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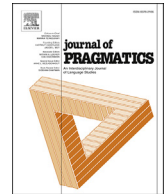
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# Embodied and affective negotiation over spatial and epistemic group territories among school-children: (Re)producing moral orders in open learning environments



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## ABSTRACT

This study investigates how schoolchildren organise their spatial and epistemic ‘territories’ among peer groups to constitute local social and moral orders in open learning environments. Open learning environments, the result of recent school reforms in Finland, challenge the conventional organisation of traditional classrooms. We use a microanalysis of naturally occurring video-recorded interactions to show the interactional dynamics of how children produce epistemic and spatial territories by creating moment-by-moment unfolding participation frameworks and emotional alliances. We suggest that the lack of institutional structures in open learning environments withholds children from the territorial shelters that exist in more traditional classrooms. Therefore, open learning environments make students and their peer groups more vulnerable in terms of their social face (Goffman, 1955), including their competence and skills, as they are constantly exposed to other people’s observations and criticisms of and interventions in their peer groups. Our results shed light on the tendency of human beings to produce spatial and epistemic structures and moral orders where none exist.

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## 1. Introduction

In this study, we investigate how 11–12-year-old schoolchildren produce group relationships through moment-by-moment moral and emotional negotiations of epistemic and spatial spaces or ‘territories’ (Goffman, 1971). We focus on basic education schools in Finland that feature open learning environments. Like many other countries across the globe, Finland is transforming the walled-in, rows-of-desks classroom structure of traditional basic education into more open and flexible learning environments.

Open learning environments challenge the material, social and cultural structure of traditional classrooms and schooling. The goal of the reform is to increase personal or peer group learning, emphasise self-directed learning and diminish teacher-lead instruction (Benade, 2016). The new learning environments can involve multiple, versatile and technology-enhanced learning spaces, usually featuring teams of teachers and multiple classes as well as technology-enhanced common spaces without designated desks for students or podiums for teachers. While the idea of creating interactive learning communities has appeared to succeed in its goal of increasing peer interactions (Kariippanon et al., 2018), very little is known about *how*

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children actually interact and manipulate their social and spatio-material environment to establish learning practices where space and materials do not provide a pre-determined structure.

In more traditional classrooms, students often occupy pre-defined spatial positions. In this study, we draw from and further explore our initial observation (Niemi, 2021) that when children in open learning environments cannot rely on stable physical spaces, routines and pre-given structures, they must locally produce an ongoing interaction order (Goffman, 1983) and establish new practices in order to uphold and protect their personal (Goffman, 1971) and epistemic (Heritage, 2012) territories. We analyse the local production of social and moral order by uncovering the ways in which schoolchildren negotiate their epistemic and spatial territories moment-by-moment in open learning environments.

We employ a multimodal microanalysis of authentic video-recorded interactions (Streeck et al., 2011) to uncover some of the local practices through which students continually (re)produce institutional structures, such as the organisation of space, knowledge and the local interaction order (Goffman, 1983). We draw from previous studies that have unveiled the close interactional connections between morality, epistemics and emotions in learning (Heller, 2018) and the crucial role of embodied social interaction for learning (Johnson, 2017). We uncover the highly moral nature of these negotiations manifested in the interactionally-produced emotional alliances among and within peer groups. Furthermore, we contribute to the research on how a designed environment shapes ongoing activity (Jucker et al., 2018; Yeoman and Ashmore, 2018).

## 2. Background

### 2.1. Producing a social and moral order through spatial and epistemic territories

Primary schools have typically consisted of approximately same-sized closed classrooms accommodating a standard number of students and one teacher positioned at the front of the space. In conventional classrooms, each pupil's physical territories, the claimed physical locations, are structured: each student has his/her own designated desk, which is occupied by one person at a time. In open learning environments, there are no designated seats for students, and the open spaces operate as adaptable working areas with movable furniture, portable dividers and a diversity of seating types, like sofas and arm-chairs. The spaces allow for versatile use and movement, and students may choose which positions they want to occupy in a variety of locations.

According to Goffman (1971), people tend to create territories even in temporary spaces, for example leaving a towel over a chair at a beach. In office contexts, many employees mark and protect spaces, for instance, by decorating their workspace with photos or plants (Morrison and Macky, 2017). When designated desks are removed, participants have to create space in a much more fundamental way by positioning themselves in relation to each other, and they have to negotiate territories, as no predefined seating exists.

An open learning environment may contain stalls with different shapes and for a variety of people. A *stall* can be defined as a 'well-bounded space to which individuals can lay temporary claim' (Goffman, 1971, pp. 31–32) that provides 'external, easily visible, defensible boundaries for a spatial claim' (p. 34). Stalls recommend the number of people who can claim them, which is a feature that is embedded in their design. Moreover, the way seats are designed formulates *how* the claimant(s) can position their bodies in relation to others and *what* types of activities are available in the particular stall.

In addition to the organisation of the physical space, knowing and displaying knowledge have been shown to be distinctive features of classroom interaction (Heller, 2017; Koole, 2010). Epistemic negotiations are also an omni-present feature of classroom interactions, especially in peer group interactions (Kämäräinen et al., 2019). The negotiation of epistemic territories (Heritage, 2012) and deontic rights, or the right to determine others' future actions (Stevanovic and Peräkylä, 2012), are different in traditional classrooms than in open learning environments. In the traditional classroom, the teachers are thought to possess primary epistemic and deontic rights (Herder et al., 2020; Rusk et al., 2016). In open learning environments, with no pre-existing structures, the epistemic and deontic territories are not as much predefined; they must be locally constituted.

Claiming possession of knowledge in an interaction is highly moral in nature (Stivers et al., 2011). Epistemic status—the actual possession of information—is different from epistemic stance, which is the moment-by-moment claiming of the possession of information (Heritage, 2012, p. 7). In moment-by-moment interactions, there can be negotiations of epistemic territories; hence, these negotiations are not just a question of who really knows best, but *who has the right to know best* (Heritage, 2012).

Epistemic and spatial territories unfold through participation frameworks (Goffman, 1981; Goodwin and Goodwin, 2004) and they are closely intertwined: certain spatial positionings afford specific types of knowledge positions, and vice versa (Goodwin, 2007a). Therefore, epistemic territories are moulded by the embodied and spatial restrictions and affordances of the ongoing participation frameworks, which again are shaped by the cultural and physical contexts and their affordances (Goodwin, 2007a, pp. 70–71).

### 2.2. The connection between emotional stance-taking and moral superiority among and within peer groups

The interactional practices of including and excluding create a local moral order and are core processes in children's everyday lives at school (Goodwin, 2008; Niemi, 2016). Previous research on children's peer interactions in multiple cultural contexts has shown that children socialise each other into group norms, and they produce a group-relevant moral order

through various interaction practices, such as assessments, insults and gossip (Evaldsson, 2004; Goodwin et al., 2012; Kulick and Schieffelin, 2004; Mendoza-Denton, 2008).

While the content, specificity and dynamics of the practices vary across different cultures and contexts and depend on social class and gender (Goodwin and Kyratzis, 2012), what unites these practices, which are adopted to produce local moral and social order, is that they are embedded within and manifested through displays of affective stances. By affective stances, we refer to the situated and embodied practices (Goodwin, 2007a; Goodwin et al., 2012) used to display ‘a mood, attitude, feeling and disposition, as well as degrees of emotional intensity vis-à-vis some focus of concern’ (Ochs, 1996, p. 410). As a point of departure from the psychological tradition in which emotional displays are often understood as externalisations of psychological states, affective stances refer to emotion and affect (words that are used interchangeably in this paper) as interactional actions. Emotion and affect are embedded in all semiotic resources, such as intonation, gesture and body posture (see Goodwin et al., 2012).

Collaborative formulations of negative affective stances towards a third person or entity are crucial in creating embodied alliances and social groups (Goodwin, 2008; Goodwin et al., 2012; Katila and Philippsen, 2019). For instance, the collaborative emotional judgements of a third party give moral superiority to those aligning with the emotion (Goodwin et al., 2012). In this paper, we explore the connection between displays of emotion and producing moral order in the context of open learning environments. In such a setting, the local production of emotional stances and embodied alliances among peer groups can be highly consequential for participants as they are enmeshed with the institution’s locally (re)produced learning structures.

### 3. The study

The data of this study were drawn from a larger corpus of 25 h of video-recorded classroom interactions in an open learning environment. The video-data were collected using multiple GoPro cameras. The first author observed the daily life of students during a one-week period, video-recorded their ordinary interaction and observed their interactions. The researcher tried to minimise her participation in the ongoing action by taking the role of a bystander. The ethnographic field notes were used to provide contextual information about the settings. Participation in the study was voluntary, and written consent obtained from each student’s parent(s) via information letters and consent slips that were sent to all the pupils. The participants and their parents were informed of the research’s goals, and the researchers’ commitment to securing confidentiality and their data protection rights, and that they could withdraw from the study at any point should they choose to do so.

#### 3.1. Data and methodology

The selected data episodes for this study were drawn from the video-recorded learning interactions of fifth graders (11–12-year-olds). The extracts were selected to show how spatial and epistemic group territories are produced both in intergroup and intragroup interactions by the same participants. In the whole 25-h data set, we identified 17 interaction episodes in which spatial and group territories were present. We chose three extended episodes to exemplify the embodied and affective negotiation over spatial and epistemic group territories both between peer groups and inside a peer group. The transcripts are presented in the original language of Finnish and translated into English. The English appears in italics; the aim was to stay as close as possible to the participants’ forms of expressions. We utilised Praat software to analyse the participants’ verbal actions and Photoshop to blur the faces of the children, who are identified by pseudonyms. The verbal transcription conventions, which are modified from the work of conversation analyst Gail Jefferson (2004), are presented in Appendix 1.

Regarding our methodology, we conducted a microanalysis of authentic video-recorded interactions (Streeck et al., 2011) informed by Garfinkel’s (1967) ethnomethodology and Goffman’s (1963, 1971, 1981) microsociology. This perspective was chosen to uncover, in detail, the micropractices through which the members of the group make sense of and produce local social order in the open school environment. Furthermore, we draw from Goodwin’s (2007a, 2007b, 2018) work, which found that the organisation of bodies into various participation frameworks is inherently *co-operative* – that is, it is produced by the parties of an interaction *together*. For instance, when one participant takes a turn to produce an action through talk, facial expressions or bodily gestures, the listener does not passively wait for their turn, but is constantly ‘co-participating’ with embodied actions in the production of the turn as it unfolds (Goodwin, 2018).

Following the studies of Goodwin (2008) and Goodwin et al. (2012), we paid careful attention to how the children produce epistemic and spatial territories by co-creating *emotional displays* and *alliances* while deploying a number of coexisting embodied resources, such as facial expressions, tone of voice, body posture and touch, alongside the environment’s architectural and technological features. By uncovering the interactional dynamics of how emotion and emotional alliances are intertwined with epistemic *territories* and produced locally in the specific context of an open learning environment, we contribute to the literature, which has unveiled the emotional and embodied practices involved in schoolchildren’s peer interactions (Goodwin et al., 2012; Heller, 2018; Niemi, 2016). Furthermore, we disclose how the special institutional setting—an open learning environment—affords the production of specific types of moral orders through these emotional and embodied practices.

### 4. Analysis and results

We divided our analysis into three parts. In Extract 1, we exemplify how the open learning environment provides spatial and temporal affordances for negotiating epistemic and spatial group territories. In Extract 2, we witness a marriage between

the careful production of negative emotional stances and the pursuit of moral superiority by entering another group's epistemic and spatial territory. In Extract 3, we show how actions that are treated as territorial violations of the virtual space are brought into account in the material space.

#### 4.1. Extract 1: violation of the group's spatial and epistemic territory

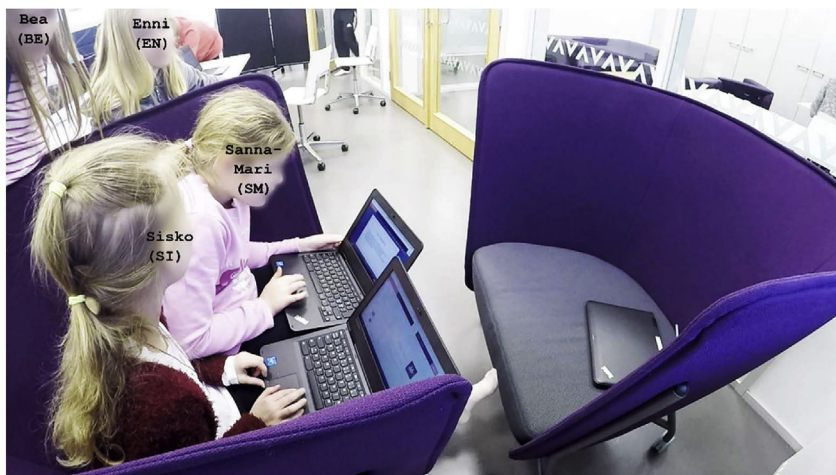


Figure 1: Participant Map 1

Extract 1 shows how corrections of another group's work is treated as a violation of its spatial and epistemic territory. This is afforded by the local—not the teacher-led—organisation of the classroom space. The students have created a presentation in a peer group on a European country of their choice. In the episode, Sisko (SI) and Sanna-Mari (SM), who are in the same group, work together on a presentation about Estonia. As illustrated in Participant Map 1, SI and SM temporarily reserve a double back chair as a stall.

The stall, with its round and tall back, is designed to be claimed by a two-person group; thus, it indicates to outsiders that SM and SI are sitting in the space 'together' (Goffman, 1971, p. 19). SM and SI are oriented toward their own laptops, in a 'side-by-side tactile formation' (Katila, 2018), while members of another group, Enni (EN) and Bea (BE), approach them from behind, a direction that is hard to control.

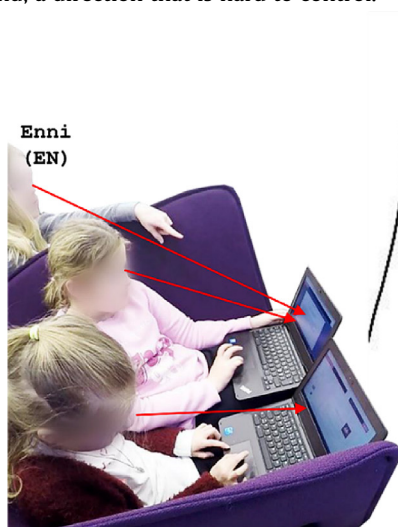


Figure 1.1

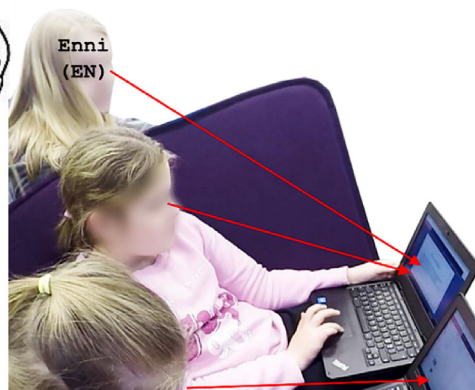
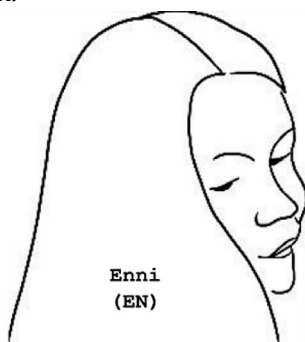


Figure 1.2

01 EN: *tosta puuttuu yks u tosta*      *kulttuurisanasta*  
*there is one u missing from that*      *word "culture"*



Figure 1.3

02 SI: hei voi- voisiksä- voisikäs niinku (.) tehä sitä omaa  
 hey would- would you- would you like (.) mind your own work

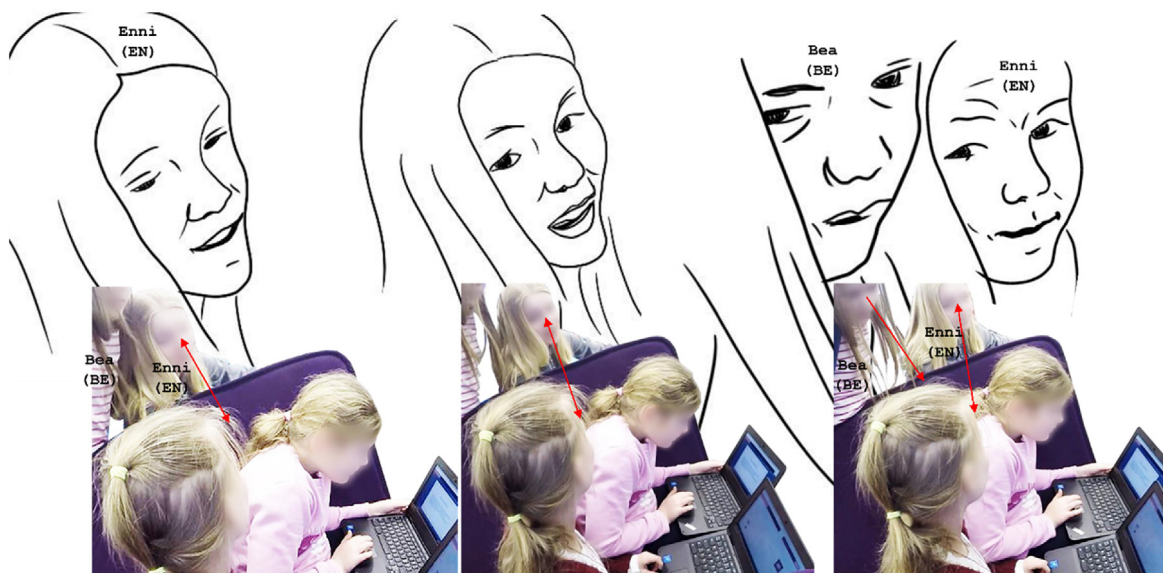


Figure 1.4  
 ((Bea lightly pushes Enni))

Figure 1.5

Figure 1.6  
 ((1.5-second silence during which BE and EN stare at SI and she stares back))

03 EN: me mennään  
 we are going  
 04 (1.5) ((Figure 1.6))

välkälle  
 to recess



Figure 1.7

05 EN: ehkä tekin  
maybe you too

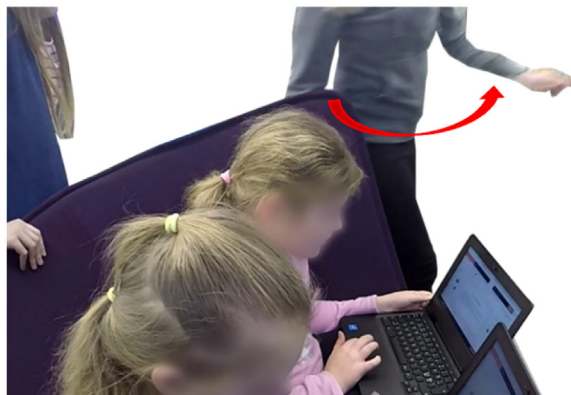


Figure 1.8

meette välkälle  
are going to recess

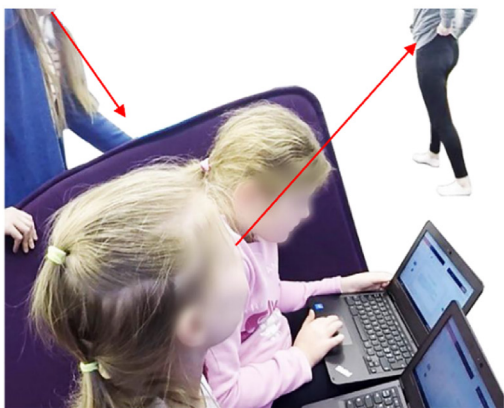


Figure 1.9

06 SI: =mut ehkä me ei haluta että te tuutte korjaa meijä jotain sanoja  
=but maybe we do not want that you come and correct some words of ours



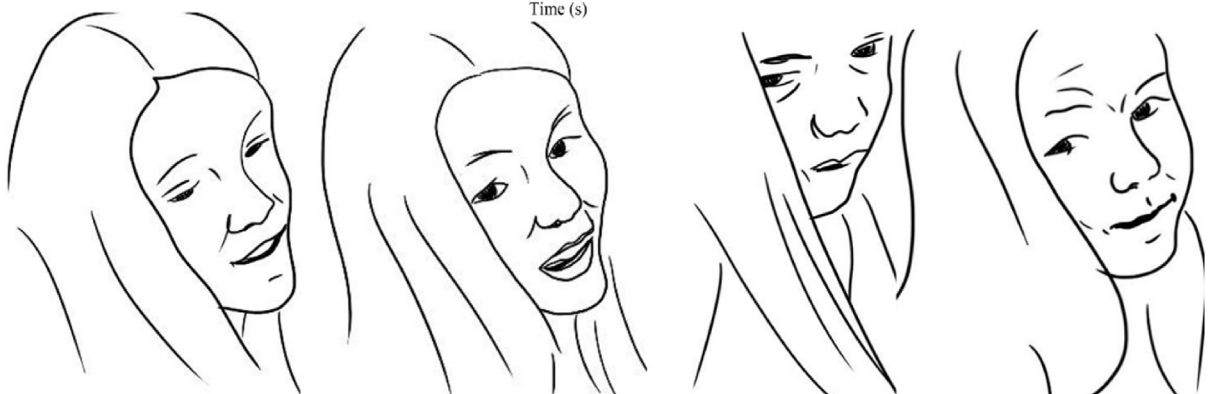
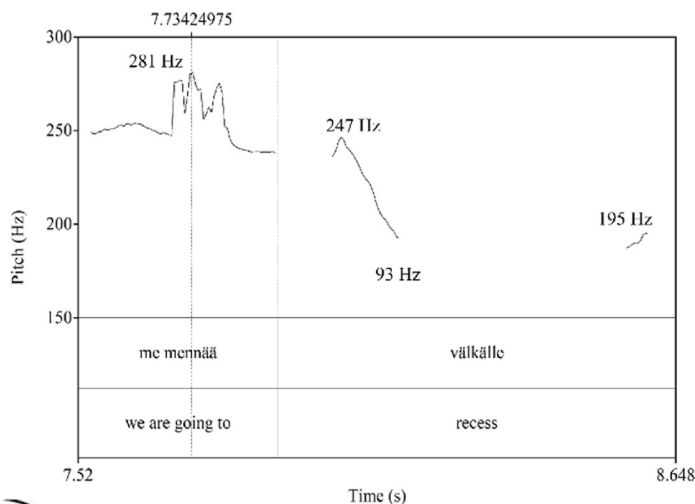
Figure 2.0

07 SM: EI PUUTU (0.5) SE ON RUOKAKULTT-  
IS NOT MISSING (0.5) IT IS FOOD CULTU-

EN invades the spatial territory of SM and SI by leaning against their stall and points out a spelling error on SM's laptop (Fig. 1.1, line 01). EN laminates her verbal action with a supercilious facial expression, her cheeks slightly raised (Fig. 1.2). In many settings, the social action of correcting or repairing has been found to be treated as dispreferred (Theobald et al., 2016), as it implicitly creates epistemic hierarchies among participants. In a traditional classroom, corrections are mostly the purview of the teacher. EN's actions also make SM and SI publicly accountable for their learning activity.

However, EN is not just pointing out an error. She is also initiating an interactional negotiation of epistemic rights in a setting from which a traditional teacher is absent. In other words, she puts herself (and her group) in the position of having better knowledge of Finnish spelling, as well as having the moral entitlement to access another group's territory to prescribe a correction. In this way, the information on SM's screen is viewed as being open to public observation and criticism. This is enabled by the affordances of the space; the backrest of the chair, while marking the territorial boundaries, was not high enough to block EN's visual access to the laptop screen, the vertical position of which afforded her direct visual access.

At first, neither SM nor SI explicitly orients to EN's correction. However, after a few seconds, SI turns her gaze toward EN (Fig. 1.2) and produces a defence: 'Would you like (.) mind your own business' (Line 02). Through this action, SI makes public that she did not view EN's correction as an offer of help but a violation of her group's epistemic territory, which had to be defended. While SI produces her response, EN stares at her, then rolls her eyes (Fig. 1.2), thus displaying a negative emotional stance towards SI's remarks (Goodwin, 1980; Goodwin et al., 2012). As a verbal response to SI's defence, EN, rolling her eyes and wearing a sardonic facial expression, states with an arrogant and sarcastic tone: 'We are going to recess.'



Figures 1.4–1.6 recaptured



EN asserts moral superiority: her intention to go to recess has a higher moral value than SI's request. EN's body posture, which is leaning on the chair, and her verbal and aural production are aligned with the emotional stance produced through her facial expression. The utterance, with its pitch contour rising as high as 281 Hz at the beginning ('We're going to') and varying from 247 Hz to 193 Hz during the extended 'recess', not only mitigates the relevance of SI's utterance in Line 02 (implying that it was not appropriate to be working at the moment, as they should go to recess), it also reproduces the epistemic relations defining which group is in the know about the right thing to do in that moment (See Figs. 1.4–1.6). The emotion in the verbal production is co-produced with a pejorative facial posture and stare, which remains on EN's face for around 1–2 s after the verbal gesture ends (Fig. 1.6). Moreover BE, who was with EN but for the most part is not visible to the camera, at this point is visibly seen to co-author EN's negative emotional stance towards SI, staring with an angry facial expression (Fig. 1.6).

Thus, the facial expressions and embodied positionings of EN and BE produce a negative *emotional alliance* (Goodwin, 2008; Goodwin et al., 2012) against SI and SM. Moreover, when EN says 'We are going to recess' (Line 03), BE is lightly pushing EN's body, therefore, providing corporeal evidence of literally being in the midst of going to recess together and ending the interaction with SM and SI.

SI then silently turns her head back to her laptop (Fig. 1.7). However, EN, recycling transformation materials from her own previous utterance (Goodwin, 2018), continues by saying: 'Maybe you are going to recess, too' (Line 05). With this utterance, EN upgrades the social action embedded in her previous line, now stating even more clearly that going to recess is something that SI and SM *should also* be doing right at that moment. Thus, she places herself and BE in an epistemically and morally superior position because they know better, and she also educates SI and SM about the right thing to do. Moreover, while saying the words from Line 05, EN produces a sloppy pointing gesture towards SI and SM (Fig. 1.7), which is 'environmentally coupled' (Goodwin, 2007b) with the words 'recess, too', again invading SM and SI's spatial territory. In a stylistic and rhythmic manner, EN then produces a dance-like motion as she moves away from the scene (Fig. 1.8), exiting quickly and in a dramatic manner, blocking the other parties from an opportunity to respond.

Orienting to the quickness of EN's exit from the encounter, SI rushes a response (Line 06), which also recycles the sentence structure found in EN's previous turn but redesigned into a different action: 'Well, maybe we do not want you to come and correct our work'. This is said in a rhythm similar to EN's previous verbal action, although SI transforms the word 'maybe' into the phrase 'well, maybe.' The word 'maybe,' initiated by EN, already adds a sarcastic flavour to what follows and indirectly produces what was being said as something that the addressee should have already known. Saying 'Maybe we don't want you to come and correct us' is a way of saying, 'You really should not have come and corrected us, and also, you should have known better.' Accordingly, a deeply moral aspect is embedded into the linguistic practice of starting an utterance with the word 'maybe', as the addressee is framed as having done or being in the process of doing something that he or she should not have attempted to do.

However, when SI constructs her response, EN has already moved a few steps away and is no longer able to hear SI's response; therefore, EN is not accountable for paying attention to them (Fig. 1.9). In the video, it is not possible to see if EN turned her head back towards SI, while the latter produced her defence, but the lower part of her body faces another direction, and she does not verbally respond to SI. EN's movement away from the "interactional space" (Mondada, 2013) allows her to maintain a morally superior position. She is the one who had the last word, which disallows SI from having her defence evidentially heard.

Next, SM, who has been silent but was apparently still orienting towards EN's correction by actually working to figure out if the letter really was missing, produces a response to EN's initial correction, saying in a loud voice while staring at EN: 'IT IS NOT MISSING.' The utterance is produced in an urgent tone, treating the charge about a missing letter extremely seriously and potentially face-threatening to the group. However, SM's effort to set the record straight and repair the group's epistemic status is not attended to by EN, who, instead of going to recess, sits on a chair and attends to a computer (Fig. 2.0).

Extract 1 shows how the special features of the open learning environment afforded the moment-by-moment unfolding embodied negotiations of group relations and the social face or status of the group (Goffman, 1955). Detailed analysis shows that, in the interaction illustrated in Extract 1, the negotiations over the moral, epistemic and spatial territories are closely intertwined and enabled by the ecological niche (de León, 2012) of the open learning space and its environmental affordances. This is demonstrated in the ways in which BE and EN are able to access SI and SM and criticise their actions, which again is treated by SI and SM as a moral issue concerning their group's epistemic and spatial integrity. In forming these embodied and emotional alliances—SM and SI against EN and BE—and by creatively adopting semiotic materials of various kinds (see Goodwin, 2018), these groups battled for moral and epistemic superiority and, thus, for their social faces (Goffman, 1955). The potential violation of the epistemic status of SM contaminates the entire group (Goffman, 1971, pp. 28–61). Her spelling error was shown in the group's presentation.

However, EN's claim to epistemic superiority for her group by pointing out the spelling error was morally accused by SI of violating the *epistemic territories* of the groups: each group should mind its own presentation and not interfere with the work of other groups. In this way, these two locally produced moral orders—the morality of epistemic superiority and the morality of epistemic territories—are constructed as competing against one another and afforded by the cooperative use of semiotic resources and the environment's spatial and temporal characteristics.

#### 4.2. Extract 2: production of negative emotional stances and the pursuit of moral superiority

Extract 2 provides an example of how the local interaction order is manufactured utilising affordances of the open learning environment context through embodied negotiations of a moral and epistemic superiority over a school assignment. We show that the interaction order is accomplished through morally salient strong expressions of emotion. Extract 2 occurs a few minutes after Extract 1. Jonna (JO) enters SM and SI's spatial territory and comments on their presentation (see Participant Map 2).



Figure 2: Participant Map 2

Just before Extract 2 begins, SM shows JO how many slides she and SI have in their presentation, and JO claims that her group has the same number of slides. JO then leans forward (Fig. 2.1) and makes a statement about her group's presentation, embedded in a critical commentary about SI and SM's presentation (Line 01).

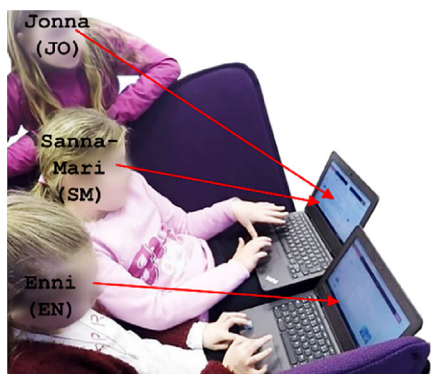


Figure 2.1

01 JO: meil on KAIKKI tosi PIENENÄ koska mä en ikinä jaksa kuunnella jos on noin paljo tekstii  
we have EVERYTHING in very SMALL because I never feel like listening if there's that much text

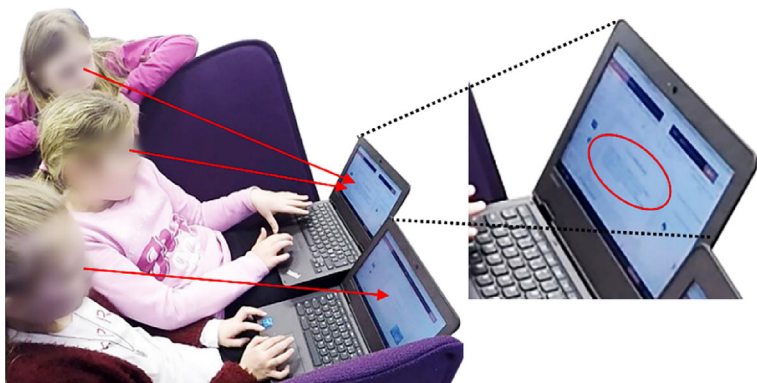


Figure 2.2

02 JO: ehkä ton mä [just jaksaisin  
 maybe that I [barely could  
 03 SI: [kaheksan  
 [eight



Figure 2.3

04 JO: =kuunnella mut jos se on sillee et suoraa kopioitu ja-  
 =listen to but if it is so that it is directly copied and-



Figure 2.4



Figure 2.5



Figure 2.6

05 SI: NIIN [mutta- täs piti NÄKYÄ kolmen tyypin ]  
 YEAS [but- there was supposed to SHOW what three people ]  
 06 JO: [TOINEN lause ja toinen kirjottaa ni sit se on ihan (kauhea?)]  
 [NEXT sentence and the other writes so then it is quite (awful?)]  
 07 SI: tekemiset ja sitte tää piti muutenkin olla hyvä  
 have done and then it was supposed to otherwise be good as well  
 08 SI: sitte tää ei mikää semmonen [että- että et kirjottaa kaks diaa  
 then this not something like [so- so that one writes two slides  
 09 JO: [NIIN MUT siis se- mut tämä piti myös  
 [YES BUT so that- but it was also supposed to be



Figure 2.7  
 ((Jonna gazes upwards, Enni turns her gaze back to her laptop))

10 JO: tiivistää sillee et täs kirjojetaan  
 summarized so that in here it will be written

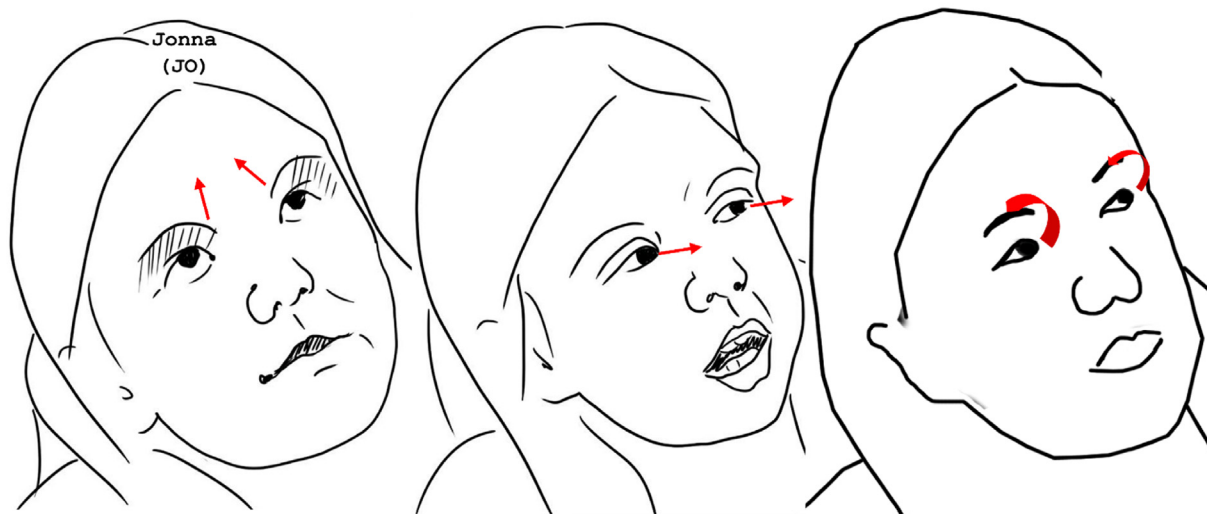


Figure 2.8

Figure 2.9

Figure 3.0

11 monta asiaa eikä sillee et (0.5) viro on yksi kuuluisimmista pepepepepep  
 many things and not like (0.5) estonia is one of the most famous pepepepepep

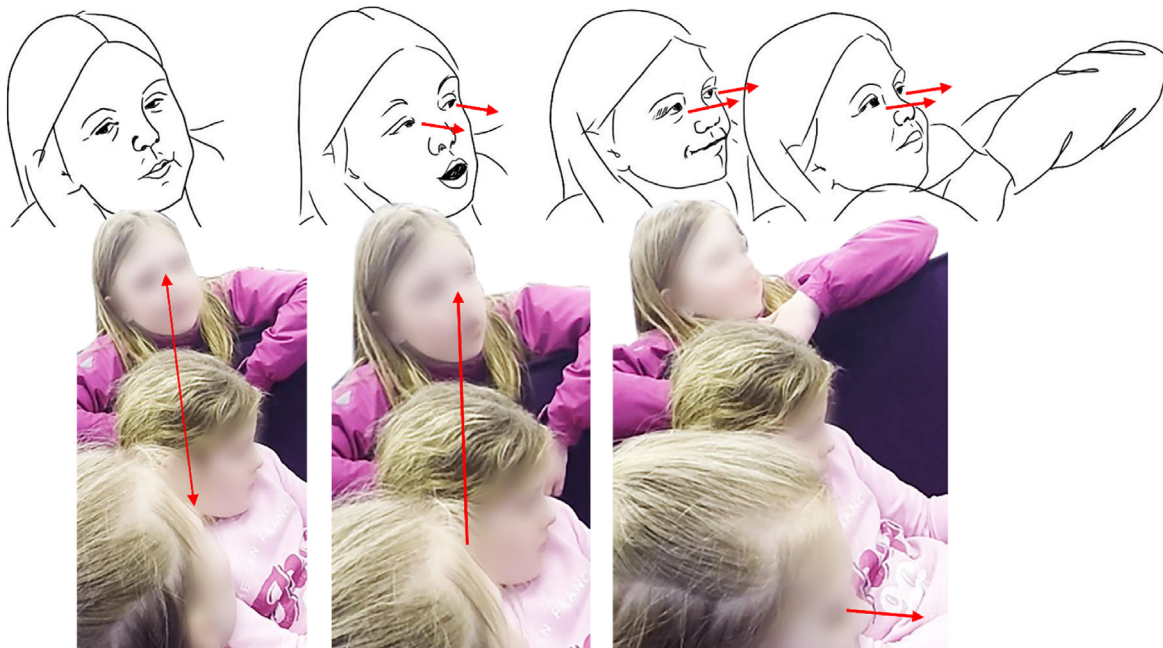


Figure 3.1

Figure 3.2

Figure 3.3

12 varmaan viiden minuutin pitkä aika se voi et voi sanoo vaa? (...)  
 it goes on like five minutes of time and cannot just say? (...)



Figure 3.4

13 (1.5)  
 14 SI: ei meil ookkaa semmosia.  
 we do not have anything like that.  
 15 JO: EI OOKKAA emmä siis tullu DISSAA mut siis (0.5) mikä toi marko on  
 OF COURSE NOT I did not so come here to DISS but like (0.5) what is that marko

By saying ‘we typed EVERYTHING in very SMALL LETTERS ‘*cos I never feel like listening if there’s that much text*’ (Line 01), JO produces a negative emotional stance towards ‘that much text’ with her gaze, which refers to SI and SM’s presentation (Fig. 2.1). SI and SM do not respond right away; they continue focusing on their own laptops. JO then leans forward, establishing a more prolonged position in SI and SM’s spatial territory and participation framework (Fig. 2.2) and continues evaluating the length of SM’s text (Line 02 and Line 04).

By not immediately responding to JO’s criticism, SI and SM are already implicitly showing disalignment towards the interaction project JO proposes with her initiative action. However, SI then cuts off JO’s ongoing expression of her negative stance towards aspects in SI and SM’s presentation by turning her gaze to JO (Fig. 2.4) and producing a defensive outburst (Line 05 and

Lines 07–08), SI's response retrospectively shows that she not only heard JO's previous evaluation but viewed it as a violation against her group's epistemic territory. SI's counterargument initiates a quarrel with JO about which group knows how to best construct a presentation. SI's facial expression is not captured by the camera, but anger and annoyance can be heard in her voice.

While SI asserts her defence, JO finishes her sentence (Line 06) and initiates another counterargument with her 'Yes, but' response which is said in a raised tone (Line 09). At the same time, JO's eyes start to perform a series of expressive manoeuvres: as an ongoing nonverbal indication of how she understands SI's talk (Goodwin, 1980, p. 303) and what she thinks of it ('byplay'; Goodwin, 1990, p. 156).

Aligning with previous literature (Clift, 2014; Goodwin and Alim, 2010), by rolling her eyes, JO displays a sarcastic negative emotional stance toward SI. Additionally, her production of that stance is supported by her having her mouth open, displaying an astonished facial gesture (Fig. 2.4); from there, her mouth shifts into a slight posture of disgust (upper lip raised and in an inverted U and lower lip raised and protruding; Ekman 2003, pp. 172–189). At the end of the exchange, JO laminates SI's talk by first looking away (Fig. 2.5), as if sarcastically needing a break from the 'eye-to-eye ecological huddle' (Goffman, 1963 p. 95). She then rolls her eyes, landing them back on SI with a lazy but arrogant facial expression (Fig. 2.6). This performance mitigates what SI was saying and positions JO (and her group) as morally superior to SI and her group.

In the next exchange, JO continues to roll her eyes. While she finishes arguing that the information in the presentation should have been summarised (from Line 11 onward), she first looks up (Figs. 2.7 and 2.8) while saying, 'Summarised so that in here it will say many things' (Lines 10–11); she then rolls her eyes to her left and opens her mouth in sarcastic astonishment again (Fig. 2.9). By saying 'and not like' (Line 11), she enters into a stylised performance (Goodwin and Alim, 2010) in which she, as 'the speaker act[s] in character' rather than as [her] situated self (Streeck, 2002, p. 581). Thus, she mockingly 'foot[s]' (Goffman, 1981) the presenter of a stereotypically boring presentation by speaking in a monotone voice and reading straight from the slide, saying: 'Estonia is one of the most famous blah blah blah blah' (Line 11). JO embeds her own negative emotional stance towards the presentation in her performance by rolling her eyes in a complete circle (Fig. 2.0). Moreover, by producing the rhythmic verbal gesture ('blah blah blah blah'), JO creates a scenario in which SI's words are so boring and unimportant that listeners hear them as gibberish. Consequently, by the end of her footing sequence, JO ends up positioning herself as a listener of her own imaginary (negative) reaction to SI's presentation.

By the end of JO's performance (Fig. 3.0), SI looks at JO. Immediately after (in Fig. 3.1), JO glances at SI to see if she is still listening to her and their gazes meet. JO then finishes her sentence (Line 12) with a statement that is almost inaudible, while performatively turning her gaze away again (Figs. 3.2–3.4). At the same time, her face melts into a self-absorbed expression (Fig. 3.3–3.4) that resembles something Ekman (2003, pp. 172–189) described as a blend of contempt and enjoyment. According to Ekman and Friesen (1975), contemptuous facial expressions include an aspect of moral evaluation; their function is to 'signal a feeling of superiority, of not needing to accommodate or engage, and to assert power or status' (p. 67). After her verbal production, JO continues to wear the expression for a moment after she loses SI's attention, as if spending a moment alone in her feeling of superiority (Fig. 3.4).

In the next exchange, the students turn their attention back to their laptops (Fig. 4.5). There is a gap of 1.5 s, implicitly signalling that SI treats JO's action as dispreferred (Schegloff, 2006). SI then responds with a more light-hearted tone, indicating her transition away from the previous antagonistic emotional atmosphere: 'We don't have anything like that' (Line 14). Taken aback, JO immediately disclaims her previous interaction project: 'OF COURSE NOT I did not so come here to DISS you but (Line 15). While verbally denying what she was doing, she calls out her own previously ambiguous action as something that could have been potentially heard as 'dissing.'

Detailed analysis of Extract 2 shows how the local affordances of the environment enabled embodied negotiations among the students about the "correct" ways of doing the school assignment. In these interactions, various moral orders were under negotiation: the moral order of respecting another group's space and letting them work on their own presentation, the moral order of respecting the listener by not boring them with a long presentation and the moral order of what constitutes a good or adequate presentation (not something that has, 'like, two slides'). These local moralities were manifested through the strong emotional expressions of stance produced by the careful and concerted work of various means of expression (eyes, cheeks, lips, tone, words, gestures and positioning of the body).

In the following episodes, we will follow SM and SI's interactions in their own peer group. In Extract 1 and Extract 2, Marko (MA), one of the participants in SM and SI's group, was missing. In Extract 3 we will analyse an ingroup interaction between SI, SM and MA.

#### 4.3. Extract 3: Territorial violations of the virtual space

Extract 3 exemplifies how the actions treated as territorial violations of the virtual space are negotiated in face-to-face interactions. SI, SM and MA's group has marked its spatial territory by organising two, two-person chairs facing each other, thereby creating a temporally lasting eye-to-eye ecological huddle. However, the group space is divided into sub-territories: while SM and SI are co-occupying one stall, MA, sitting across from them, is meant to be a counterpart to their 'material and embodied configuration' (Goodwin, 2018), having the same kind of stall all to himself. These embodied and material territories are intertwined with social and epistemic ecologies (Goodwin and Goodwin, 2012) that are morally ordered (Garfinkel, 1967), as they afford or block the embodied and epistemic access of some parties. Through the positioning of their bodies, SI and SM indicate that they are in a social and embodied alliance (Goodwin, 2008; Goodwin et al., 2012). They also embody an epistemic alliance; by sitting side-by-side in tactile contact, they have direct sensorial access to each other and to each other's laptops.

SM, SI and MA continue doing their group presentation on Estonia by using Google Slides in a way that every participant would do their own slides individually and with laptops. However, as they were all using the same Google Slides file, they are also able to view and edit other members' slides. In this way, the group work is afforded by the opportunities of technology for collaborative participation (Jakonen and Niemi, 2020).

Consequently, and coexisting with the face-to-face interaction order (Goffman, 1983), there were virtually managed epistemic territories that were *not* governed by a face-to-face (material and embodied) interaction order. For example, while only SM and SI could see each other's laptops in a material and spatial co-presence, MA could still view and edit the slides and co-participate in attending virtually to the laptop. Thus, the laptops not only serve as an artefact of material social organisation, they also provide a



Participant Map 3



Figure 5.1



Figure 5.2

1 MA: wuhuu Rene Pais! bumbumbumbum

wohoo, Rene Pais! Bumbumbumbum



Figure 5.3



Figure 5.4



Figure 5.5

2 MA: saaks mä tehdä aaa eeehm. virolaisista musiikista?  
*can I write about Estonian...ehh...uumm...music?*

(1.9)



Figure 5.6



Figure 5.7

3 SI: siit vois kirjoittaa jotain  
*something could be written about that.*



Figure 6.1

4 SI: mikä tää on?  
*what is this?*  
 5 SM: se on uus dia  
*it's a new slide.*  
 6 SI: siis mitä tää tekee täällä?  
*so what is this slide doing here?*





Figure 6.2



Figure 6.3

Figure 6.4

7 SI: hei oot sä laittanu tänne väliin yhden dian?  
hey, did you put this slide here between the slides?



Figure 6.5



Figure 6.6

8 MA: joo  
yes



Figure 6.7



Figure 6.8

9 SI: miksi?  
why?



Figure 6.9



Figure 7.1

10 MA: mä teen siihen  
*I'll do my slide there*



Figure 7.2



Figure 7.3



Figure 7.4

11 SM: älä sitä siihen laita  
*don't put it there.*



Figure 7.5

12 MA: mä voin siirtää sen  
I can move that



Figure 7.6



Figure 7.7



Figure 7.8

13 SM: mä poistin sen jo  
I already deleted it.



Figure 7.9

14 SM: noin!  
now like that!

reference point for virtual and technologically-mediated social organisation (see Jucker et al., 2018). Extract 3 shows how this nexus of various coexisting spatial and territorial orders, moral, social and epistemic relationships become deeply intertwined.

The episode begins by MA producing a number of embodied actions with the aim of attracting the attention of the other group members. MA names a famous Estonian musician, Rene Pais, and produces an emotional appreciation in the form of a response cry (Goffman, 1981): 'Wohoo' (Line 1, Fig. 5.1). While producing the verbal and vocal action, MA circles his fist in the air, after which he swings his hands as if he were dancing at a concert while rhythmically imitating the music (Fig. 5.2). This action, as if speaking to oneself, is designed to be heard and attended to by others. While he is not looking at SM or SI, he is still using a louder voice than he would if he had only been talking to himself, and he produces dancing movements that clearly differ from his resting posture. In spite of these attempts, he does not get any explicit recognition from either SM or SI.

Retrospectively, MA's enactment of dancing at a rock concert can be interpreted as a pre-request and an emotional justification for an actual request in Line 02: 'Can I write about Estonian...ehh...uumm...music?' When producing this question, he only looks briefly at SI and SM, simultaneously making a hand movement that appears to be a manual face-saving act (Goffman, 1955; Figs. 5.3, 5.4 and 5.5). Specifically, he touches his face, thereby blocking others' full visual access to it. He then holds on to his hood, which was pulled over his head, and looks at his screen for 1.9 s until SI answers his question.

SI's response implicitly downgrades MA's agency in the group. She produces a delayed answer by looking at her own screen and saying in a low voice and at a fast pace: 'Something could be written about that' (Line 03, Fig. 5.6), not including MA as the subject in her sentence.

Seven seconds after the exchange regarding Estonian music, SI raises her head from her screen, indicating that she noticed something unusual on it (corporal display of 'change of state'; Heritage, 1984, p. 266). She then looks at MA and, with an accusative facial expression, asks: 'What is this?' (Line 04, Fig. 6.1). Despite the 'bold' (Brown and Levinson, 1978, p. 95) form of the expression, MA does not respond or attend to SI in any explicit way, although it can be assumed that MA has heard SI's question. Instead, SM, who has visible epistemic access to SI's screen, looks at it and tells her that it is a new slide (Line 05). However, to show that her question was not meant to be taken literally, SI clarifies the accusative intention of her question (Line 06).

SI then turns off her laptop and reorients her body from SM to MA (Fig. 6.2), asking him: 'Hey, did you put this slide here to between the slides?' (Line 07). She amplifies her verbal accusation by raising her gaze from the screen and staring at MA with a somewhat exaggerated, open-mouthed expression (Fig. 6.3). Then, by showing him her laptop, she provides visual evidence of the act that was treated as dispreferred, specifically by adding a slide to a specific spot in the group's slide presentation. By producing this astonished and accusative facial posture, SI openly confronts MA and accuses him of violating a virtually-coordinated epistemic territory regarding the order of the slides in the presentation; also in play is the moral issue around making changes to a shared presentation. In a Google Slides presentation, as in similar online platforms, changes made by one person can be seen by all; therefore, they are consequential for everyone modifying the document. Through her action, SI is interactionally producing asymmetric group roles, downgrading MA into someone who does not have the right to make changes to the shared work while claiming her own superior role in the group as gatekeeper of the slides.

In the next exchange, the epistemic negotiation over the order of the slides continues. MA admits that he put his new slide in that location (Line 08), occupying a relaxed body posture and closing his eyes (Figs. 6.4 and 6.6). SI then confronts him by demanding that he account for it (Line 09). She quickly glances at SM and then turns her attention to MA with a performatively disappointed facial expression that is laminated by MA's light smile (Fig. 6.8). By remaining immobile with gesture-free hands and body posture, MA is communicating an unwillingness to dedicate effort to the task at hand, a form of implicit emotional resistance.

As MA repeats that he was doing his slide in the disputed location (Line 10), SM steps in to support SI's accusation by forbidding MA from placing his slide between the others (Line 11, Figs. 7.2 and 7.3). In so doing, SM joins SI in creating rules for locating a slide—that is, it is not supposed to be positioned in a specific location—thereby forming an emotionally-laden coalition against MA. This seemingly arbitrary rule is produced as something that should have been known by MA thus, it is treated as being intentional and becomes a moral issue.

MA agrees to undo the epistemic violation—to move his slide (Line 12)—but SM announces that she has already moved it (Line 13). After that (in Fig. 7.7), SM bites her lips and looks upward, thus indicating that she is doing something that she should not be doing (removing another person's slide without explicitly agreeing to it with other group members). MA responds by glancing at SM with an offended facial expression and a slight nod, as if sarcastically saying: 'Thanks a lot'. MA's facial gesture (Fig. 7.8), which co-occurs with and complements SM's guilty facial expression, shows that he is not pleased that SM removed his slide. However, SM orients to the removal of the slide as a locally-legitimate action, and by smiling and saying, 'Now like that', she positions herself as a person who resolves the problem and has the moral and epistemic micro-power to do so (Line 14).

Virtual spaces are a prevalent feature of the new open learning environment. Our analysis sheds some light on how the students orient to the presence of virtual space in the midst of negotiating their epistemic group relations while working on their school assignment. Extract 3 shows how actions that are treated as territorial violations of the virtual space are brought into account in the physical or face-to-face space. The special affordances of the open learning environment—such as the features of the furniture and the usage of the virtual space in learning—is deployed as a recourse for creating group hierarchies, alliances and the moment-by-moment unfolding agential positions or "roles" in the group. For example, Extract 3 revealed how the two-person seat afforded a privileged epistemic ecology regarding the group's Google Slides presentation. However, a third member was still able to virtually access and, according to the other two students, violate the epistemic territory of the Google Slides presentation. This was afforded by the technology-mediated work platform, which does not

follow the ordinary rules of face-to-face interaction. This violation was treated as morally salient, making the violator directly accountable for his actions by way of a strong emotional judgement that produced moral superiority and epistemic hierarchies among the members of the peer group.

## 5. Discussion and conclusion

In the study presented in this paper, we investigated how children in open learning environments organise their spatial and personal territories among and within peer groups in embodied ways. We also analysed the use of various kinds of spatio-material semiotic resources. Our analysis shows that, in the context of an open learning environment, the moment-by-moment interaction order is an achievement of emotionally-salient interactional negotiations over epistemic, moral and spatial territories of the groups afforded by the special features of the new institutional (non-)structure. Emotional displays that include strong facial expressions, eye gestures and tone of voice play a primary role in producing such territories. Actions, such as criticism, correction and challenge, intended to diminish the presentations of other participants, were designed to claim moral and epistemic superiority. Thus, our study suggests that the embodied management of epistemic relations is an extremely prevalent feature of interactions in an open learning environment. While epistemics has also been shown to play a crucial role in traditional classroom interactions (Herder et al., 2020; Kämäräinen et al., 2019), in an open learning environment the role of the teacher is diminished and, to a large extent, the epistemic negotiations consist of corporeal negotiations over epistemic and spatial relations and hierarchies among the students.

Furthermore, the technology-enhanced learning and multiple spatial resources of the open learning environment afforded more open-ended epistemic negotiations. For instance, the special arrangement of the furniture, the technological devices (the laptops) and the slideware the students used and the unstructured task enabled them to criticise each other's work. As there was no 'traditional teacher' to provide the students with timely guidance on how to do their presentation or what they should have been doing in any given moment (work or recess), negotiations were also needed to produce a local epistemic and institutional order. The interactions were impacted by the changes in the learning environment and the reform of the school's practices; thus, it required the students to engage in embodied, emotional and moral negotiation of what the groups should be doing and how.

Thus, in line with previous research (Evaldsson, 2004; de León, 2012; Goodwin, 2008; Heller, 2018; Niemi, 2016) unveiling the moral and emotional nature of practices and socialising in social groups and the norms of peer groups, the interactions we observed were enmeshed in the local construction and micro-negotiations of the institutional order. Thus, while the practices of producing social groups and group relations—embodied resources for inclusion and exclusion—are perhaps found in every (sub)culture in different forms, in our context, the open learning environment seemed to require the students to make salient negotiations of their epistemic and spatial territories. In so doing, the environment's institutional structures were not giving territorial protection; rather, they were in a state of constant flux.

While our data does not allow us to directly address the question of student learning, by uncovering the interactions that occur in an open learning environment, it is clear that the school reform has radically changed the content and semiotic resources used in children's interactions. The children's constant sensitivity to peer interactions in an open learning environment may be cognitively exhausting and make them and their groups more vulnerable to losing social face; their competence and skills are positive aspects that the participants claim for themselves (Goffman, 1955) as they are constantly exposed to criticism and other people's observations and subjected to losing their privacy. Continually establishing and maintaining peer interaction can also be challenging for children, as they are in the process of developing the skills necessary for effective communication and social interaction (Corsaro, 2003). Further research on the long-term effects of open learning environments on peer interaction and learning is needed. Children also need to be taught how to balance collaboration and privacy.

More fundamentally, our study sheds light on the tendency of human beings to produce structures and local spatial, epistemic and moral orders where none exist. The children in our study created a moral community in which they held each other accountable for doing things right, and this was significantly intertwined with constructing group relationships. Thus, even if resources dramatically change, such as digital technology, which fundamentally changes the ways in which we interact, the interaction order (Goffman, 1983) struck by the locally- and spontaneously-adopted sense-making practices (Garfinkel, 1967), seems likely to remain constant.

## Declaration of competing interest

There is no conflict of interest.

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## Appendix 1. Transcription conventions

(0.5)	The numbers in brackets indicate a time gap in tenths of a second.
(.)	A dot enclosed in brackets indicates a micropause of less than two-tenths of a second.
=	This indicates an absolute contiguity between utterances.
( )	This indicates an unclear utterance or sound.
.hhh	This indicates upward breathing. The more H's there are, the longer the breath is.
hhh	H's with no preceding dot represent exhalations.
:	Colons indicate the stretching of a sound.
.	A period indicates a falling tone.
,	A comma indicates a continuing tone.
↑ ↓	Upward and downward arrows mark the overall rise or fall in pitch across a phrase.
◦ ◦	This indicates silent-voice speech.
<u>Under</u>	This indicates the speaker's emphasis.
@ @	This indicates speech produced with an atypical voice.
(( ))	This indicates the analyst's comment.

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