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Title: Rhizoanalysis of Sociomaterial Entanglements in Teacher Interviews

Year: 2023

Version: Published version

Please cite the original version:

Nikula, T., Pitkänen-Huhta, A., Sulkunen, S., & Saario, J. (2023). Rhizoanalysis of Sociomaterial
Entanglements in Teacher Interviews. In J. Ennser-Kananen, & T. Saarinen (Eds.), New
Materialist Explorations into Language Education (pp. 135-150). Springer International
Publishing. https://doi.org/10.1007/978-3-031-13847-8_8

Chapter 8
Rhizoanalysis of Sociomaterial Entanglements in Teacher Interviews

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Abstract This chapter explores how the entangled relationship between the material and social in teachers' perceptions of change can be empirically investigated. More specifically, the chapter adopts a DeleuzoGuattarian rhizoanalytic assemblage approach and the notion of *becoming* to capture the dynamic and fluid nature of social and material affects. The study re-analyses three teacher interviews from data sets originally collected for different research purposes but with the theme of change relevant in each interview. The findings show that rhizomatic analysis and approaching interviews as assemblages can yield important insights about material realities. For example, they indicate how teachers' ways of becoming depend on complex and unpredictable intra-actions of social and material reality and how different aspects of materiality may constrain or come into conflict with each other and have agency. The chapter concludes by discussing the methodological implications of the essentially non-hierarchical rhizoanalytic approach.

Keywords Affects · Assemblage · Becoming · Rhizomatic analysis · Teacher interviews

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Introduction

Education is a key institution in society with a multi-faceted role in relation to societal change. While various societal, ideological and political developments put demands on education and call for change to ensure relevant skills and capacities for the future, education also plays its role in supporting the dominant system and maintaining continuity, and in that sense resists change. Moreover, change and its effects can be depicted and experienced as both positive and advantageous, as well as negative and disruptive. This potential dynamics and various tensions between different orientations to change form the backdrop for this chapter. We address the core theme of the volume – the potential of socio-material research approaches for language education – from the perspective of teachers, as we explore what kind of material aspects are entangled with social ones as the teachers address the theme of change. In this process, we are interested in how teachers respond to change or calls for change, whether and where they envisage change, whose change it is, and how it affects people, practices, and ways of being, and how it connects to materiality.

In exploring this topic, we use interviews with secondary school teachers as data. The interviews derive from three different data sets. The theme of change is relevant for each set. Two data sets were motivated by the latest renewal of the National Core Curricula in Finland and their emphases in highlighting the notions of language-aware school, disciplinary literacies, multiliteracy, and multilingualism. The third one was motivated by the changing conditions brought about by growing diversity in schools and the increasing number of multilingual migrant learners. The use of these data involves two types of methodological experimenting: exploring how to study sociomateriality empirically, and considering the usefulness of re-analysing existing interview data (cf. van den Berg, 2005).

In order to bring into dialogue social constructivist and materialist viewpoints, we will adopt a rhizomatic assemblage orientation informed by Deleuze and Guattari (2017/1988). A rhizoanalytic approach to teacher interviews is hence a way for us to explore how the intertwining social and material aspects can be empirically examined. We are interested in seeing how rhizoanalysis "can disrupt commonsense understandings" (Honan, 2004, p. 267) of the relations between teachers' talk and materiality, and what insights unpacking the conventional hierarchical and linear representations of data can yield.

The questions we ask in this chapter are:

1. What kind of rhizomatic relations become evident in the data when teachers reflect on change?
2. How materiality emerges and is entangled with the social in the teachers' accounts?

Education as Rhizomatic Assemblage: A DeleuzoGuattarian Approach

According to MacLure (2013, p. 658–659), new materialist research paradigms call for approaches and methods "that reject the hierarchical logic of representation". We respond to this call by adopting a *rhizomatic assemblage* orientation, inspired by Deleuze and Guattari (2017/1988; see also Honan 2004, 2007; Fox & Alldred, 2015; Toohey, 2018). Rhizomatic assemblage refers to any network of bits of social life brought into contact with another. Its key feature is a shift from representational logic and linearity to recognizing the multiple, simultaneous affective flows and 'lines of flight' (Honan, 2004, p. 269) that engage with social and material realities in a continuous process of affecting and being affected. Fox and Alldred (2015, p. 401) argue, drawing on Deleuze and Guattari (2017/1988, p. 256) and Massumi (2017/1988, p. xvi), that such DeleuzoGuattarian notion of *affect,* i.e. the capacity to affect and be affected, replaces the more static notion of human agency in representing a change in an entity. This change may be physical, psychological, emotional or social. Furthermore, because affect is not only a human but a material characteristic, it breaks down the dualism between the two and directs attention to the totality of creative and affective flows in an assemblage. This resonates with Barad's (2007) notion of *intra-action,* which highlights distinct agencies coming into being and emerging through their entanglement with each other (see also Muhonen & Vaarala, Chap. 4, this volume).

Closely related to the idea of affective flows within an assemblage is the notion of *becoming*, a phase of change in the state or capacities of an entity. This key concept captures the dynamic, creative and fluid nature of social and material affects as opposed to the more static notion of *being* (Deleuze & Guattari, 2017/1988; Fox & Alldred, 2015). This resembles Barad's (2007) notion of *new agential cuts*, i.e., new ways of approaching the lines along which agency is assigned or distributed, seeing it as a constant process of enactment rather than something that 'is' or something that one 'has'. Similarly, Leander and Wells Rowe (2006, p. 433) talk about parallel becoming(s) with unpredictable and creative affective movements and argue that these "rework the problem of identity". Such dynamic notion of becoming means recognizing that affective flows are unpredictable and that assemblages can produce new ones in an endless rhizomatic manner.

Adopting a rhizomatic assemblage perspective means that instead of treating interviews as direct representations of teachers' views of reality, with clear-cut causalities or linear and hierarchical relationships, it is important to identify the multiplicity and rhizomaticity of various affective flows involved. As regards materiality, we align with Fox and Alldred's (2019: introduction, para. 1) observation that apart from material things, materiality can also include "abstract concepts, human constructs, and human epiphenomena such as imagination, memory, and thoughts; though not themselves 'material', such elements have the capacity to produce material effects".

Next, based on Fox and Alldred (2015, p. 401–403), we will discuss the implications of adopting the DeleuzoGuattarian new materialist approach for social inquiry. *The first implication* involves shifting the unit of analysis from human agents to the assemblage, resulting in the focus on the capacities for interaction produced by affective flows. Consequently, the methods used and the language describing the analysis need to adapt to this new focus. This means that even though our interviewees are teachers, our focus lies on the linguistically coded assemblage of (change in) education rather than on the teacher as a human agent.

The second implication of new materialism (Fox & Alldred, 2015, p. 402) concerns the processual character of assemblages and questions of power. This means that rather than seeing power and control as fixed social structures, they are socially and spatio-temporally specific occurrences within flows of affect in assemblages. Similarly, Honan (2004) reminds that Deleuzian theories see power relations as fluid. In her study, this fluidity was reflected in teachers reading policy texts multidimensionally rather than linearly and with compliance, which was interpreted as a signal of their authority and powerful role. In the same vein, and in accordance with the dynamic and potentially tension-ridden approaches to change depicted in the introduction above, we will approach the assemblages of teachers' reflections on and evaluations of change as dynamic processes and as specific to certain spatiotemporal conditions without assuming fixed (power) relations.

Thirdly, Fox and Alldred (2015, p. 402) argue that DeleuzoGuattarian ontology dissolves conventional categories such as those between the material and the cultural, as well as between micro, meso and macro levels of social life, which encompass the levels of individual and specific contexts, groups and communities as well those of social structures and institutions. The relations within an assemblage cut across these categories and are rhizomatic rather than straightforward causal effects. In our case, approaching rhizomatic relations as cutting across conventional categories means that we seek to disengage ourselves from the tradition of thematic analysis, and to adopt what MacLure (2013, p. 659–660) calls a flattened logic instead of the hierarchy of representation. This means approaching the relations between elements of change in teachers' reflections as part of one rhizomatic assemblage rather than representing macro and micro level elements in a hierarchical manner.

The fourth, an already mentioned, key concept in this ontology is *becoming(s)*, which captures the dynamic nature of materiality (Fox & Alldred, 2015, p. 402) and has been characterized as unpredictable creative and affective movements (Leander & Wells Rowe, 2006, p. 433). For us, this means placing focus on tracking the changes teachers reflect on. Rather than asking who teachers are, we ask who they are becoming and what role do material aspects play in this becoming when they reflect on changes and pedagogy. It is also important to bear in mind Fox and Alldred's (2015, p. 403) fifth implication concerning the researcher's role as a part of the assemblage, and the need to see researcher and data as research-assemblage that "shapes the knowledge it produces".

Rhizomatic Analysis of Teachers' Reflections on Change

As stated in the introduction, we re-analyse three sets of teacher interviews and approach each of them as a case. Before a closer look at the cases, a few words are in order about our methodology for studying sociomaterial entanglements within the assemblages of teacher interviews. In line with the theoretical underpinnings described above, we have sought to account for the dynamic, non-hierarchical and non-linear nature of assemblages both in the analysis and in reporting. Figure 8.1 offers a visual snapshot of what we mean by rhizomatic assemblage; it serves as an abstraction of our approach rather than an overview of findings.

The nodes in Fig. 8.1 depict viewpoints, raised by the teacher and deemed relevant for the key analytical focus in the study, teachers' takes on change. In Liisa's interview, an example of such a viewpoint is the curricular contents not meeting the classroom realities. The bigger nodes are for recurring themes, and the lines between bigger and smaller nodes illustrate the nonlinearity in how points raised became linked during the interview. The words in capital letters indicate the nodes clustering into major topics around which the points raised by the participants were accumulating. These, naturally, reflect the original purpose of the interviews but also the usual ways in which education tends to be talked about, for example with reference to classroom practices, teacher identities and curricula, but here our focus is on materiality. As pointed out above, our view of materiality encompasses not only material things but also the capacity of the non-material concepts to produce material effects. As Guerrettaz et al. (2021, p. 4) put it, we are interested in the "entangled interrelationships of the material world in relation to social processes, structures, and dynamics".

The web-like organisation illustrates that the points teachers raise are often connected in unexpected non-hierarchical ways. For example, a teacher may bring up educational structures both in relation to classroom practices and professional community, connecting lines indicating such thematic re-occurrence. The links between the nodes do not imply direction, linearity or hierarchy. Rather, the ensuing web of

Fig. 8.1 Liisa's interview as rhizomatic assemblage
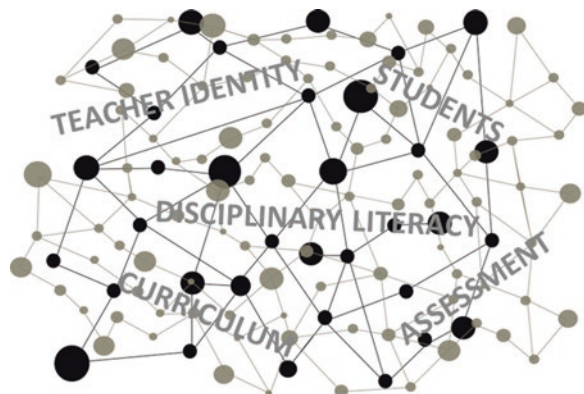
connections resembles neural networks where signals may traverse in unpredictable directions. In a similar manner, rhizoanalysis can follow different trajectories and hence, as Honan (2004) points out, have many plausible readings. This brings us to the point raised by researchers working with the DeleuzoGuattarian approach that rhizomes can be entered from various points. De Freitas (2012), for example, argues for the abundance of both entry and exit points in rhizomatic assemblages. This also enables disengagement from conventional linear readings of the data (see Alvermann, 2000, p. 118) and a flattened logic with the absence of hierarchical organization in an assemblage. This approach also justifies the re-analysis of existing data pools, to discover new readings of old phenomena.

For this study, we chose *student* as the common entry point to the datasets. This was a way to avoid a linear approach to the data because the student was not a similar starting point for all the interviews and hence offered an opportunity to step into the middle of rhizomes. At the same time, reflecting on students and their learning intersected with many other issues but not in an identical manner across the interviews, i.e., the same entry point resulted in different rhizomatic relations across the assemblages.

In the following, we illustrate with data examples[1] our key observations of affective flows and processes of becoming and what they suggest about the intra-action of the social and the material in the assemblages.

The Case of Liisa

Liisa (all names are pseudonyms), an experienced science teacher, is one of the seven secondary school teachers interviewed in 2016 before the implementation of the new Core Curriculum for Basic Education in Finland when schools were preparing local curricula. The data were collected by Kristiina Skinnari and Tarja Nikula. The original purpose was to learn how subject teachers in both mainstream and CLIL schools orient to such new language-related emphases in the curriculum as language awareness, disciplinary literacies and multilingualism (Skinnari & Nikula, 2017). This re-analysis shifts the gaze on examining how materiality is entangled in Liisa's reflections on curriculum change, clustered around the major topics of professional community, teacher identity, students, and pedagogical practices, i.e. represented as backgrounded capitals for this interview (see Fig. 8.1).

In this interview, choosing students as the entry point leads to a phase during the early parts of the interview where Liisa reflects on curricular contents and students' needs. Materiality manifests in the way curricular contents become depicted as coming into conflict with the material realities of everyday life, as students struggle with grasping the concrete need for maths knowledge, a position that Liisa aligns

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[1] All the interviews were conducted in Finnish. The data extracts have been translated into English by the authors and are presented with simplified transcription conventions for clarity.

with. There are thus intersecting rhizomatic connections, signalling tensions between the policy level depicted in the curricular aims and students' lived experiences of what is necessary:

> L: I see the overemphatic importance of maths in the curriculum and aims of basic education, also at secondary level, quite out of proportion, even in basic education we have a lot of content that people simply won't need in their everyday […] especially in maths there are quite a lot of struggles with students on why these things need to be studied, where are they needed […] it seems quite unclear and unnecessary to students, with no connection to everyday life

Given the original purpose of the interview, Liisa's reflections shift from students to the ongoing work on the local curriculum. In the next extract, she describes consternation over what she perceives as the work on the local curriculum ignoring such new (national) core curriculum emphases as phenomenon-based teaching and student-centeredness, and instead of these, focusing on the contents-to-be-learnt. She is also reporting about the blunt response she received from her colleagues when commenting on this. Here, materiality emerges as a concrete list of contents, 'placed' (in the teacher's words) in different years in the curriculum, with a tangible effect of constraining and defining teaching. This rhizome, then, shows how Liisa is involved in a process of becoming that reworks her professional identity and highlights her dissatisfaction and sense of difference:

> L: but I was even more shocked when the version that came for comments had completely ignored the general part of the new curriculum, it was all about placing contents in different school years, with no mention of phenomenon-based [pedagogy] or students' active role in personal or student-based teaching […] and I commented the first draft and got a quite blunt response, well the curriculum does list all these contents so all of these we need to teach

The process of becoming that makes salient tensions in Liisa's identity is also visible in the complex rhizomatic relationship between herself, the professional community and the notion of change, illustrated by the following extract. Here, Liisa describes the professional community of mathematics teachers as resistant to change, and comments on nothing ever changing in textbooks. The non-change thus becomes manifested through the materiality of the textbook. Liisa strongly positions herself in opposition to this by reference to feelings of misfit between herself and others. The unchanging nature of textbooks is thus intra-acting with Liisa's views on, and frustration with, her professional community:

> L: I have the feeling that teachers of mathematical subjects are considerably more resistant to change than other teachers […] this is my impression and experience based on working with colleagues and following textbooks, nothing in them is ever changing [...] it's like 'cos Socrates taught this way and 'cos Socrates drew these same figures in the sand, so nothing has changed for the better so let's keep on doing the same

The perspective of students re-emerges in the assemblage when Liisa discusses the new curricular emphasis for project-based teaching in the light of her own experiences. Her comment shows how, in her view, the material concreteness of practical hands-on experiments, introduced to support students, in fact makes learning more

difficult for them, which stands in contrast to the widely held beliefs of the benefits of project-based learning (e.g., Bell, 2010):

> L: we often try experimenting, that students either fiddle with something on their own or I show demos and they watch and then we try to discuss what happened, in that form of working it'd be really important to make observations, to see and hear what happened, but for students that's really difficult they don't want to do that, they rather want to jump right on to reasons why

In the following example, Liisa again comments on hands-on experiments and how they can lead to a dead-end in learning due to lack of student interest. Materiality is entangled here in two ways: as contents 'crammed' into the restricted space available in the curriculum, and the tangible hands-on process of the experiment itself:

> L: there's the problem that it [using experiments] takes a lot of time, and when the curriculum still in effect crams in so much content it means that students don't understand what experiments try to teach, they don't get it, they see them more as entertaining events in the class and they don't see that the matter to be learnt is in the event

In one of the examples above, Liisa's reference to students 'fiddling' creates a powerful image of their embodied resistance and superficial engagement with the task. Another similar case occurs when Liisa describes students' resistance to her experiment of teaching algebra without tests and with the intention to support students' individualized learning paths. Instead of just saying that students rejected the idea, her references to their lingering, chattering and fiddling with mobile phones depicts the resistance as physical and embodied and, hence, material:

> L: last spring I offered in 7th grade maths an algebra course without any tests [...] I taught small groups as they progressed […] it didn't work out, my aim was that some would proceed quicker and I'd teach different things to different students but it turned out poorly, the students who proceeded quickly didn't want to proceed independently, instead they wanted to linger with the same pace and use time for blabbering and chattering and fiddling with their mobiles

Overall, the re-analysis of the interview as an assemblage from the viewpoint of material entanglements shows a complexity of affective flows. These flows loop back and forth to produce different types of becomings that reveal, for example, how Liisa sees herself as a teacher in relation to her professional community, to changing curriculum emphases, and to lived classroom experiences. Rhizomatic analysis indicates how materiality, even if not predominant given the original focus of the interviews on teacher thoughts and perceptions, has an important role in bringing to the fore the tension-ridden relationship between the curricular objectives and classroom realities. In material terms, and based on the type of rhizomatic analysis depicted in Fig. 8.1 with clusters of major topics emerging, the curriculum as depicted by Liisa appears as a space crammed full of and listing contents, with power to determine what should be done in classrooms. Classroom practices, on the other hand, are experienced as tied into the concreteness of time, place and student reactions. The teacher's role is portrayed as managing the in-betweenness of the two.

The Case of Tomi

The interview with Tomi is part of a set of interviews conducted with upper secondary school history teachers in a research project (Engaging in disciplinary thinking: historical literacy practices in Finnish general upper secondary schools, PI Minna-Riitta Luukka) focusing on disciplinary literacy practices. The data analysed here were collected by Johanna Saario and Sari Sulkunen. The data consist of two interviews conducted in 2017 that complement each other thematically. In the first interview, the frame was the then new national curriculum and particularly its emphasis on disciplinary literacy practices. In history teaching, this was expected to result in a change towards a more skills-based approach. In the second interview, the focus was on assessment, particularly evaluating history essays.

In his interviews, Tomi raised various issues in discussing his teaching in the context of the skills-based national curriculum. He considers macro, meso, and micro levels of education which manifest the entanglement of material and social. In the assemblage of Tomi's account of change, teacher identity, student population, emphasis on disciplinary literacy, continuous assessment and educational policies and structures are related to each other in rhizomatic ways. These would be represented as backgrounded capital letters for his interviews (cf. Figure 8.1), indicating the major topics around which the points raised by Tomi were clustering. Materiality as material things, for example the digital learning environment Tablet School, is entangled with teaching and assessment practices of disciplinary literacy as well as policy documents. However, in discussing Tomi's case, instead of material objects we focus on how various "bits of social life"(Leander & Wells Rowe, 2006, 433) at school intra-act with and produce material effects.

In the long example below, the teacher first presents an opposition between students and himself as a teacher who is familiar with the topics. This contrast is highlighted by the rather material expression 'the other side'. Tomi continues by referring to the Finnish history course, which is his area of expertise. Here he loops back to the beginning of the interview where he had described his earlier profession as a historian. Tomi ponders if he is too much of an insider and if he succeeds in his attempts to teach history in an understandable manner; he also expresses concern for students' learning. Thus, even though the teacher ponders his pedagogical expertise, the example shows how students and their learning are in his focus.

I: […] to what extent have those [literacy practices] you just mentioned, then been a part of your teaching, that they are taught

T: I certainly have tried to first teach them before they are kind of used, so that, of course if there are examples it is easier to go through it that way, so that I can always explain things, but you never sort of know how the other side receives it and has it been understood, I don't know but, especially Finnish history course is the kind of cup of tea that I've wondered myself, whether I'm too inside in it and talking about the kind of things that no one necessarily understands, even though I have the impression I'm speaking with clarity

I: well what do the students say

T: well here's the thing, in recent times not much at all, well this has probably been talked about before, I think we have rather much passive folks –

[…]

T: well one thing is that the [student] material has changed so that back then we had these
   so-called good students, they got in with at least an eight and half average grade, you
   can't sort of do anything about it, so it shows, in many students somehow as a sort of
   passivity, they don't sort of want to make a fuss about themselves in the class […]

T: but it could also be that somehow the group is characterized by a sort of passivity, and
   then there could be something, like we have discussed this a lot with colleagues, that
   there are a few of those, who sort of keep the conversation alive and if it is really passive,
   the group, then even they stop talking

[…]

T: then the group can of course be split up, so that often it always helps to break the group,
   give some reflection exercises talk amongst yourselves, and then maybe one should sup-
   port the group spirit every now and then

I: but does this high school system sort of work for supporting group spirit, as in what kind
   of opportunities are there for it

T: well there aren't in a way, as every one of these teaching groups are different, basically
   no groups are similar and that is one thing which, that too I suppose, it is not just the
   student composition that explains everything, so that probably when you stuff forty
   people, of which the other half has never seen each other, so maybe that doesn't neces-
   sarily activate […]

When asked about the response from students, Tomi moves on to describing the lack
of feedback and students' passiveness. He connects this passiveness to students now
having lower performance level when entering the school than earlier. Here he
refers to students as 'student material' (literal translation from Finnish), which is
again quite a concrete and administrative choice of words and mentions how it has
'changed'. Tomi alludes to the admittance policies of the school, which now wel-
come students with lower average grades. Social interaction with and among stu-
dents is presented as something that entwines with school policies. The teacher
further relates students' passiveness in class to peer pressure, which affects even the
active students, considering the ways to adjust his teaching to these conditions. This
part of the example makes visible the affective flows between social interaction,
material school policies and teacher's pedagogical practices within the assemblage.
Teacher mentions re-organizing the group as well as supporting the group spirit as
means to tackle the issue. Tomi's choice of verbs (e.g. 'break', 'split up') denotes
teacher driven material processes: the teacher's solution to support the interaction is
to orchestrate the class rather mechanically.

The interviewer then asks if the upper secondary school's 'system' provides
opportunities for support, thus guiding Tomi's attention to structural questions. This
illustrates how the researcher is part of the assemblage affecting the 'reading' of
change (Fox & Alldred, 2015). Tomi loops back to seeking explanation for students'
passiveness in class, contemplating this from the perspective of the structures of
upper secondary education rather than student characteristics and competences (see
above). The course-based programme in a big school leads to changing student
groups and when groups get bigger students do not really know each other. Again,
the teacher uses very material wordings, such as the verb 'stuff'. Thus, intra-action
among students and the material aspects of education are in interplay when the
teacher ponders his pedagogical practices.

In sum, Tomi's dynamic and continuous reflections on the interview topic, the new curriculum emphases on disciplinary literacy and language awareness, form complex rhizomatic relations in which material and social intra-act, and the materiality cuts across various levels from educational structures to classroom practices. Unlike Liisa, Tomi's interview does not display strong tensions between the new curriculum and classroom practices, and he appears compliant to changing conditions at school. However, some threads seem to flee to another direction. For example, when talking about 'student material' intra-acting with material and social aspects, Tomi sees this as a clear change from earlier years. This challenges pedagogy when he aims to ensure that all students understand him. Moreover, in the assemblage, Tomi's expertise in Finnish history and his aim to meet students' needs produce different types of becomings. Throughout the interview, the becoming of a "teacher responding to students' needs" produces differences between the current state of affairs, i.e., managing big student groups, and his aspirations. The re-analysis of the interviews with flattened logic of rhizomes makes visible how the becomings above are emerging through the entanglement of material and social.

The Case of Elisa

Elisa is one of seven teachers of English who were interviewed by Anne Pitkänen-Huhta and Katja Mäntylä in 2015. The focus was on how teachers acknowledge and support multilingual migrant learners in their classrooms. Elisa is a teacher in the secondary school, teaching a special group of migrants aiming to complete compulsory basic education. The students were recent newcomers of different ages and with varying linguistic backgrounds.

Elisa raised various issues relating to teaching a multilingual/multicultural group, seen as a change in current Finnish society. This situation is implicitly and explicitly contrasted in many ways to a mainstream group, considered the norm. Teaching this special group is constrained by very material conditions, which connect to issues of educational practices, student's backgrounds, teacher identity and the essence of the content of teaching. These would be represented as words in capitalized letters in the assemblage for her interview similar to the one in Fig. 8.1 above.

Multilingualism is strongly present in this class and many students have already learnt several languages during their travels. In addition to the complex linguistic variation, their knowledge of English also varies greatly and many of the students have limited and scattered schooling experiences in general. Thus, working with this group is complicated both by the lack of a common language and the differences in educational experiences. The complexities in the students' backgrounds lead Elisa to consider the unfairness of the teaching materials, which have mostly been designed for a mainstream group of young learners.

E: [the materials] are still very constructive, and they really are very unfair to immigrant students, they would rather need it the other way round, so that there's a rule, bang, and then we practise, because that's maybe the adult's experience, they have to learn to study ten different subjects, which are all learnt differently, so they cannot figure everything out even if it would be good for them

Elisa's account concerning materials is rhizomatically connected to learning experiences and the linguistic background of this group. This material condition is beyond Elisa's control and she becomes the protector of her students, as she has noticed how an adult multilingual learner would need to approach learning in a different way and the situation of these learners is compared to mainstream learners, as all subjects and the different ways of learning are new to them.

The very material reality of the learning materials used in class leads to issues of inadequacy as a teacher. Elisa expresses disappointment in her own actions:

E: vocabulary is the thing that I'm most disappointed with, after so many years I haven't been able to figure out how or had the energy to do anything, because it's a huge job, you could do more

Elisa has been up against the material conditions of teaching, as familiar learning materials do not work with these students, a group that does not conform to the assumed target group of the learning materials. She feels that as a teacher she has not been up to the task in that she has not been creative enough to come up with good material for her students, and she has not had the energy to 'to do anything' in terms of material help for her students although she knows she could do more.

With the student as an entry point, the varied background of the students also becomes a question of what is actually taught to them:

E: what was shocking to me were the life stories, it took me so much time, so that luckily we had time then […] to teach every now and then, but that was a surprise, but there were other teachers who had so much experience so that quickly there was support, 'don't try that, that is too demanding' or 'don't be disappointed if there are situations when you don't get into contents at all,' if you talk about life, then you talk about life

The traumatic life stories of the students were a surprise to Elisa, which led her to think what the essence of teaching actually is. At first she was happy if she could teach English at least a little but then, with the support of more experienced colleagues, she realized that talking about life is more important than learning English. Elisa comes back to this point, when she is asked what is best in teaching these students:

E: then there's the joy of learning, and the fact that you can teach more than just English, that we learn to look for things, and it's such that we always discover something, and you can really be of help, you can really do something, and they don't all learn any English, but they learn something, and often after these lessons, although they are really tough to teach, after them you feel that you have done something

Being able to teach life instead of just English is rewarding for Elisa. She feels that she can really help the students, even if they might not learn English. The content of teaching becomes something very concrete – material – that is 'looked for', 'discovered' and 'done'. Elisa is thus becoming a teacher of something greater than the

language subject she originally started with. She moves from feelings of inadequacy as the teacher to being a teacher of life (instead of English).

The rhizomatic analysis shows how one entry point into the assemblage leads to different kinds of becomings for Elisa and how the various interconnected affective flows are linked to social and material conditions. Materiality is strongly present in the clashes between the new educational practices that the students meet and have no space to negotiate. Elisa becomes the protector of her students when they all face the unfair material conditions created by the learning materials made for mainstream students. These material conditions lead Elisa to feel disappointed and inadequate as a teacher who has not done enough for her students. At the same time, there are also feelings of joy and accomplishment, as this group makes Elisa a teacher of life, instead of just a teacher of the conventional school subject of English. The re-analysis of the data has geared attention to how materiality frames the actions in the classroom and in this case, makes the teacher question her own position as a teacher and the very essence of teaching and learning.

Discussion

We set out to examine three sets of teacher interviews as assemblages to find out what kind of rhizomatic relations become evident when teachers reflect on change, and to explore the socio-material intra-action in these relations. The rhizomatic assemblage perspective highlighted that rather than being "a repository of truths" (Honan, 2004, p. 269, referring to Grosz, 1994), interviews are spaces enabling various, often contradictory processes "of becoming individuated" (de Freitas & Curinga, 2015, p. 259). Student as the entry point led to different kinds of rhizomatic relations in each interview. Each interview was different with regard to material entanglements in how the teachers were reading change. Liisa's case highlighted tensions between the curricular objectives – whether old or new – and lived classroom realities, while Tomi's and Elisa's cases reflected openness to students' changing needs. What the different cases had in common was all interviewees pondering on their identities as teachers, showing that these identities are dynamic, in flux, and tied to multiple affective flows and becomings.

As regards materiality, our analysis has also shown how interview data, despite its obvious focus on talk, can yield insights about material realities (see also Chimbutane, Ennser-Kananen & Kosunen, Chap. 7, this volume). The interviews showed how power and agency reside in the interplay between the social (e.g. readings of the curriculum, professional identity) and the material (e.g. curriculum, educational structures, classroom practices, materials, working with peers) in an assemblage. The data also showed how different aspects of materiality may constrain or come into conflict with each other and have agency (e.g. curricular guidelines and classroom practices, pedagogical practices and school policies, mainstream teaching materials and multilingual students). Teachers' ways of becoming thus depend on complex and unpredictable intra-actions of social and material reality.

This, in turn, explains why educational change, when encountering the lived realities of teachers and students, is also largely an unpredictable and diffuse rather than a straightforward and linear process.

A methodological question to ask is whether the rhizomatic assemblage analysis enabled us to reach these readings or whether the same results would have emerged through a more conventional linear reading of the data. Similar topics would probably have emerged, but we argue that we would have perceived the relations between them differently and as more hierarchical. Conventional thematic analysis would have led us to interpret the data in terms of categories and the (unexpected) connections between different phenomena made visible by the rhizomatic analysis might have been lost. Rhizomatic assemblage analysis makes it possible to connect a minor observation in the data to larger structural issues, or a prominent phenomenon to an important side-track. Examples in our data include the tension between the teachers' relations to colleagues, curricula and students, as well as the role of the teaching/learning materials, which were connected to teacher identity and questioning the contents of the subjects taught. Had we used thematic categorization, would we have seen that Elisa's concern about the unfair teaching materials was connected to her pondering if she is teaching English at all? Would we have spotted social interaction, material school policies and teacher's pedagogical practices intra-acting in Tomi's accounts of change?

Following DeleuzoGuattarian thinking, it has to be noted that our reading of the data is only one possible reading and our entry point into the assemblage only one possible entry point. With a different entry, new kinds of connections might be found. However, rather than an indication of endless relativity, finding ways of looking at things differently offers a step away from the well-trodden paths. It makes us question the nature of knowledge, reminding us that rather than static or a matter of neat categories, knowledge is contingent, situated, changing and always partial.

Among the challenges we encountered was writing up rhizomatic analysis. The normative conventions of academic writing impose linearity and hierarchy into our observations, which "expects well-defined research problems, methodologically collected data, rigorous analyses, clearly stated implications, and considered recommendations" (Honan et al., 2018, p. 3). In this chapter, we wished to look at our data as rhizomatic assemblages and dynamic connections, but we did not dare (yet) step away from the conventions of academic writing. Maybe we could have presented our data in the form of a three-act play (see Bansel & Linnell, 2018). Whatever way we would have chosen, it would still have been our interpretation of the assemblages and any reader could have read the text differently. By bringing our different data sets into dialogue here, we shook them into one kind of assemblage, but the reader may see other kinds of assemblages.

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