2018; Rosiek, 2018) as artists are familiar with affecting and working upon different materials as much as the materials affect and work upon them.

Figure 3. The tutor's color-coded text screen-shared to the students.

same text when it goes through the screen than if I lean over someone's shoulder in a computer room. The tutoring feels more intimate, and I feel more "inside the text." (Sofia's logbook)

Sharing screens enabled spontaneous mo(ve)ments in-between texts and spaces, which made a difference in supporting students' thesis writing processes. Sharing texts and screens brought students and tutors closer to the theses and the writing in becoming.

On/off with the camera in Zoom ... and creating personal relationships

One threshold encompassed on/off with the camera (Figure 4). University guidelines regulated students' camera use in Zoom: Teachers could not force students to turn on their cameras. Often, the cameras were turned off. The students were present with a profile picture or their name, their voices, visibility in the participation list, and their writings in the chat.

There seemed to be a difference regarding camera use depending on the workshop activities. Most cameras were turned off in the main Zoom room during thematic discussions and general course information, but they were turned on in breakout rooms with fewer human participants. However, when discussing personal matters in the main Zoom room, most cameras were turned on, for example, when the students introduced themselves and discussed if and how the workshops had contributed to their writing processes. Still, not seeing each other's faces and bodies made a difference and produced various affects among the students.

It feels a bit weird that we have not used the cameras so much. (Student questionnaire)

Three months and I do not remember a single [student's] face. (Student questionnaire)

Personal relationships could not rely on faces and bodies but were produced in other ways. It required another way to entangle participants with each other within Zoom as the hybrid learning space. The lack of visual signs and embodied information produced challenges for students to remember peers, possibly connected to an issue of out of sight, out of mind. However, even if some students wished that the cameras would be turned on, experiencing that it would be better, they did not do it themselves, possibly because so many other cameras were off. When cameras were turned off, they produced black boxes placed closely together on the screen, possibly

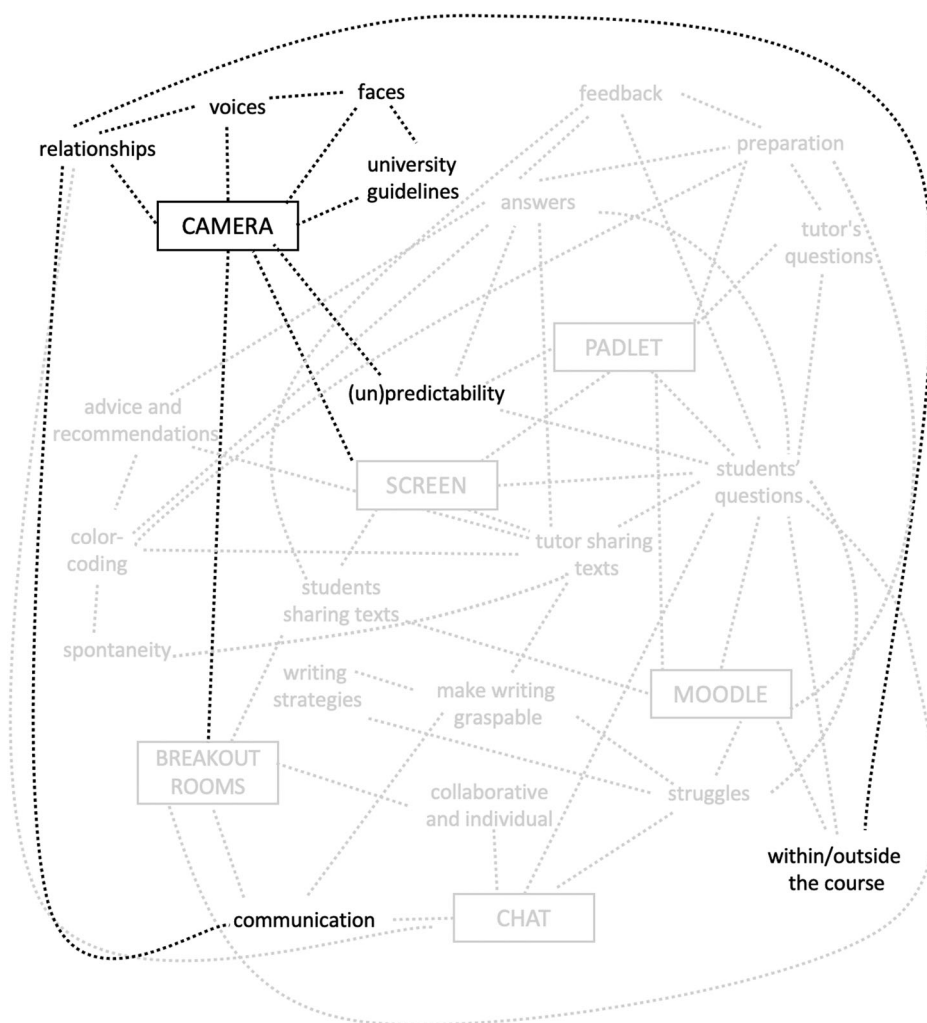


Figure 4. At the threshold on/off with the camera in Zoom.

creating an embodied distance between participants and challenges with creating personal relationships.

Creating personal relationships demanded other ways to interact synchronously in the hybrid learning spaces; students and tutors had to rely more on voices, nametags, and writings in the chat when forming personal relationships. The threshold on/off with the camera was connected to multiple aspects, depending on the students' desirings in relation to the form of workshop content currently ongoing. When discussing personal matters, the step to turn on the camera was lower, while discussions about general aspects of thesis writing in the Zoom room possibly restricted camera use.

With the Padlets ... and rhizomatic questions-with(out)-answers

One threshold concerned the Padlets⁴ (Figure 5), gathering students' written questions synchronously at the beginning of the thematic discussions. Padlet was used because of the opportunities to add questions, like, and comment on each other's questions. Figure 6 provides an example, showcasing students' questions when discussing how to write introductions.

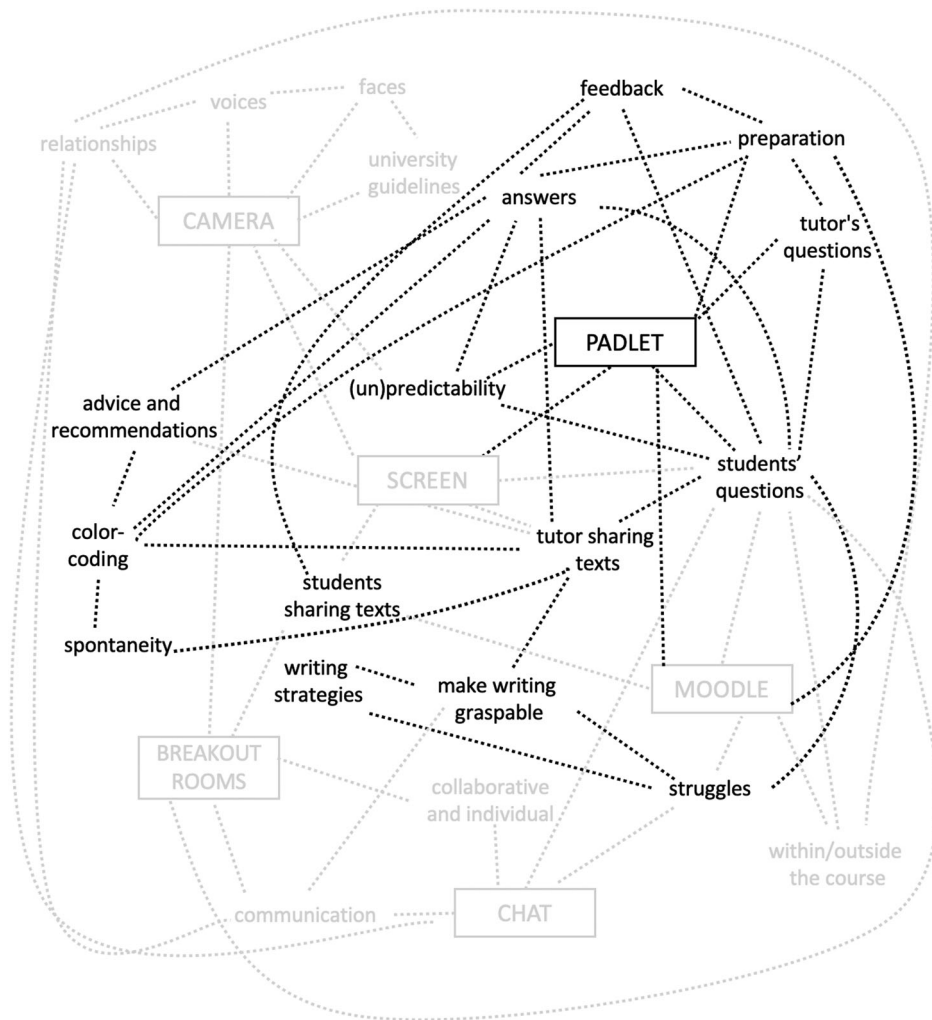


Figure 5. At the threshold with the Padlets.

After writing questions in the Padlet, all questions and possible follow-up questions were discussed orally with the whole group. Multiple directions were at play with/in the Padlet. The Padlet intertwined the students' questions and brought them closer together as they had the opportunity to see what their peers were pondering, to build on each other's questions, and like each other's questions. This created ruptures in the rhizomatic movements in the workshops, shooting out lines into new (un)predictable directions (cf. Deleuze and Guattari [1987] 2013). The students were entangling themselves with their thoughts and issues they would like to raise in joint discussions. Based on the questions (un)raised, the discussions took (un)predictable turns depending on the students' desirings.

I think the Padlet has worked very well. You have time to sit and think if you have a question and then formulate it. Great that you also can see what questions others have so that you do not repeat already posed questions. Sometimes, someone else's question in the Padlet has opened questions that you have not thought of or made you think of follow-up questions. I believe it has worked well so that "the question time" has not become messy. (Student questionnaire)

padlet

Introduction

2021

What is the maximum length of an introduction?

What is an introduction supposed to accomplish in a scientific text?

How relevant is it to connect the choice of topic to one's personal interests?

If I want to connect my topics to the national curriculum, should it be done in the introduction or the theoretical chapter?

Is an intriguing opening more appreciated than e.g., "This thesis..."? How does one capture readers' interest in the best possible way?

Figure 6. Questions about writing an introduction in the Padlet (translated to English).

They [other students] have asked questions I have wondered about myself but have not always realized to ask. (Student questionnaire)

The questions could have an answer, multiple answers, and no clear answers. The (un)predictability of the Padlets' directions produced random acts of academic writing pedagogy, where questions-with(out)-answers rubbed against each other in relation to the thesis writing.

This threshold enabled discussions and mo(ve)ments in-between texts and spaces (e.g. using materials available on Moodle and websites) depending on the desirings of the students. It often produced spontaneous screen-sharing opportunities in oral discussions. The questions and follow-ups became rhizomatic, moving the discussions in (un)predictable and multiple directions without beginning or ending in relation to thesis writing. The Padlets made a difference and supported the students' thesis writing by creating a space where all types of questions were allowed, encouraged, and valued, embracing that all questions do not have clear-cut answers.

In the Zoom chat and breakout rooms ... and collaborative-and-individual support

The Zoom chat and breakout rooms produced thresholds (Figure 7) that enabled collaborative-and-individual support and dialogues. The students appreciated moving in-between Zoom's socio-material, hybrid spaces that enabled collaborative-and-individual support. The chat had multiple potentialities for synchronously written dialogues. The support could be collaborative through sending messages to all participants in Zoom and individual through sending messages only in-between tutor and students. The breakout rooms enabled collaborative small-group or individual oral dialogues between tutor and student that affected the tutoring as the students could discuss their texts more in-depth during individual tutoring discussions.

Going into separate rooms to speak privately with someone if you have a problem (Student questionnaire)

Breakout rooms have been a good function if one has wanted individual discussions (Student questionnaire)

The students also used the chat to help, support, and engage with one another.

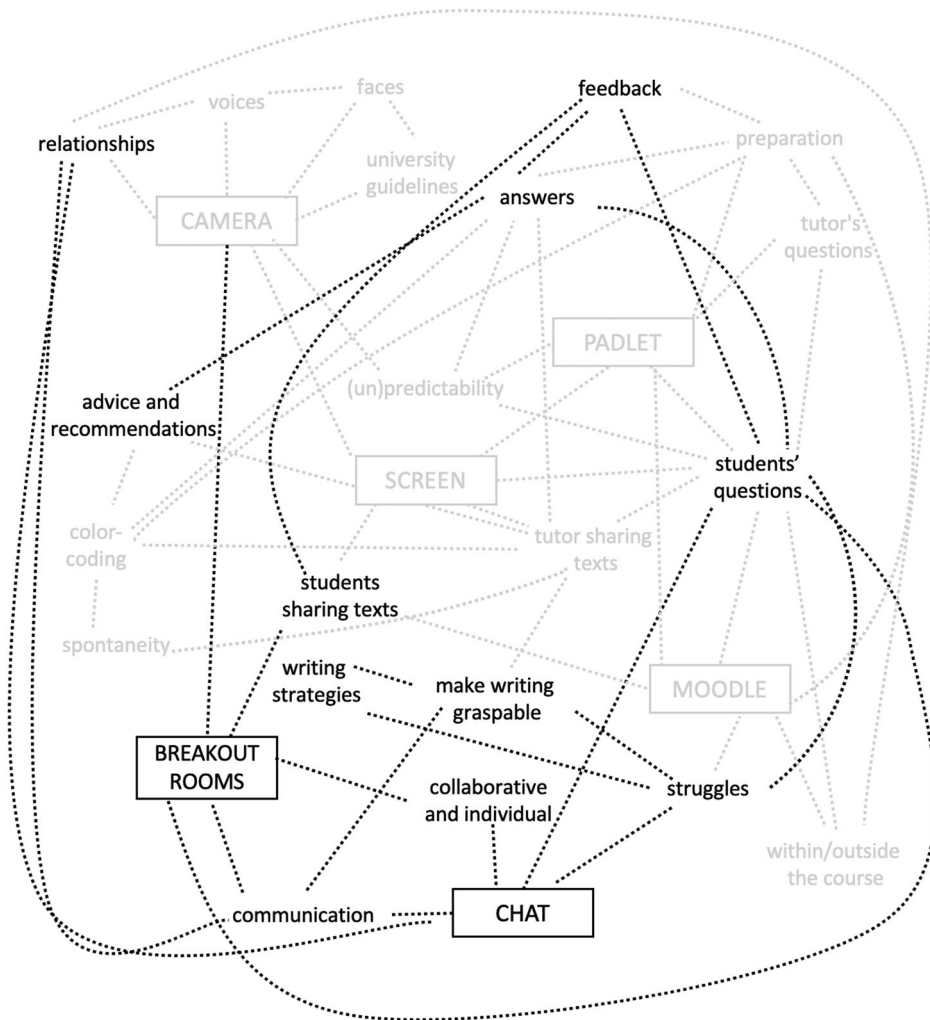


Figure 7. At the thresholds in the Zoom chat and breakout rooms.

One student entered Zoom 15 min after we had begun. The thematic discussion was ongoing, and I was answering another student's question when they entered late. I did not want to interrupt the discussion out of respect for the others who were there on time, so I continued without acknowledging the late arrival. But the student wrote in the chat, "Good morning :) Just came from preschool drop off," and another student replied, "We are going through questions about dispositions. We wrote our questions in a Padlet, and now we discuss the first question." I saw something happen in the chat but did not want to interrupt the flow since I was talking. When I finished and paused to hear what the students responded, I looked at the chat and saw this conversation. The late arriver wrote, "Thank you! I will try to keep up :)" (Sofia's logbook)

This instance showcased how the collaborative elements of the chat made a difference and enabled students to act as peer support for each other regarding the content and structure of the course. Similarly, the written synchronous discussions in Padlet produced positive connections with the student collaboration (cf. With the Padlets ...). The Zoom chat provided spontaneous written synchronous dialogues appreciated by the students, possibly because it allowed another material relationality than using the cameras and microphones focusing on the (lack of) faces and voices (cf. On/off with the camera in Zoom ...).

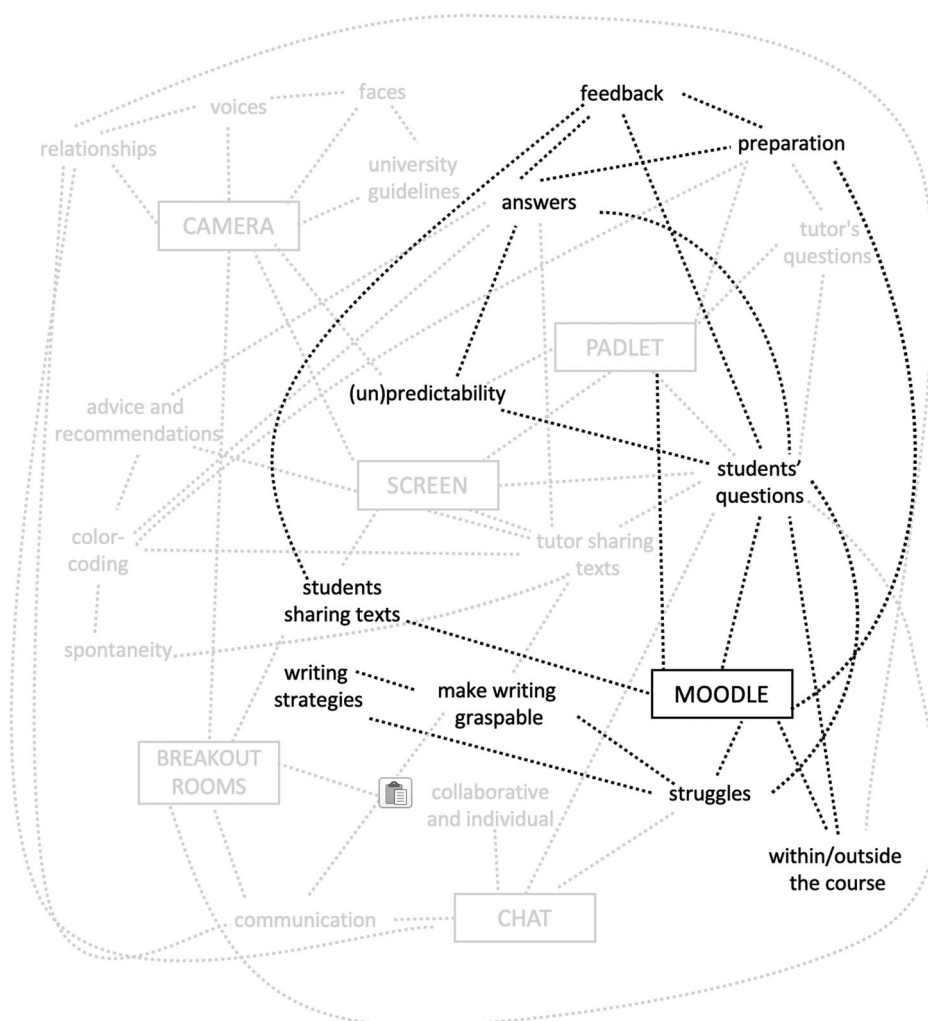


Figure 8. At the threshold on Moodle.

Movement across the thresholds in the chat and breakout rooms seemed beneficial for the students as they provided diverse synchronous collaborative-and-individual support. As such, the support could be collaborative-and-individual, emphasizing a both/and perspective, depending on the spaces used. This can be understood as enabling a socio-material closeness to peers and tutors. Students' desirings and what kind of help they needed in the here-and-now produced these various types of collaborative-and-individual support.

On Moodle ... and available support in-the-workshop and outside-the-workshop

One threshold was located on Moodle (Figure 8). Moodle became an asynchronous hybrid learning space to which the students could (re)turn to when needed, but it was also sometimes used synchronously through screen-sharing materials found on the platform, depending on what the students needed during the workshops. Moodle gathered, for example, materials on themes addressed, archived Padlets, literature tips, and reference styles. Each theme addressed in the workshops had related materials available on Moodle from the beginning of the courses. As the students could

have just started writing the thesis or been doing it for a while, they could use these whenever needed.

Moodle enabled the students to prolong the available support provided in the (a)synchronous workshops. It became an extension of the course, providing a rhizomatic and expandable space to be (re)turned to multiple times, while Zoom was porous and inaccessible after the synchronous workshop sessions since they were not recorded and shared with students. The threshold on Moodle enabled the availability of support in-the-workshops and outside-the-workshops. Moodle became a space where the students could entangle themselves with whatever support and material they needed at a specific time.

I have used the materials extensively during the writing process, both articles and what was discussed during the thematic discussions [thematic materials and/or archived Padlets]. I think it's good that everything is available on Moodle, so you can look there if there is something you are pondering about. (Student questionnaire)

I have used materials available on Moodle also outside the writing workshops. I hope the Moodle page is available for a while [after the course] so you can go back and open the documents. (Student questionnaire)

The workshops produced supportive possibilities that could be utilized outside the synchronous workshops; Moodle made a difference by extending the workshops' boundaries. It created a closeness to the (a)synchronously available support, in contrast to the otherwise synchronous workshops in Zoom. Students could move between spaces for writing based on their desirings in relation to their thesis writing, challenging the (a)synchronous connections in the hybrid learning spaces.

Discussion

The analysis showcased that supporting students' thesis writing in hybrid learning spaces became enacted at hybrid thresholds. The hybrid learning spaces enabled (un)predictable and spontaneous mo(ve)ments across the hybrid thresholds, which made differences in supporting thesis writing.

The hybrid thresholds produce *a closeness to the texts in becoming*, perhaps otherwise from campus-based workshops (cf. Jusslin and Widlund [2021]). The present study showcases how supporting students' thesis writing (a)synchronously through, for example, screen sharing of texts in Zoom, working with questions in Padlet, and extending the workshop boundaries through Moodle is connected to the various hybrid learning spaces in the workshops. Possibly, the closeness to the texts in becoming is intertwined with the students' multiple connections when using multiple platforms (e.g. Zoom, Padlet, Moodle) in the workshops. As such, the study acknowledges the forces of the hybrid thresholds and their materialities, which otherwise might have been overlooked in higher education practices. Mo(ve)ments in-between the hybrid thresholds seemingly provide helpful support to students in the ongoing thesis writing process and can help them grapple with possible confusion about academic writing requirements (Itua et al. 2014). In these hybrid learning spaces, effective writing pedagogy became something otherwise (cf. Guerin and Aitchinson [2021]). However, creating a closeness to the texts in becoming requires responsiveness to the (un)predictable that can unfold when supporting thesis writing. This study suggests that closeness to texts in becoming is essential in enacting an effective writing pedagogy in hybrid learning spaces, adding to the body of literature that understands writing as relational, rhizomatic, affective, and material (e.g. Boyle [2016]; Gourlay [2015]).

Synchronous hybrid learning spaces like Zoom may also produce an *embodied distance from peers*, as the cameras impact the creation of personal relationships. The university's decision not to force camera use may be accepted from ethical perspectives to respect student integrity, but it made building relationships difficult. It echoed the situation described by Gravett, Taylor, and Fairchild (2021, 9–10): 'In these liminal online spaces, anonymous bodies appear, ephemeral and ghostly, as cameras are turned off – a gallery of black squares populated by a student name, an email or a phone number.' Previous research has stressed the importance of face-to-face interaction when

supporting thesis writing (Könings et al. 2016), but also that distance supervision can be as effective as face-to-face supervision (dos Santos and Cechinel 2019). Still, the workshops in hybrid learning spaces offered – and required – other ways to create personal relationships by including small-group discussions and individual tutoring sessions through written and oral synchronous connections in chats and breakout rooms. University guidelines regarding camera use make us consider if synchronous meetings, like in Zoom, are always negotiated on ethical thresholds involving students, technologies, teachers, and courses. The consequences of such ethical thresholds can be both productive and counterproductive, and more research is needed about how it affects student learning and, particularly, thesis writing processes.

Despite the embodied distance from peers, the workshops in hybrid learning spaces produced *collaborative-and-individual-support* because of the socio-material hybrid spaces used in the workshops, which might be especially crucial for geographically dispersed students. The study's insights thus add to previous research that emphasizes the benefits of a collaborative approach to supporting thesis writing (Dysthe, Samara, and Westrheim 2006; Jaldemark and Lindberg 2013; Jusslin and Widlund 2021; Miedijensky and Lichtinger 2016). Through (a)synchronous connections, students' thesis writing processes can be supported no matter where they are geographically, agreeing with previous research (Könings et al. 2016). While Padlet and various functions in Zoom became collaborative-and-individual synchronous spaces for students and tutors, Moodle became an individual, asynchronous hybrid space for students to move in-between materials depending on their desirings during and after the course. However, we also acknowledge that, despite the collaborative-and-individual support, the embodied distance can make students not seek synchronous support in online workshops. This points to a need to offer multiple collaborative and individual spaces to support students' thesis writing.

Methodological considerations and future research

The rhizomatic approach can offer implications for academic writing pedagogies in higher education. The analysis points toward opportunities and challenges in supporting thesis writing in hybrid learning spaces that can fuel and inspire the further development of online distance education in higher education (cf. Bayne et al. [2020]), and these results are dependent on the post-humanist-oriented action research approach that enabled responsiveness to the materialities that made a difference in developing the workshops (see Hilli and Jusslin [2023]). However, a rhizomatic approach cannot – nor does it seek to – describe or capture reality *as it is*. This is not necessarily a limitation, as the knowledge contribution concerns how reality is created and performed anew. Without the purpose of drawing generalizable conclusions (Masny 2016; Sellers 2015), the rhizomatic approach of the present study showcases the complexities and multiplicities of simultaneously producing closeness and distance when supporting thesis writing in hybrid learning spaces. The insights of this study depend on ontological and theoretical understandings of how materialities, affects, and (digital) spaces make a difference in education (Bayne et al. 2020; Snaza and Weaver 2015). The material effects of (a)synchronous connections – such as written questions in Padlet, written chats, oral discussions with(out) cameras in Zoom, and available materials on Moodle – suggest that relationality may be experienced differently depending on the materialities of the digital space. More specifically, a rhizomatic approach to studying thesis writing can problematize – and recognize – various materialities and spaces in higher education and how they make a difference in students' thesis writing. Working visually with mapping the rhizome proved helpful in recognizing the materialities and spaces in the current study. Therefore, we recommend more research about and attention to the materialities and spaces for thesis writing in higher education practices because neglecting their role risks only seeing a limited part of the rhizome and its humans and materialities. Based on this study, we propose posthumanist-oriented action research as a useful way to further develop academic writing pedagogies in higher education.

Notes

1. Henceforth, *student* refers to bachelor's and master's students unless otherwise stated.
2. There are many different – and confusing – terms used for distance education (see Guri-Rosenblit and Gros [2011]). We follow Guri-Rosenblit and Gros's (2011) suggestions that distance education strives to bridge the physical distance between teachers and students in meaningful pedagogical ways that may or may not include digital technologies. When we refer to previous studies, however, we use the same concepts that the authors use (e.g., remote and online) because we do not want to add a potentially different meaning than the authors intended.
3. The changes made between the research cycles are described in Hilli and Jusslin (2023).
4. For information about Padlet, see: <https://padlet.help/l/en/about-padlet/what-is-padlet>

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