Social Excursions During the In-between Spaces of Lessons. Students’ Smartphone Use in the Upper Secondary School Classroom

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ABSTRACT
In this article, we focus on smartphone use initiated by students during lessons, with the aim of deepening the knowledge of when and why this use happens. Our methodological approach is video-ethnographic. The empirical data consists of 20 focus students in 9 upper secondary school classes, comprising 70 h of video material. The results show that the use of smartphones most often occurs in what we call the in-between spaces during lessons. These spaces are individual and negotiated within the classroom interaction frames. We argue that turning to one’s phone during an in-between space may largely be seen as a social excursion that is generally smoothly and tactfully integrated into the social order of the classroom.

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Introduction
While digital devices such as laptops and tablets seem to be an essential prerequisite for school development in Sweden, the issue of smartphones in the classroom has proven to be significantly more controversial. In public debate, smartphones have come to be seen primarily as a disturbance (Ott, 2017) where the discussion is based on what could be described as a media and moral panic (Drotner, 1992; Standage, 1998) of the sort that frequently follows the introduction of new technologies adopted early by young people. However, despite this, knowledge about the role of phones in the classroom and the ways in which they interact with teaching and other activities is still limited. Instead, research on smartphone presence and use in the classroom has, among other things, focused on the link between phone bans and student school performance (Beland & Murphy, 2016; Kessel et al., 2019), showing contradictory results. Research has also highlighted so called e-learning and the impact of phone use on student learning (Kuznekoff & Titsworth, 2013; Wei et al., 2012). In this article, however, we are not interested in the e-learning perspective of studying smartphone use initiated by the teacher in the context of some learning activity. Instead, since current studies show that in Sweden virtually every secondary school student (98%) has access to a smartphone (Alexandersson & Davidsson, 2016) and that the phones are used more or less openly during lessons (Forsman, 2014; Ott, 2017; Sahlström, Tanner, & Valasmo, 2019), in this article we are interested in students’ in-class use of their phones. In order to get a deeper understanding of this, we here, by using detailed data that enables us to capture when and why the use of phones occurs, focus especially on investigating in what situations students turn to their phones during lessons.
The Didactic Contract, Tact and the Dramaturgy of Lessons

Activities occurring during lessons could be described as a social context consisting of a complex web of different interactional patterns. Brousseau’s (1997) concept of the didactic contract describes the mainly implicit system of habits that teachers and students create together in the classroom, shaping what is going to be taught and learnt. Here teachers as well as students have specific expectations of each other and these form the framework of the didactic transaction. To describe the complexity of the interactional patterns from a teacher perspective, van Manen (1991) has used the concept of tact. Broadly, van Manen describes tact as the practice of being oriented to others, and pedagogical tact as the specific actions that teachers take towards students in and out of classrooms. Pedagogical tact, in van Manen’s description, consists of two intertwined principles at play when teachers face a specific pedagogical situation – a normative empirical principle based on facts, and an interpersonal ethical principle, relating to the teacher’s orientation to the student. Pedagogical tact can also be described as the set of factors that give teachers and students a framework for working together during lessons, as they meet face-to-face and direct activities and interaction towards each other. Hudson (2015, p. 27) terms this framework the milieu – i.e., “the system of material and symbolic objects in question that corresponds to the new knowledge the students are to acquire.” Thus, the milieu is important for framing how content, didactical tools and other activities merge in the classroom activities – in short, what assignments are introduced and when and how students work with them throughout a lesson.

Through pedagogical tact, teachers have the responsibility for taking the initiative to introduce, implement and follow up the teaching activities. Thus, tact is a part of how lessons develop. However, within the didactic contract, students also have tact when interacting with teachers and other students in the classroom. For example, Gruson et al. (2012, p. 65) show that students’ actions when working with new knowledge in the classroom environment involves a kind of resistance. This resistance, which could be described as part of a student tact created within the didactic contract, shapes a variation in intensity in the teaching and learning processes. Together with other sources of varied intensity – completing an assignment, having to wait for help from the teacher, or simply getting stuck – this creates a kind of dramaturgy of a lesson (cf. Goffman, 1959; see also Brisset et al., 2005; Mesiti & Clarke, 2006; Shimizu, 2006; Stigler & Hiebert, 1999). The image of a lesson as a drama has especially been discussed in the subject-specific field of Mathematics, and specifically studied in the Japanese school context (Stigler & Hiebert, 1999). “A mathematics class,” Stigler and Perry (1988, p. 215) state, “like a story, consists of sequences of events related to each other and, hopefully, to the goals of the lesson.” Shimizu (2006, p. 143) describes the basic pattern of a lesson as three phases/parts: Opening, Core and Closing. The idea is that all activities together form a coherent system, a well-formed story – i.e., a lesson. In relation to what Smith and Stein (2011, p. 5) call a reform-oriented classroom based on full-class discussions (which characterizes many Swedish classrooms), Shimizu’s phases are called the Launching Phase, the Exploring Phase and the Discussing and Summarizing Phase.

However, even though teaching is primarily organized around a specific content, life in classrooms is, and has always been about, both identity processes and learning. In this light, Biesta (2015) describes education as an institution for accomplishing qualification, subjectification and socialization in parallel processes. Moreover, Bernstein (1996/2000) notes that school practices and pedagogy consist of a discourse of social order as well as a discourse of knowledge and skills. This frames who controls the communication practices in a classroom as well as what is presented and how, i.e., the sequencing of the teaching. The framing of the teaching practice and instruction discourse can be strong, as when the teacher has explicit control of selection and sequencing during a lesson, or weak, as when more control is distributed among the students.

In a connected classroom that includes smartphones, the framing of communication practices, as well as identity and learning processes, differs from that of an “analog” classroom, not least because the interactional infrastructure of a classroom is largely grounded in text and talk (Jakonen, 2015;
Sahlström, 1999; Tanner, 2017). Thus, the digitization of classrooms and the presence of smartphones is changing previously entrenched interactional patterns, mainly in terms of increased possibilities for student participation (Sahlström, Tanner, & Valasmo, 2019). While calls to digitize Swedish schools began already in 1994 (The Swedish ICT Commission, 1994), these calls had little effect until quite recently (Lantz-Andersson & Säljö, 2014; Tallvid, 2015). Today, digital devices have changed the media ecology of the classroom (Ito et al., 2008) with digital technology reconfiguring the spatial and temporal dimensions of education. Moreover, ubiquitous and continuous connectivity changes the classroom both as a space for learning and a space where social life takes place (Erixon, 2016; Gilje, 2019). This connectivity also makes it possible for young people to expand and develop friendships and interests in participation patterns that Ito et al. (2008) describe as “hanging out” (p. 13), “messing around” (p. 20), or “geeking out” (p. 28). Further, the smartphone can function as a boundary object, expanding the context of schooling for students (Gilje, 2019). Thus, sociality in classrooms is now grounded in both networked and face-to-face interaction.

In this article, we choose to look at lessons and teaching activities as sequences of events related to each other, where teachers’ tact in cooperation with the individual students’ tact, as well as the didactic contract, are factors that affect how smartphone use unfolds in relation to activities and classroom sociality during lessons (see also Olin-Scheller & Tanner, 2015; Sahlström, Tanner, & Valasmo, 2019). Even if earlier studies have shown that students and teachers frequently implicitly negotiate the boundaries of acceptable phone use (Charles, 2012; Olin-Scheller & Tanner, 2015), knowledge about when and how these negotiations happen during lessons is missing. The aim of this article is to deepen the knowledge of student-initiated smartphone use in different interactional situations in the classroom. To this end, we pose the following two-part research question: When do students use smartphones during lessons, and how can the use of smartphones be described in relation to concurrent social and teaching activities in the classroom?

**Materials and Methods**

The empirical material comes from a video-ethnographic study of smartphone use in the Swedish upper-secondary classroom. It should be noted that in the classrooms observed, smartphone use was accepted, not prohibited, and that the students use their phones spontaneously during lessons. Moreover, in the studied classrooms, no teacher actively used the phone as a resource for teaching activities. In the study, we have used methods which can describe in detail the use of different social media, applications, search engines, and more, as well as the role these play in relation to interaction practices in the classroom. We have specifically studied classroom activities involving 25 focus students (15 female and 10 male) in a total of nine upper secondary school classes, which has generated a total of 70 h of video material. The students come from two different schools and three different classes in Year 2 and Year 3, representing both preparatory programs for higher education and vocational programs. The students are aged 18–19. The two schools are situated in a mid-sized town and each class consists of about 25 students. All students in the classes included in the study were informed about the aims and implementation of the study, and were asked to participate by appearing in classroom video recordings and, optionally, also allowing us to study their use of smartphones and computers. Almost all students gave their consent to participate, and those who did not were not filmed. We made efforts to develop trust and a dialogue with the students, and they were repeatedly informed about their rights to see the information that was collected about them and their right to withdraw whenever they wished. As a next step, we documented the students’ activities continuously over a period of one school year for each school, through video recordings with three different perspectives. Each recording session focused on one student. One video camera was directed at the focus student’s physical location in the classroom so that we could follow their interaction with the teacher and fellow students. Another camera was directed at the student’s hands and desk. We especially attempted to capture use of the personal computer, which the school provides for each student. As a third data source, we used wi-fi technology to mirror the student’s smartphone screen on a
researcher’s computer, from which we could capture the video. These different data sources have then been edited into joint videos, which show up to three perspectives simultaneously. This setup differed somewhat for the vocational program students. The vocational education students much more frequently move within and between different classrooms and working locations and positions during classes. For this reason, it was more productive to follow the focus students during these more practically focused classes with one portable camera in order to record the students’ physical interaction with peers, teachers, and artefacts, in different teaching contexts in school.

As a first step in the analysis, the course of actions during all recorded lessons were roughly transcribed in the analytic software NVIVO, and all instances of smartphone use were coded on the timeline by two researchers in the group. As a next step, in NVIVO, we selected all clips when students used their phones and inductively categorized the clips in relation to different interactional situations. As is common in interaction studies (Stevanovic & Weiste, 2017), the analytic decisions were discussed and scrutinized in data sessions involving other researchers in the group until we agreed upon five discrete categories, presented below. From each category, one example was selected for interaction analysis using Conversation Analysis (CA). With this perspective, we explore the social organization of students’ smartphone use in relation to ongoing teaching and assignments, and specifically try to identify how the activity of picking up the phone is coordinated with other activities in the classroom.

CA is fundamentally concerned with understanding the sequentiality of people’s social interactions, whereby people coordinate their actions with each other in joint meaning making in different social situations (Sacks et al., 1974; Schegloff, 2007). Recently, some CA scholars have been especially concerned with how people may be engaged in multiple activities at more or less the same time, which has been described as multiactivity (Haddington, 2019; Haddington et al., 2014; Mondada, 2014). The concept of multiactivity is used to focus on the practical accomplishment of progressing and participating in different simultaneous courses of action and how this is achieved in multimodal interactions. Students’ use of smartphones in classrooms could often be described as part of multiactivities, as they coordinate picking up their phones with other courses of actions in the classroom interaction. In the analyses, we use a multimodal approach to studying interaction in such multiactivities. The multimodal approach that we employ is based on the works of Goodwin (2000, 2007), and entails a focus on how participants in interaction coordinate verbal and non-verbal resources into configurations of participation frameworks. Thus we study how interaction that includes smartphone use evolves in relation to other ongoing activities as a co-constructed enterprise where participants use talk, gestures and other embodied interactional resources to communicate. When students use their phones in the classroom, they often participate in parallel participation frameworks as they move between screen-mediated and face-to-face interaction, between the framework provided by an application’s affordances and the physical space of the classroom (Sahlström, Tanner, & Valasmo, 2019). In the analyses presented below, we identify different kinds of situations when phone use is initiated, and explore in detail how these initiations are accomplished in multiactivities relating to parallel participation frameworks in the classroom and on the phones.

**Results**

The students in this study use their phones with varying intensity during the lesson, which is in line with earlier studies (Sahlström, Tanner, & Olin-Scheller, 2019). Moreover, our analysis shows that smartphones are used openly and intermittently by the students during the lessons and this use is hardly ever commented on by the teachers or other students in the classroom. Sometimes the phone use is related to on-task activities. However, most commonly, the students use their smartphones for social purposes through social media such as Snapchat, Instagram, and Facebook, or other social tools such as messaging applications. Figure 1 shows the usage pattern of one of the focus students, which exemplifies to common tendency (see also Paakkari, 2013).
1. Snapchat (8%)
2. Web searches (1%)
3. Facebook (0.5%)
4. Messenger (1%)
5. Other applications/activities (0.5%)
6. Non-use of smartphone (89%)

The figure shows that most of the time there is no smartphone use at all during the lesson (89%). When the phone is used, social media dominates the usage (9.5%) with Snapchat represented most frequently (8%), followed by Messenger (1%), and Facebook (0.5%). However, even though the time spent on social media in total during the lesson is quite short, the number of instances of use is quite high since every update happens very quickly (often less than three seconds per instance). On-task information retrieval using Google, Wikipedia, or the like, and the use of other applications takes up 1.5% of the duration of the lesson. Since the students primarily use their phones for off-task activities, this is what we mainly focus on in this article.

In all the studied classrooms, much of the smartphone use occurred in the Opening and Closing phases (Shimizu, 2006) of the lessons, which also is in line with earlier studies on university students (Mowlabocus, 2016). In the Opening phase, the students gather in the classroom and prepare for the teacher to start the lesson. Often, the start also consists of activities such as the teacher checking attendance, handing out material, and answering questions about practical matters. Thus, the intensity as regards teaching content is low. For students, this phase offers opportunities to update themselves on their smartphones without disturbing either the interaction between the teacher and the class, or between the students. As with the Opening phase, the intensity is also low during the Launching phase (Smith & Stein, 2011), which offers opportunities for students to redirect their attention from the teaching activities to social activities on their phones. Our data on students’ phone use during lessons overall suggests that most instances of use are well integrated into the situation at hand and non-disruptive, sometimes to the point of being easy to miss. From a classroom perspective, use of phones mostly happens on an individual basis which seldom involves peers in the physical environment. Further, these uses are not commented on by the teacher. However, when the use of phones is directly related to or part of an ongoing task, it does often involve coordination with peers and sometimes with the teacher.
Beyond the Opening and Launching phases of a lesson, we have found some other recurring types of occasions, occurring during the Core or Exploration phase. On these occasions as well, the teaching intensity goes down and students shift focus for a shorter or a longer period (ranging from just a few seconds to several minutes in our data). We call these periods the in-between spaces of a lesson. These spaces are discrete and always negotiated within the interaction framework in the classroom. The situations where these in-between spaces usually appear for the students are when

- the students are waiting for further instructions;
- the teaching activity shifts from one assignment to another;
- the students are waiting for support or feedback;
- the teaching activity does not require the student’s full attention; and
- the student initiates a pause during ongoing activity

In the analyses below, we use these categories to structure our description of how smartphone use occurs in these in-between spaces during lessons. The video excerpts shown in this article were selected on the basis of how well they illustrate these categories. The selected excerpts happen to be female-dominated, but in our analyses we did not in fact find any notable differences between male and female participants’ behavior when it comes to smartphone use.

**Waiting for Further Instructions**

In the participating schools, many lessons were quite long in time (often 80 min or more) and comprised several different activities. In the data, we see frequent examples of how pauses occur when students that have finished one assignment are waiting for further instructions on what to do next. In our first example, the focus student Sigrid has been working with three peers (Bea, Cicci and Diddi) on a text analysis assignment, writing their answers on a sheet of paper. Where the excerpt begins, Sigrid is still writing while her friends, who have already finished, are making some joking comments on the text. The text concerns a man that takes on a stupid bet to get more money, which leads them to talk about their own need for money and how they mostly tend to waste it on clothes and food. The students are sitting at desks in two rows. Bea and Diddi are sitting at the front and have turned around to face Sigrid and Cicci. Sigrid does not take part in the conversation about money but smiles slightly (lines 2–3), but she does not look up or actively take part in the talk. Diddi continues to comment, “like today,” and Bea also laughs with a touch of irony. In line 6, we see how Bea, Cicci and Diddi are using their phones, while Sigrid quickly looks around the classroom and reaches for her phone. In line 9, Sigrid activates her phone and joins the other three students in the phone use activity, which they do individually but also in coordination, turned towards each other.

This sequence occurs at a point in time when the students, to their own contentment, have finished the assignment. This is a common pattern when it comes to individual work on in-class assignments, which reflects an implicit didactic contract between students and teachers.
about writing down a good enough answer to be able to move on to the next task (Tanner, 2014). During this lesson, the students have not yet received further instructions about what to do next, so from their perspective, an in-between space is opened up and provides them the opportunity to take out their phones. The three students who were already finished with the assignment turn from their lighthearted side-talk simultaneously. As soon as Sigrid completes the assignment, she joins the other in turning to her own phone. Even if each student in this instance uses their phone individually, the activity has a clear social dimension evident from the coordination of the action of turning to the phone and from how the students bodily orient to one another. In terms of lesson dramaturgy, this instance of phone use does not compromise the didactic contract between students and teacher, since the assigned task is duly finished and no next task has been assigned. From a pragmatic point of view, this is an example of how being a student is often a matter of fulfilling obligations well enough, and further demonstrates the normalcy of a space in between assignments (Sahlström, 1999). Thus, such an in-between space, which provides the
opportunity for side-activities such as checking one’s phone, does not threaten the basic interactional order of the classroom.

Waiting for Support or Feedback

Another recurring phenomenon in the dataset is when the framing of the teaching in itself results in in-between spaces. This includes situations when the student needs help with a task but the teacher is busy, when the student is done with a task and needs instructions for the next, or, as in the example below, when the student has worked intently on a test (to put hair on rolls within a time limitation of 45 min) and calls for the teacher to evaluate the result. In this instance, as soon as the student, Eva, finishes her work, she picks up and readies her phone, and when the teacher arrives to examine the rolled hair, the student turns her attention towards her phone. The extract below begins in the final second of the 45-minute hair rolling test and ends as the teacher arrives and the in-between space is created. Eva is putting rolls in the mannequin doll head while her peer Anna stands by and observes. During the test, Eva’s phone has been out, functioning as a timer (Transcript 2).

In lines 1–9, Eva is working on the mannequin head while the timer on her smartphone is ticking down from 45 min. Anna observes as her friend hurries to finish her test on time. In line 3, Anna asks if Eva is done, and Eva responds after having a quick look at her timer that she has thirteen seconds left. The phone’s message signal then sounds, announcing that a text message has arrived. A notification slides down the top part of the phone revealing the first lines of the text message. Eva turns her head multiple times, glancing at the phone while her hands continue working on the mannequin. When the last seconds run out the timer beeps loudly, and an additional four seconds pass before Eva lets go of the last roll, exclaiming that this still counts as being finished on time (line 11). She then picks up her phone, summons the teacher, and sits down by a hair washing station. A short exchange follows between Eva and Anna, where the latter praises Eva’s efforts. The teacher, Ulla, arrives to the scene (line 26) and Eva leans back in an embodied display of exhaustion while Ulla starts inspecting the rolls. The inspection gives Eva enough time to attend to the text message that arrived in line 5.

This extract illustrates the students’ sense of tact and timing. Eva and Anna are both attentively oriented toward the task when this is required, and Eva finds an appropriate time to orient to the phone as the space for doing so without disrupting the lesson arises. Especially among the vocational students, these mini-breaks occur at organic breaking points, such as when the current assignment is done or when there is a change of tasks, when equipment needs to be retrieved from another room, etc. – or, as in the present case, when the student is in need of assessment from a teacher.

The Teaching Activity Shifts From One Assignment to Another

Many lessons in the data comprise several distinct activities or assignments, and the shifts between the different assignments are occasions when students often take the opportunity to check their smartphones. The students do so in a manner that avoids interfering with teaching activity and social interaction in the physical room. In the following example, we analyse one of these situations. During a Swedish language class, the students have been roleplaying job interviews. Our focus student Amanda has been interviewed by two of her peers, Bodil and Lotta, about a job at a separate table, and two other students in the group, Daniel and Erik, have been listening and taking notes for reflection. After the interview, they thank each other (within the roleplay), rise from the table, and prepare to go back to their regular seats. During this shift of activities, Amanda picks up her smartphone and checks it while moving between the tables (Transcript 3).

The excerpt starts as Lotta, Bodil and Amanda conclude the job interview, still in character as employers (Lotta and Bodil) and job applicant (Amanda). In a playful tone, Amanda says thank you (line 1) and Lotta answers emphatically with a lengthened thank you (line 2), followed by a slight laughter. Amanda responds in overlap, still playfully, see you. They shake hands with each
other, which marks the end of the roleplay, and a silence of 4 s follows (line 4). During the silence, Amanda takes the phone in her hand and turns to walk back to the other table. Her phone screen displays several notifications on different apps that she uses, amongst them Instagram (line 4). The students are still oriented to their roleplay, but now with a more distanced stance as they make different comments about their shared experience. Lotta takes an evaluative stance and calls out yeey (line 5), referring to their performance, and Amanda aligns with her through laughter (line 7). Lotta makes a playful comment, works the world (line 8), and rises from her chair. In line 9, Amanda
continues the roleplay by asking if she is going to get the job, and the students continue to talk about this in a playful tone, joking about that she should not call them and that they might call someone else (lines 9–15). Amanda plays along and takes part in the joking, in line 17 she is still oriented to this topic and says exactly, but simultaneously she also opens the Instagram app, and while Lotta develops a joke from another occasion about not calling the job applicant (line 18), Amanda checks the notification.

The example shows a multiactivity as Amanda uses the physical transition between the two tables and the social transition out of the roleplay assignment as an in-between space where she can

Transcript 3. The teaching activity shifts from one assignment to another.
simultaneously check her phone. Thus she shares her attention between the joking activity with her peers and the activity of checking the recent notification from Instagram. In this specific situation, there are no explicit task-related demands, but all three girls and one of the boys are jointly engaged in a social play where they together enact reflective and evaluative stances to their performance in the roleplay. Hence, Amanda is expected to maintain an orientation to the social interaction in the physical room but at the same time the notices on the screen calls for her attention from outside the room. As Sahlström, Tanner, and Valasmo (2019) show, smartphones could create an expectation for students to be more available for initiatives from the outside which might create a pressure for individual students to manage above and beyond the interactional demands in the classroom. In this case, however, it is not oriented to as problematic that Amanda takes the opportunity to also check her social media notifications. Rather, she seems to manage it on the move between activities. The way that she takes her phone up and the timing of turning it on and orienting to it appears to be well adjusted to the spatial and social interaction of the participation framework between the peers in the group. However, there is reason to further reflect upon what the increased demands of being available for initiatives from the outside could mean for students’ social lives in classrooms over time.

**The Teaching Activity Does Not Require the Student’s Full Attention**

The students are often involved in collaborative or group tasks, and in such situations, the full attention of all participants is not always required, which opens up for the smartphone to be used. The material features many such occasions, for instance when six students together must write collaboratively on one laptop, or when seven students are collaboratively involved in hammering a wood panel to a ceiling. On such occasions, both attention and labor can be distributed between group members, and the smartphones tend to be picked up and used by the students whose attention is not necessary at the moment.

The example presented here is taken from a building and construction program lesson. Two students are engaged in hammering a knot board on a small house that the students in the class are building. So is the one who is doing the hammering, while Anna holds some nails in one of her hands (Transcript 4).

Since two hands and full attention are hardly required to hold some nails, a space is created for picking up the smartphone. We can see that Anna’s phone use takes place as specific work tasks are negotiated between the students through their use of bodies, with gestures and gaze as communicative tools.

As soon as So has begun to hammer (line 2) there is space for Anna to begin to engage with her smartphone. A few seconds into the hammering, Anna picks up the smartphone (line 2) from her pocket while still keeping her eyes on So’s hands. When the phone is fully raised, she turns her gaze away from So, looks at the phone, and quickly checks the “Sociality” status (line 3). Shortly thereafter, she returns the phone to her pocket (line 3) and raises her gaze again towards So’s hammering. A few seconds later, she picks the smartphone up again and opens Facebook, where she scrolls down the timeline and takes part of the flow of updates (line 4). For the following ten seconds, So hammers and Anna’s gaze is kept to the phone. In line 5, So stops hammering and directs her gaze towards Anna while also stretching out her left hand towards her. With her gaze still towards her smartphone (now in the application Snapchat), Anna pulls up her left hand in which she holds some nails (line 6). Thereby, Anna shows that she has noticed So’s embodied call to give her access to the nails, and thus she meets her practical obligation in this collaborative task. So takes a nail and then resumes the hammering (not shown in the excerpt).

The example shows how both students are involved in the school work that takes place, but with varying degrees of engagement. It also shows how the students’ different tasks create space for one of the students to use the smartphone in order to stay updated on Facebook and Snapchat, while still being present enough in the embodied context to be available as a resource for the other student. It
Transcript 4. The teaching activity does not require the student’s full attention.
could be argued that observing Anna’s hammering is itself a learning opportunity for Sofi, which Sofi loses out on due to shifting her attention to the phone. However, it is questionable to what extent Sofi would be attending to Anna’s hammering even if the phone was not involved.

**Student-initiated Pauses During Ongoing Activity**

During more extended periods of individual work, students often make space for micro-pauses. Checking their smartphones is one of the ways in which students create such a pause. An example of a student-initiated pause of this kind comes from a lesson in Swedish where the students are individually writing essays about the pronouns “they” and “them” (in Swedish “De, dem och dom”). It is a long lesson, during which our focus student Tilda is working on her essay for about 90 min. She produces almost two pages of text which she finally submits to the teacher using the learning management system “Itslearning.” Her writing process follows a pattern characterized by concentrated writing in intervals of 5–10 min, interspersed with side talk with her peers (both on- and off-task), web searches and Snapchat updates on her phone.

The following example shows one of the micro-pauses that Tilda takes during her writing. The students are writing beside each other in rows of desks, each on their own laptop. The transcript shows Tilda’s progress on her text, and her smartphone activity through mirroring. As this activity is non-verbal, the situation is represented with pictures and descriptions of her actions (Transcript 5).

As the excerpt starts, Tilda has been working intently on her text for approximately ten minutes, writing on her laptop and looking at the worksheet on the paper beside her. In line 1, the pace of her writing decreases, and she seems to be considering how to continue the text. In the second line, she stops writing and glances around the classroom. She puts her hand in front of her mouth (line 3), and her gaze wanders from the laptop screen to the side, where the phone is lying. The screen features notification bubbles on two apps showing that she has one unopened Snapchat and one message on Messenger. She then picks up her phone (line 4) and opens Snapchat. After spending a moment with Snapchat, she talks for about one minute with her friend sitting beside her, and then she continues her writing (not shown in the transcript).

The example is one of the many short micro-pauses that occurs during Tilda’s writing, each of them lasting for a few minutes. Prior (2004, p. 171) describes how writing as a situated practice seldom is a smooth process. Instead, writers repeatedly pause to think, check their previous writing and to check background materials as part of the writing process. Importantly, Prior also notes that the proliferation of small breaks is not only connected to the practical text production, but also seems related to dealing with emotions and resistance as writers pause to grab some coffee or snacks, tap their fingers, listen to music, and so on. Tilda’s social excursions on the phone are examples of such pauses during writing that occurs when she seems to be encountering some kind of problem with how to continue the text. The fact that Tilda takes a moment to look around the room before picking up the phone may indicate that she is simply looking for a social break from the writing process, and that the phone happens to be the resource that is currently most readily available for this purpose within the framework of the classroom. That is, in this case, the smartphone, just like the subsequent side-talk with her peers, is one of several possible resources that can provide the kind of social and mental break that is a normal part of the writing process.

**Discussion**

The results of the study show that the students’ uses of smartphones in the observed classrooms mostly take place openly, regardless of whether the teacher is nearby or not, and phone use is generally very smoothly integrated into the framework of the various ongoing social and teaching activities. As shown in our analyses, the lack of interference between off-task phone use and on-task work is a practical accomplishment that the students manage by making use of different types of what we
call in-between spaces during lessons. These spaces during lessons are, as we have shown in our analyses, a result of an interactional pattern when students are able to, and make themselves able to, exploit a naturally-occurring or expected shift of attention and shift in intensity. As the examples above show, the use of the phones occurs mostly when teaching intensity decreases — for example, at the beginning and end of the lesson (Launching and Closing Phase), when the students are stuck on an assignment, when the students consider themselves to be done with a task, when their full work effort or attention at the moment, and for various reasons, is not needed or, simply, when they need a short break. These in-between spaces during lessons can be understood in relation to what Mowlabocus (2016) calls “interstitial time”, i.e., moments of time during a day when we are between activities and when smartphone use frequently occurs. Our results show that these moments also appear during lessons. Mowlabocus (2016) argues that interstitial time is those moments when “we become uncertain – about what to do next, about how to occupy our time, about how to ‘be’ in a particular space, perhaps even about our life trajectories” (Mowlabocus, 2016). To some extent these moments of uncertainty are present in our material as well. However, while our analysis shows that smartphone use tends not to be in competition with the interactional demands of the teaching activities, this lack of competition is itself a result of negotiation within the didactic contract (Brousseau,
between teachers and students as well as between students, framed within the interactional milieu (Hudson, 2015) that emerges during a lesson. Thus, didactic contracts also become social contracts, which come to integrate the use of smartphones. These interactional negotiations demonstrate tact (van Manen, 1997), since both teachers and students have to be flexible, adaptable and responsible in relation to the specific context and situation. In this process, who is holding the wand is a result of a negotiation and an interplay, where the established pedagogical discourse (Bernstein, 1996/2000), consisting of a discourse for social order as well as a discourse of knowledge and skills, is not in fact challenged. Thus, the in-between spaces we identify are co-created by both students and teachers and can be regarded as vital components of tact in classrooms, regardless of whether smartphones are involved or not. That is, at least as they are used in our data, even though smartphones may challenge the teacher’s agenda, the phones are not a threat to the expected social order of the classroom. Rather, from the students’ as well as the teacher’s perspective, the phones appear quite smoothly integrated into this order.

While the observed use of smartphones does not threaten the immanent social order of the classroom, it must also be situated in a broader context. For instance, it must be acknowledged that there is a pressure on young people today to be present and available on social media (Björk, 2018; Ott, 2017; Paakkari et al., 2019). This sense of social obligation may be driving the students to look for – or even actively make space for – gaps in their classroom lives in order to keep themselves updated on various apps (Sahlström, Tanner, & Valasmo, 2019). It is certainly not by accident that the online activities during the in-between spaces in our study are mainly characterized by social media such as Snapchat, Messenger and Facebook: Turning to the phone means going on a short social excursion outside the classroom, or, put differently, bringing into the classroom social business that is in some sense a distraction from the business of teaching and learning activities. It should be noted that the students observed in this study do not seem to have any trouble redirecting their attention back to the teacher or their peers when it is time to get back to work or when their attention is otherwise called for. However, it is quite possible that this distraction from local classroom business, driven by a sense of social pressure, has costs that are not immediately evident in the data for the present study, limited as it is to considering local interaction.

A further potential risk of in-class social smartphone use comes from the complexity of managing multiple interactional activities at once. The methods used in this study enable us to discern how the in-between spaces emerge in a complex interplay between classroom resources, students and teachers that could be characterized in terms of multiactivity (Haddington, 2019; Haddington et al., 2014). A clear example of this multiactivity is when Anna, as described in the category “The teaching activity does not require the student’s full attention,” is focusing on off-task social media on her phone at the same time as she is present on-task helping and interplaying with Sofi, who is doing the more attention-demanding work of hammering. From a pragmatic point of view, the didactic contract (Brousseau, 1997) seems to be well-functioning as long as the smartphone use is well adapted to the specific situation and does not disturb the expected participation in the teaching activities or break the social expectations of peers in the physical room. From our observations, the students seem capable of monitoring the level or intensity of participation expected of them themselves, and, in fact, restricting their phone use to situations where no or only low-level participation is expected of them. Thus, even when the students use their phones in multi-activities, they tend to do so when their role in the local classroom business is minimal and easily accomplished more-or-less passively. However, as noted in the analysis of the example of Anna and Sofi, there could potentially be a form of opportunity cost of a student missing out on learning from observing the activities of other students. Furthermore, it should be noted that even the modest level of “multi-tasking” observed here could conceivably have cognitive costs that the present study cannot address.

In the classrooms we observed, the individual student’s use of the phone is mostly not shared with others, but rather the phones seem to provide a private space relative to the physical classroom. Here, the use of smartphones could be described as a resource for gaining access to information and provide possibilities to participate in interaction practices not initiated by the teacher and (temporarily)
disconnected from classroom sociality. Thus, the use of phones does not disturb the general order in classrooms, but could possibly have consequences for the individual student’s participation in classroom interaction (Sahlström, Tanner, & Valasmo, 2019) and ultimately for their school performance (Beland & Murphy, 2016). However, on the basis of our results, a ban on smartphone use in the studied classrooms would not greatly affect general participation in social and teaching activities, since the students are already adapting their use of phones to the demands of these activities quite effectively. That being said, it should also be noted that the students involved in our study are 18–19 years of age, and that students in other age ranges may engage in different behavior patterns and approaches to social media. Importantly, younger and less mature students may not be as adept at restricting their phone use in strategic ways and may be more susceptible to the social pressure discussed above. Further, smartphone use in classrooms where the didactic contract is already challenged or unstable might show patterns of smartphone use that differ from those of the relatively peaceful and orderly classrooms that we observed.

As we have shown, the ways in which smartphones are used is usually not in conflict with either the teacher’s or the other students’ agendas in classroom interactions. As noted, there could be potential costs to the phone use that are not immediately visible from the methodological perspective of the present study. However, what we primarily see is smartphones being used as a way of spending spare moments in a meaningful way, as the students are waiting for new instructions in the in-between spaces of learning – spaces created and negotiated uncontentiously by the students and the teachers. Although smartphone use is handled relatively discreetly and unobtrusively, the phone is often fully visible when the teacher is standing by the desk without this being perceived as a problem. This seems to be linked to the fact that teachers and students at these moments implicitly agree that the students are currently finished with a task, transitioning between tasks, or otherwise justified in orienting to their phones. The phones are often picked up by the students when the intensity of teaching is low and when a break occurs or is needed. In light of this, we would even suggest that the smartphones may in fact contribute to creating a calm atmosphere during this waiting period in the classroom, potentially helping rather than hindering positive teaching dramaturgy. Mowlabocus (2016) describes smartphone use as something we do when we don’t want to engage “with other people, or the rest of the world.” The smartphone use within the studied classrooms reveal something completely different. Here, the phone enables the students to engage with people and the rest of the world where turning to the phone may largely be seen as an alternative to chatting with one’s peers, as a social excursion. Whether this social excursion takes place on- or offline, it seems to be organized and accommodated to the classroom situation in the same, tactful, way.

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