‘Being stuck’. Analyzing text-planning activities in digitally rich upper secondary school classrooms

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Abstract

The aim of this article is to develop an understanding of how students use different interactional resources to manage problems that arise in their text-planning processes in digitally rich environments in Finnish and Swedish upper secondary schools. We explore both individual and collective teacher-initiated writing tasks in different subjects and during moments when text-planning seems to ‘get stuck’. Theoretically, we draw on a socio-cultural understanding of the text-planning process, and use multimodal conversation analysis to examine how students display 'being stuck' during their text-planning through their embodied and verbal performances, what role smartphones and laptops play in their process of becoming 'stuck' and 'unstuck', and how different interactional resources are coordinated during the students’ text-planning processes. The data consist of video-recorded face-to-face interaction, students’ activities on computers and/or with a pen and paper as well as simultaneous recordings of the focus students’ smartphone screens. The results demonstrate that students often resort to smartphones as resources to display, negotiate and transform problems in their text-planning process. Our results challenge common claims within the contemporary debate both in relation to digital devices as the solution to pedagogical challenges and in relation to the debate on smartphones as devices that disrupt work.

1. Introduction

Planning and producing various shorter and longer texts is a common and recurrent practice in upper secondary school classrooms. The process of text production is traditionally divided into rather distinct, though potentially overlapping and recurring phases. The focus of this analysis is on the beginning of the process, when students plan their texts, which entails their various practices of selecting the topic, generating and organizing ideas and searching for information. We examine text-planning activities from a socio-cultural perspective as part of the ongoing formal and informal interaction in the classroom. To analyze the organization of text-planning, we explore the face-to-face interaction between participants and their use of different writing resources and tools. Since digital devices and resources have significantly changed how writing processes are conducted in classrooms (see Musk & Cekaite, 2017), we put a specific focus on the role of online resources in text-planning activities in writing assignments.

We are particularly interested in verbal and embodied student performances that may communicate to other participants that the writer is in the middle of the writing process, text-planning, but that s/he is not yet able to produce the visible text. As the text-planning seldom proceeds smoothly, we focus specifically on those performances where students in interaction with peers explicitly orient to problems that occur when they plan their writing. Besides verbal and embodied accounts of ‘being stuck’, in these performances the students also frequently use different types of artifacts (cf. Nevile et al., 2014). In particular, they use

writing tools to display their problems, such as a pen, paper and smartphone, as well as other personal artifacts such as eyeglasses, a pencil case or other small objects.

The individual need for using digital writing tools during the text-planning phase varies considerably among writers. Most of the digital resources used in classrooms are designed to assist the writer when producing, editing or revising the text, whereas the planning phase might demand other kinds of resources for doing research or generating ideas before the actual text production. However, even though reading and sharing texts digitally widens students' textual world, it may also lead to their copying and pasting source texts (Skaar, 2015). Moreover, when students utilize digital devices, laptops or other mobile devices during lessons, their 'formal', teacher-initiated use of those devices may alternate with their 'informal' use, with the latter including surfing on the internet or engaging in social media activities (cf. Blikstad-Balas, 2012). Thus, in digitally rich classrooms, a complex set of digital writing practices emerge that are intertwined in various ways (see Bhatt, de Roock & Adams, 2015).

The aim of this article is to develop an understanding of how students use different interactional resources to manage problems that arise during their text-planning processes in digitally rich environments in Finnish and Swedish upper secondary schools. We have a specific focus on the use of smartphones and laptops and we explore both individual and collective teacher-initiated writing tasks in different subjects, and concentrate on moments when the text-planning appears to 'get stuck'.

We specifically address the following questions:

– How do students display their 'being stuck' when planning their texts?

– What role do the students' smartphones and laptops play in their process of becoming 'stuck' and 'unstuck'?

– How do students coordinate different verbal and embodied interactional resources during text-planning processes?

2. Text-planning process from the social cultural perspective

In the field of writing research, the term 'text-planning' usually refers to the first phase of the writing process. This phase is clearly defined in most of the widely adopted models of writing process (for example, see Flower & Hayes, 1981). Planning the text is represented as a dynamic and repetitive activity that entails complex cognitive processes. According to the well-known model proposed by Flower and Hayes (1981), text-planning not only encompasses generating and organizing content, but also establishing a goal for their writing and determining how to accomplish it. Bereiter and Scardamalia's (1987) model distinguishes between expert and novice writers' processes, highlighting the problem-solving situations that unlike novice writers' processes, often are involved in experts' text-planning processes. Similar to the models by Flower and Hayes (1981) as well as Bereiter and Scardamalia (1987), in many respects the existing research and modelling of text-planning activities have been cognitive or psycholinguistic in nature. The main objective of this research has been to explore the complex configurations of the mental processes that are inherent in gathering information, evaluating it, setting up and changing goals, organizing the communication of text, and furthermore, in analyzing the possible relation between the ways of planning and the quality of the finished text. (See Torrance, 2015.) The latter has also

been the focus of previous Finnish and Swedish research on the text-planning in school contexts (Chrystal & Ekvall, 1999; Lappalainen, 2001; Ranta, 2007).

From a socio-cultural point of view, psycholinguistic and cognitive models of writing processes have often provided a universal and therefore possibly simplified approach to text-planning because they seldom take into account the varying contexts in which the text production occurs (see Clark & Ivanič, 1997, pp. 92–94). As psycholinguistic and cognitive approaches often favor experimental research settings, some aspects of text-planning, such as pauses and delays, have been explored and analyzed as word searches, sentence planning or as a move from one (mental) task to another (see e.g. Torrance, 2015). While these are undoubtedly frequent and central processes during text-planning, exploring writing in a classroom context exposes other, equally relevant reasons for delays and interruptions. The aspects of interaction that remain beyond the scope of the psycholinguistic approach encompass most of the contextual aspects of text-planning in classroom settings. Here activities that not immediately are linked to writing, such as students cleaning their glasses or reading mobile phone messages, are included. Clark and Ivanič (1997, pp. 92–93) suggest that alongside a cognitive process of text-planning, one has to consider the meaning of actual practices of planning, which are culturally shaped and rewarded in some contexts (such as a written plan for an essay). Moreover, the material environment and surrounding objects such as pens, papers, notebooks, laptops, mobile phones, may become significant in writing activities when students touch, move and arrange those objects (see Jakonen, 2015; Mondada & Svinhufvud, 2016).

This analysis adopts a socio-cultural approach to writing, which means that we examine student text-planning activities with their smartphones and laptops as a social practice and more precisely, as a literacy practice. The concept of literacy practice entails (cultural) knowledge, technology and skills as well as attitudes, meanings and beliefs that are linked in interaction during certain observable literacy events, in our case text-planning in classrooms (for example, see Barton, 2001, 2007; Lankshear & Knobel, 2011; Tanner, 2017). This type of definition allows us to cast light on how students conceive text-planning in classroom contexts and analyze those aspects of text-planning activities that relate to pausing or interruption in their planning processes and to the affects that possible pausing or interruption provokes. For our approach, the observations by Clark and Ivanič' (1997, pp., 89–99) have been particularly important, especially the notion of “the often interrupted nature of the writing process” (p. 97). Clark and Ivanič (1997, p. 97) describe problems and dead ends as a natural part of a dynamic writing process where changes in one part of the process may cause problems in another. From a socio-cultural perspective, it is also noteworthy that verbal and embodied actions that relate to text-planning and potential problems within it are visually accessible and open to interpretation to the peers as well as to the teacher in the classroom.

A significant contextual factor in the writing process are the people with whom one collaborates in writing. The writing process in classrooms may be profoundly shaped by the writer’s peers and their interaction as well as shared activities. However, the level of required collaboration in writing tasks may vary considerably. Recent studies demonstrate that many writing tasks in Swedish upper secondary schools are oriented to collective activities (Nordmark, 2014). It is obvious in those schools that the teaching of writing is inspired by what Hoel (1990) and Evensen et al. (1991) describe as the third generation of process-oriented writing (see also Blåsjö, 2006/2010; Smidt, 2002). This perspective is characterized by an understanding of writing as a social process where social dimensions must be

considered when learning and teaching writing. However, it is not always easy to draw a clear distinction between individual and collective writing. During a task designed as individual or independent, students might interact with their peers and thus the ongoing activity is no longer purely individual (see Jakonen, 2015; Slotte & Forsman, 2017). As Nordmark (2014, p. 119) observes:

> 'Individual' writing takes place in negotiation and interaction with other participants. 'Collective' writing, for example, takes place in the form of group work, but it does not mean that students necessarily write text together, although they are expected to perform a common group assignment. Most texts that students write are 'individual' where each student should write a text and then get it assessed by the teacher (*our translation*).

When distinguishing between writing tasks that are designed either for individual or collective activities, our starting point is the teacher's initial design of the task. In our examination of the student text-planning activities, we adopt Breen's (1989) distinction between task-as-work plan and task-as-process. While task-as-work plan refers to the task the teacher has designed and addressed to students, task-as-process involves the emergent activities by the students and the teacher when working on and accomplishing the task (see also Coughlan & Duff, 1994). Thus, with a specific focus on how students utilize different analogue and digital resources, especially smartphones and laptops when 'being stuck', the empirical question is how the actual text-planning process is conducted in digitally rich classroom environments.

3. Data and method

In our analysis, we use video data from two larger corpora that were collected for the projects *Textmöten* (Finland) and *Connected Classrooms* (Sweden)[1] The methodological approach in both these studies are video-ethnographic, where special attention is on those instances when the students use their smartphones. We observed the classroom activities in a total of three upper secondary schools (one in Sweden and two schools in Finland), with our main focus on analyzing activities from the students' perspective. Fifteen focus students participated in the studies (eight from Sweden, seven from Finland), where the Swedish students attended theoretical programs in the second and third (final) grade (17–18 years) and the Finnish students (aged 16–18) all attended general upper secondary schools ending with the final exams. The data consist of video-recorded face-to-face interaction and simultaneous recordings of the focus students' smartphone, where the smartphone screens were mirrored and recorded. In addition, we also recorded the students' activities on computers and/or with a pen and paper during their lessons. Overall, the material consists of 163 hours of video recordings (the Swedish material is approximately 45 hours and the Finnish material 113 hours) from lessons in upper secondary school classrooms.

In our material, writing took place frequently – during almost every lesson − and encompassed individual writing as well as collective writing when the text at hand was supposed to be produced as an individual product or collectively as a joint product. In all the schools that participated in the present study, it was common practice for the students to keep their smartphones readily accessible during their lessons, usually on their desks.

[1] Connected Classrooms is financed by the Swedish Research Council (Research Grant 2015-01044) and Textmöten is financed by the Swedish Cultural Foundation in Finland.

Furthermore, the teachers in those classrooms did not restrict the use of the students' smartphones, nor did the teachers make any negative comments about phone use. The selection of examples for this article represents literacy events where writing activities, initiated by the teachers, occur among the focus students in the classroom and where they use smartphones differently during these situations.

This analysis uses conversation analysis (Sidnell & Stivers, 2013) to analyze selected examples from both individual and collective writing tasks, focusing particularly on literacy events, which could be described as part of the *planning* of the writing activity. These planning processes are accompanied by a number of embodied actions of the participants, or as Mondada and Svinhufvud (2016, p. 26) express it:

> (…) writing is projected early on by embodied conduct: it is not only projected by the movement of the hand but by adopting a particular posture projecting writing by orienting to its medium (…)

This analysis therefore adopts conversation analysis with a multimodal approach (Goodwin, 2000; Mondada, 2014) to examine literacy events that draw on the concept of writing-in-interaction (Mondada & Svinhufvud, 2016). With this concept, Mondada and Svinhufvud highlight the "interactional, praxeological, situated and embodied details" (p. 2) of the writing process, which they describe as often neglected. The multimodal approach in the analysis refers to taking into consideration how participants in their social interaction use and coordinate different verbal and non-verbal resources such as talk, gaze, bodily stance and gestures in relation to material and contextual aspects of the surrounding environment (Goodwin, 2000; 2007).

The analysis has been conducted in two phases. First, we have identified sequences where students explicitly display to peers in interaction that they are 'being stuck'. By this, we refer to moments when students express in verbal and embodied ways that their text-planning activities are interrupted. Second, we have selected six excerpts for detailed multimodal conversation analysis on how these displays of being stuck during text-planning are managed as part of interaction. These excerpts represent writing tasks that are both individual and collective. Our analysis examines the interplay between different interactional resources and explores how the text-planning process that occurs in situations of 'being stuck' unfolds in the sequentially organized interaction in the digitally rich context of the classroom.

4. Results

4.1 Individual writing tasks – performances of being stuck

The examples of the individual writing processes we analyze occurred in the Finnish data. A general observation is that completing an individual writing task entails relatively little verbal interaction, but when there is verbal interaction with peers, this usually occurs during the text-planning phase.

Our two examples occurred in the latter part of a lesson on Swedish language (L1) and literature lesson. During this lesson, the students' task is to start writing a school essay that resembles the one that they will eventually write as part of the forthcoming final exam. The students are requested to write their essay in a shared writing platform, but many of them use a pen and paper to plan the text. In addition to laptops, pens and papers, some students

have their smartphones on their desks, which is common during lessons in this school. The teacher distributes a worksheet with six assignments as well as visual and textual material for the students to use as a resource in their own texts. The teacher instructs the students to read over the worksheet “with a pen in hand” and to make notes for the essay. The students are subsequently asked to select a topic, analyze the keywords, begin to plan the text, and use the lesson effectively in the text-planning. This means that the teacher’s task-as-work plan also contains features of the task-as-process (see Breen, 1989).

The students’ desks are arranged in a traditional pattern, which means that they sit in individual desks in rows that face the front of the classroom and their teacher’s desk. This has consequences both for the organization of academic endeavors and for embodied interaction between the students (Wannarka & Ruhl, 2008). As all the students face in the same direction, when they want to interact with their peers, they need to turn sideways or around and either lean over their desks or the separating aisle. However, during this class, the students rarely move from their desks. The overall soundscape in the classroom is quiet; students and the teacher manage their verbal interaction by lowering their voice, apart from the teacher’s instructions to whole class.

For the next two excerpts, we examine how students, particularly our focus student, Stella, display ‘being stuck’ in their text-planning process when they are instructed to write individually. We also analyze Stella’s use of the available resources to ‘get unstuck’. First, we examine her use of smartphones in a task-oriented way. Second, we explore how the verbal interaction and use of a smartphone are intertwined. As the first excerpt does not entail verbal interaction, we then represent the activity without a transcription but with figures (see Figures 1–4).

Prior to Excerpt 1, Stella appears to have followed the teacher’s instructions since she has begun to write notes on the worksheet. One of the assignment topics is to analyze old Finnish travel advertisement posters. Stella has selected this topic at an early stage, and she has started taking notes in relation to both the pictures and the instruction of this assignment. She subsequently has written notes without significant pauses for approximately 20 minutes.

Stella has assumed a writing posture: she holds both her hands on the desk with the pen in her right hand. In front of her, there are a pen case, an eyeglass case, a smartphone, a notebook, a worksheet and a sheet of paper. Stella does not use her laptop at this stage.

At the beginning of Excerpt 1, Stella shows signs that her concentration is being disrupted. She takes off her glasses, yawns, looks around, plays with her pen, draws something on the corner of the paper and shows the drawing to the student next to her. These activities and gestures express visually to other participants that Stella is not proceeding with her task. In spite of the successful showing of her drawing, other delicate initiations she conducts for further interaction with the peers are not successful. Then, she reorients to the task: she assumes a writing posture again, looks at the paper and holding pen in hand, leans slightly forward and begins taking notes (Fig. 1).

Excerpt 1. Writing notes

Fig. 1. A pen in hand.

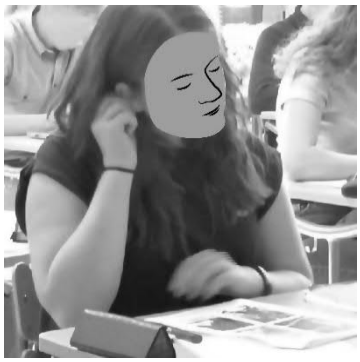

Fig. 2. Looking at the worksheet.

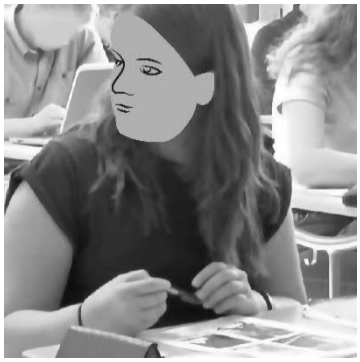

Fig. 3. Turning head.

Fig. 4. The smartphone.

However, after a few minutes, Stella again displays signs of losing her concentration. She handles different artifacts while still looking at the assignment paper: she puts the pen away, and touches her hair (Fig. 2). Continuing engagement with the activity is reflected in her gaze: she, after all, continues concentrating on the text (cf. Rossano, 2013). Stella subsequently takes the pen in her hand but now shifts her gaze from the paper; she looks at the students around her but receives no response (Fig. 3). Then she turns back and takes the smartphone in her hand (Fig. 4).

In our data, when the students do not receive responses to their embodied invitations for interaction from their peers, they often turn to their digital tools, namely smartphones or laptops. This also occurs here. Stella first opens the web browser and the Google search engine in her smartphone. As a search string, she uses the name “Ingrid Bade”. This is strongly related to the topic of the essay, as Ingrid Bade is one of the designers of the advertisement posters presented in the assignment paper.

Stella’s actions with her smartphone therefore indicate that after some moments of losing her concentration, she now reorients back to the text-planning. She glances twice at her paper and then back at the smartphone screen, as if checking the spelling of the name. The first two sites that the search engine suggests are on the artist Ingrid Bade in relation to the type of travel advertisement posters she is analyzing. Stella opens the first site and scrolls down some lines. She reads them, but does not take her pen in hand to take notes, which would have indicated visibly the progress or at least engagement with her planning of the text. After glancing at the site, Stella opens a message that had appeared earlier on her mobile phone but that she had previously ignored. Opening the message indicates that her concentration on her text-planning has been disrupted, and rather than writing her essay, she turns her attention to her mobile phone. She reads the message, smiles, and puts her phone back on the desk.

After a moment, a sudden beeping sound caused by a recording camera catches the students’ attention. Most of them glance around and stop working for a moment. This creates an opportunity for students to initiate interaction with other participants (cf. Rossano, 2014). For example, Amanda, a girl sitting next to Stella, says something (inaudible for analysts) to her and Stella seizes that opportunity to share with Amanda the news she had received from the Snapchat message. This is where our second excerpt begins.

Excerpt 2. “I’m stuck”[2]

+= delimits Stella’s (STE) embodied actions
*= for gaze by STE
r= right
l = left

```
1 STE  *vet    du     va (1.7) +vi ha köpt en bi(h)l +(1.5)            +
          do know what (1.7) we have bought a car                      +
  ste                          +r hand next to lips +wipes her nose+
  ste g *to AMA -->
```

[2] Our transcription conventions follow those used in multimodal conversational analysis (e.g. Mondada, 2014).

2 STE hh +han* de [a color] (1.0) +
the [a color] *one* *(1.0)*
ste +quick nods, touches her hair+
ste g -->* glances down, to AMA-->

3 AMA (ha ni gjort)
you have

4 STE just skicka mamma ti *vi köpt han
mom just messaged that we've bought one
ste
ste g -->* glances down, to AMA-->

5 AMA coolt
cool

6 (0.5) +(2.0) +*(1.0)
ste +several nods+
ste g -->* to desk-->

7 (1.0) +(1.5) *(0.5) (1.0)+
ste +clicks the pen on the desk+
ste g -->* to AMA -->

8 STE +ja sitter fas(h)t hh +*
I'm stuck with my thoughts
ste +snaps the pen against the desk+
ste g -->*

9 AMA va

10 STE *ja sitter fast (.) +i mina tankar* *+skåda he he *.hh
I'm stuck (.) with my thoughts *look ha ha*
ste +turns the page +Fig 5. holds the paper
ste g *to the worksheet ----------* *to AMA *to the worksheet-->

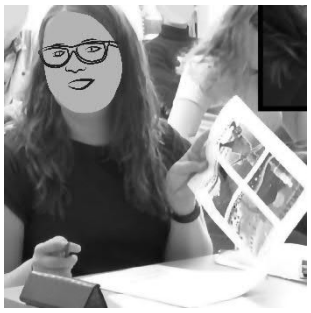
Fig 5.

11 STE +hh +(0.5) +(0.5)*
ste +lowers the paper +Fig 6. drops the paper +left hand lifted
ste g -->*

Fig 6.

12 STE +*(.) .hh +*(1.6)* +
ste +slams left hand on the table +clicks the pen and lets it fall+
ste g *to Ama---------- *to the pen*

13 STE +*(0.9) +*hh (0.5) +*
ste +Fig 7. swings the eyeglass case w r hand +r h on the eyeglass case+
ste g *to the eyeglass case *to AMA and right *

Fig 7

14 STE +(3.0) + *(1.4)
ste +takes off her glasses, adjusts her hair +folds her glasses, touches her nose
ste g *to the front of the classroom, to the desk----------*ahead-->

15 STE +*.hhh hhhhh (1.0) +* .hhhh *hhhhh
ste +puts her glasses into the case +r fist on the mouth (yawns), l hand picks up the pen
ste g --->*to eyeglass case----------*to the paper----------*to r, to paper-->

16 STE +(1.5) +(2.0) +(1.0)
ste +touches her shirt +r h turns the paper +points to the paper w/ pen

17 STE +(1.5) *(1.0) +*(2.2)
ste +holds the pen against her lips +lowers the pen
ste g -->* glances to the lower left *to the paper-->

18 STE +(1.0) +(0.5) +(3.3)
ste +twirls the pen +clicks the pen +adjusts her hair w/ r hand and l hand*
ste g ----------*

```
19 STE *(1.9)                                  +*(1.3)            +*(10.3)
   ste                                         +clicks the pen    +pen to paper, writes
   ste g *to the upper left-hand, the paper *to the pen           *to the paper-->
```

In lines 1 and 2, Stella conveys the news as newsworthy: the car has just been bought, and the news is marked as affectively positive by laughing and by sharing the details of the car color (cf. Ruusuvuori, 2013). Amanda responds to Stella's news by switching code: she uses English ("cool") to appreciate the news (line 5).[3]

Stella's news and the affects that the verbal and embodied activities mediated create a space for sharing as well as other affects (Ruusuvuori, 2013). After she delivers the news and the preferred response to it, Stella nods, looks first at her desk, begins clicking the pen on the desk, and then gazes again towards Amanda (lines 6–7). This is how Stella uses embodied means to communicate her stress concerning the task. However, she also expresses verbally very clearly that 'she is stuck' with the task (line 8). Amanda makes a repair initiator with an open question ('what', line 9) (see Kitzinger, 2013), and Stella repeats the description of her mood by adding that she is stuck 'with her thoughts' (line 10). This verbal contribution is accompanied by embodied actions that display the affect and establishes the reason for her affect more clearly: she shows Amanda her assignment paper that is full of notes. Even so, she also presents her distress as not severe. Stella laughs, and turns her distress into an exaggerated performance by using hand gestures. After lifting up the worksheet for Amanda to see (line 10, see Fig. 5), she lets it drop (line 11, see Fig. 6), drops her pen and slams the eyeglass case on the desk (lines 12 and 13, see Fig. 7). Her displays of distress are designed to be overtly visual, and the teacher of this classroom also has access to this public performance (cf. Cekaite, 2012).

During her performance of 'being stuck,' Stella has shifted her gaze between Amanda and the artifacts she is handling (lines 10–12). In line 13, Stella glances at Amanda again but receives no response. Stella turns her gaze to the front of the classroom and makes a series of gestures that display re-orientation to the task. She takes off her glasses, puts them into the case and yawns with her fist over her mouth (lines 14–15). In the end of line 15, she turns her gaze to her paper and picks up her pen. Then, Stella assumes the writing posture again (lines 16–19). While maintaining her gaze on the paper, she touches her paper with her pen and then presses her pen to her lip, glances to her left, and flips and clicks the pen (line 18). In line 19, still gazing at the worksheet, she fixes her hair, shifts her gaze to the pen, clicks it once more in her hand and continues writing notes.

As we have seen, a stepwise transition occurs from the performance of being stuck to a writing posture and to the actual writing itself (cf. Svinhufvud, 2016). Before shifting her gaze toward the worksheet and picking up her pen, Stella takes off her glasses, yawns, adjusts her hair and plays with her pen. Stella is not inviting Amanda to follow these gestures; her gaze is on the front of the classroom and on her worksheets. These intermediate gestures can be interpreted as a re-orientation to the task.

[3] Amanda applies Swedish language morphology (*cool+t*) to domesticate English into a hybrid form of the two languages. The use of English is very common among our Finnish focus students as well as among Finnish young people in general (see Leppänen, Nikula & Kääntä, 2008).

After approximately one minute, the teacher gives them new instructions. She speaks to all students, and instructs them to stop planning and to begin writing the text. Stella also takes a new sheet of paper and begins writing the body of her essay.

Many material objects in classrooms offer contextual affordances for pedagogic as well as other actions (Kääntä & Piirainen-Marsh, 2013) so that these objects can be analyzed as situational resources for students to display affective responses (Mondada, 2014; Nevile et al., 2014). The material artifacts in this example, such as a pen, pencil case and eyeglass case, are used to highlight the distress Stella experiences when she displays being stuck in her task. For example, some significant means that students have to indicate that they are working with a writing assignment is that they show and handle papers during their planning process (cf. Jakonen, 2016; Weilenmann & Lymer, 2014), and in the digitally rich classroom environment, smartphones can also be used to manifest one's engagement in writing assignments. Similarly, the students' use of smartphones may display a lack of concentration on their task. In the case described above, both of these orientations were observed: Stella searches for information related to the task, and then she reads the message she received. For Stella, interaction with her smartphone neither causes nor resolves the problems she encounters in her text-planning. Nonetheless, the affective stances in these examples, which were displayed during the handling of various artifacts, reveal the situation with the writing process. Continuous and smooth proceeding with the planning activity is manifested by calm and peaceful gestures, bodily positions and moves as well as facial expressions, while problems of 'being stuck' are expressed by exaggerated gestures, constant body movements and through handling and even dropping the available artifacts. These displays of affection convey to other participants as well as to the teacher how the writing process is proceeding. The teacher may treat individual performances on an individual basis, but if the teacher identifies the performance problems in several students, the teacher may consider new types of scaffolding practices. In Stella's case, the teacher's instructional scaffolding seems to be well timed because Stella begins a new phase in her text production.

4.2 Collective task – negotiations when being stuck

Our second example comes from a lesson in Swedish, where a teacher explicitly instructs the students to perform a writing task collectively in small groups of 4–5 students. The assignment is to create a short movie on the Middle Ages, which should be presented to the other groups. The first step is to write a storyboard, and the teacher has handed out pre-printed papers with text-boxes in a flow-chart that the students are expected to use for making the outline of the film into a storyboard. In relation to the writing process, the groups' task here is first to plan this storyboard together, which involves agreeing upon a topic and deciding how to present this topic dramaturgically and how to represent the presentation in drawings and written text on the storyboard.

We have selected four excerpts from two parts of this lesson that involve a group of students, among them our focus student Tilda, discussing how to write the storyboard. The students sit around a table, facing each other, with papers, pens and a laptop in front of them (Fig. 8). All students except one also have mobile phones at hand, but one of them (Ebba) has put her phone on charge so she cannot use it. Compared to our previous

example of an individual text-planning process, the configurations of resources in the surrounding environment facilitate both face-to-face talk and use of paper-based as well as digital resources.

In the first excerpt (Excerpt 3) we examine how an explicit display of being stuck from Tilda during their joint text-planning becomes a turning point in the negotiation and how the laptop is used as a resource to solve this. In the excerpts 4–6, we examine what happens as one of the students bring in a smartphone as a resource in the planning process.

Excerpt 3 is preceded by a discussion where the four students are discussing their different ideas on what topics they should select for their upcoming film. Tilda has an empty paper in front of her and she holds a pencil in her hand. One of the other students, Klara, has her laptop open in front of her. The students take turns suggesting different ideas regarding topics to consider. This interaction evolves in a rather hesitant manner, displayed in-and-through how the students tap their pens, produce self-interruptions, short silences and self-repair. Their various suggestions are all content-related, but quite different, as Tilda refers to the broader economic system, Moa ponders art in the form of sculptures as well as existential questions concerning how medieval people looked upon humanity in the world. Their discussion is characterized by rather short, unfinished sentences where their different ideas seem difficult to connect to each other. In the following excerpt, their different perspectives become topicalized by Tilda as she makes a display of being stuck and states ‘I am very confused’.

Excerpt 3. “I am very confused”

+= delimits Tilda’s (TIL) embodied actions
#= delimits Ebba’s (EBB) embodied actions
*= delimits Klara’s (KLA) embodied actions
^= delimits Moa’s (MOA) embodied actions

1	TIL	fast det är så många sätt å se på det här ja-
	TIL	*but there are so many ways to look at this I-*
2	TIL	+I am very confused+
	TIL	*+I am very confused+*
	til	+fig. 8+

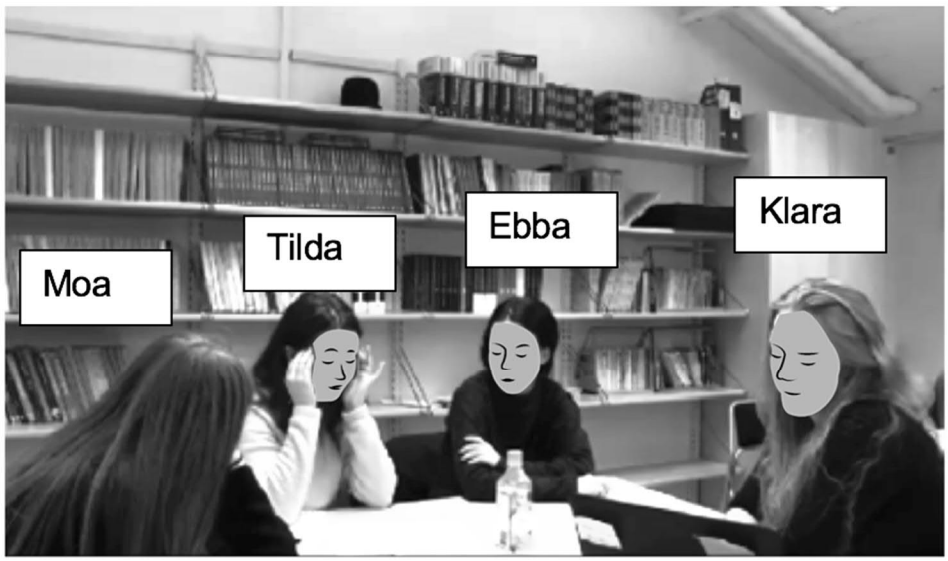

Fig. 8

3	KLA	*mm jag gör ett google drive dokument i alla fall
	KLA	**mm I make a google drive document anyway*
	kla	* touches her laptop keyboard --> -->
4	TIL	ja gör det
	TIL	*yes do that*
5		+(0.7)+
	til	+opens snapchat on her smartphone+
6	KLA	så har vi gjort <u>nånting</u>
	KLA	*then we have made <u>something</u>*
	kla	--> -->
	til	+looks at KLA
7	TIL	+bjud in bjud in bjud in+
	TIL	*+invite invite invite+*
	til	+ makes an inviting gesture with her hands+

In line 1, a shift in stance occurs in the group discussion, as Tilda changes focus from issues of content to issues of process and states that ‘there are so many ways to look upon this I- I am very confused’ (lines 1–2). She makes this statement both through this verbal claim, in which she switches languages from Swedish to English and with her gestures as she puts her hands to her forehead and wags her head slightly. Her turn works as a turning point in the interaction, and could be understood as a manifestation of 'being stuck' and a need to search for other solutions in her writing process. Klara’s response to this manifestation is to

touch her laptop and verbally offer to make a Google Drive document. This offer could be seen as a response to Tilda's exclamation about being confused as a source of trouble, where making a Google Drive means trying a new solution in order for them to be able to continue. Her suggestion to make a 'Google Drive' changes the pace of the interaction. Tilda turns to her smartphone and checks the latest Snapchat messages, Klara concludes that they will at least have 'made something' (line 6) and Tilda fills in by repeating the verb 'invite' (Sw. *bjud in*) three times (line 7), which refers to the action of inviting all members of the group to the shared Google Drive document.

During the students' joint text-planning, they negotiate and experiment with different ideas regarding what to focus on and the writing in this text-planning phase turns out to be a highly embodied activity. Gaze, gestures and touching the paper, pen and laptop work as interactional means for them to jointly interpret and develop the teacher's task-as-work plan into a task-as-process (cf. Breen, 1989). Tanner, Olin-Scheller and Tengberg (2017) demonstrate that in group assignments, being the one having control over the shared document as a material object, is of consequence for who is treated as the most responsible. Here we can see that Tilda is the focus student who takes most of the turns and who also has their paper in front of her. This partially changes when Klara uses her laptop to take an initiative. As they are 'stuck' in the process, a temporary solution for them is to open a Google Drive document. This is a performative action that releases some of the resistance and hesitation and helps them to continue the process. However, the laptop as a digital resource does not actually support the content of their writing, but transforms their problem from them being stuck in planning their writing to instead focus on the procedure and the format in which they should write.

The following three excerpts (excerpts 4–6) from the example of collective writing features the students discussing for a while about the assignment, but still not finding a way to become 'unstuck' and able to agree upon what and how to write. One of the ideas that has been raised is to conduct a search in Google for a TV program that one of the students, Ebba, watched as a child. As Ebba's smartphone is charging at the moment, she borrows Tilda's phone to search for information on the TV program. While Ebba begins her search, the other group members continue their discussion concerning how to proceed. Klara suggests that they should start by drawing some scenes for the storyboard, while Tilda thinks that they first ought to start with the big lines before they start. In this part of their discussion, they refer to different levels of writing where Klara orients to a local level as she suggests that they should change the focus in their writing process and begins to draw some scenes, while Tilda argues that first they should discuss the larger concepts. When Ebba has her search result, she initiates a shift of topic as she introduces the smartphone screen as a resource.

Excerpt 4. Where are we going with this?

1 EBB #här (fig. 9)
EBB #here (fig. 9)
ebb # finds pictures, moves the phone closer to Tilda--> --> (fig. 9)

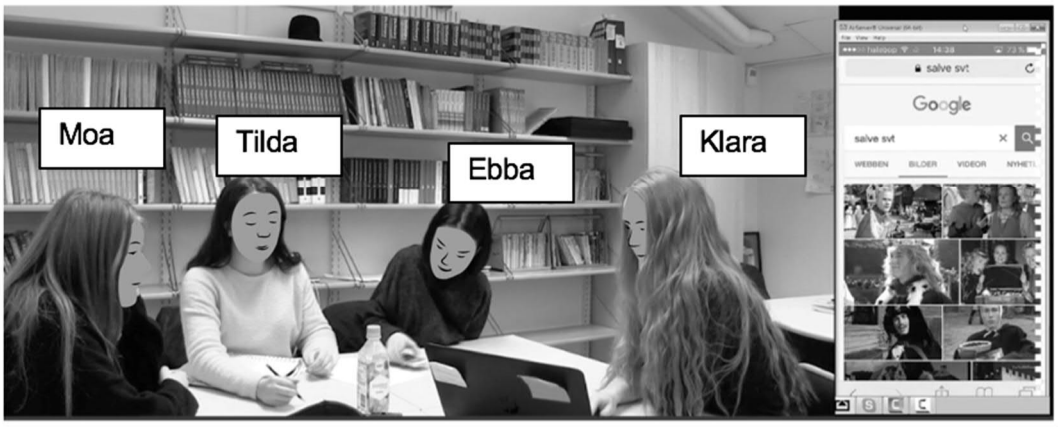

Fig. 9

2 TIL va- vart # vill vi +*komma med det här?
TIL whe- where # are we + going with this?*
ebb --> #
til, +looks at Ebba's screen and the leans over it
kla *looks at Ebba's screen and the leans over it

3 MOA [(men ska ju vara runt det härа)]
MOA [(but should be around this).]
til, --> -->
kla --> -->

4 TIL [(var runt det här)]
TIL [(was around this)]

5 EBB >det ser ju ut som< ^medeltidsgrejer överallt [så här] (fig. 10)
EBB > it looks ju like <^ medieval stuff everywhere [like this] (fig. 10)
moa ^leans over and joins the others in looking at the screen (fig. 10)
kla --> -->
til --> -->

Fig. 10

6 TIL å gud jag har aldrig [sett (på den här)]
til oh good I have never [looked (at this)]
til,kla
ebb, --> --> they all continues to jointly look at the screen
moa

In excerpt 4, the students again entertain different ideas. In line 1, Ebba presents the result of her search on the TV-program (see fig. 9). Tilda's immediate response to this is a question about where they are going with this, but she simultaneously leans over to look at the screen (line 2). The screen first shows several small pictures from the TV show from which Ebba later chooses one as she refers to all the 'medieval stuff' everywhere (line 5, fig. 10). She uses the Swedish particle *ju*, which is a resource used to index some kind of commonly known reference (Heinemann, Lindström & Steensig, 2011), and here it is used to support the relevance of the TV-show for their writing task, indicating that it could serve as an inspiration for them.

In parallel, and partly overlapping with Ebba's demonstration of the pictures, Tilda responds with a short 'oh god' (line 6) while they are all leaning over the phone to look at the screen momentarily (see figure 10). Through their bodily configuration and Tilda's verbal response they respond to Ebba's suggestion and her interest in the pictures that she shows. Here, the smartphone screen becomes a shared focus of attention in a participation framework that is suggested to afford an opening for the group to find a way to continue in their planning process, to become 'unstuck'. The students then go on commenting on what they see.

Excerpt 5. This is what it looked like

7	MOA	[jag har aldrig] sett den?
	MOA	*[I have never] seen it?*
	til,kla,	
	ebb,	--> --> all continues to jointly look at the screen
	moa	-
8	EBB	nej.kan ju säga att ja-
	EBB	*no. I can* ju *say that I-*
	til,kla	
	ebb,	--> --> all continues to jointly look at the screen
	moa	
9	TIL	+Sa:lve+
	TIL	*+Sa:lve+*
	til	+taps the screen, raises her body+
	kla	*raises her body*
10	EBB	^#så här såg det ut (.)#
	EBB	*^#this is what it looked like^ (.)#*
	moa	^raises her body^
	ebb	#looks at the screen#
11	EBB	å så var det- # du +jag minns (fig.11)
	EBB	*and then it was- # you+ I remember (fig.11)*
	ebb	#looks at Tilda --> -->
	til	+looks at Ebba -->-->

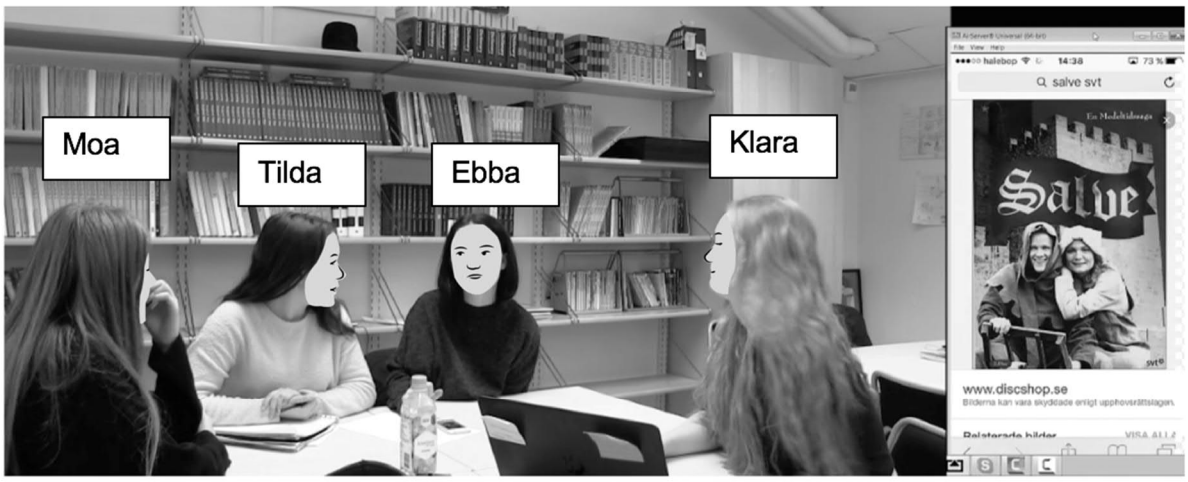

Fig. 11

12	EBB	det så väl #för det var mitt >favoritprogram<
	EBB	*it so well #because it was my >favourite program<*
	ebb	--> # looks down at the screen, browses for more pictures -->-->
	til	-->--> +

In lines 7 to 12, the students share the same focus on the screen and comment on the pictures that Ebba shows. She scrolls through a series of different pictures from the TV program, but both Tilda and Moa claim to have never watched it (line 7). Ebba holds her turn and continues to tell them how that particular program was her favorite, thereby sharing a personal experience from her childhood (line 8). However, as Ebba speaks (line 9), her peers, Tilda and Klara, begin to lean away from the phone (lines 9 and 10) and although Ebba attempts to maintain the others' interest in the program through her gaze orientation

and by speaking in an animated voice (lines 10 to 12), her suggestion is not further confirmed by the others.

Excerpt 6. No let's go

13	EBB	då va ja- tror jag var #(.) nio # eller nåt.
	EBB	*then I wa- I think I was #(.) nine # or something.*
	ebb	#looks at TIL# then looks back at the screen -->-->
14	TIL	+[(de va underligt)]
	TIL	*+[(that was strange)]*
	til	+looks at KLA and MOA --- grimaces -->-->
15	EBB	[(ja)]
	EBB	*[(yes)]*
	ebb	browses for pictures
	til	-->-->
16	TIL	mm:
	TIL	mm:
	til	-->-->
17		(0.6)
	til	-->-->
18	KLA	ja
	KLA	*yes*
19	TIL	+mm: +ja nej nu kör vi (.) *så
	TIL	*+mm:+ yes no let's go (.) *so*
	til	+ emphasizes grimace^
	kla	*turns to her laptop -->-->
20	EBB	+här finns det ju avs- (fig. 12)
	EBB	*+here there are epis- (fig. 12)*
	til	+grabs the phone (fig. 12)

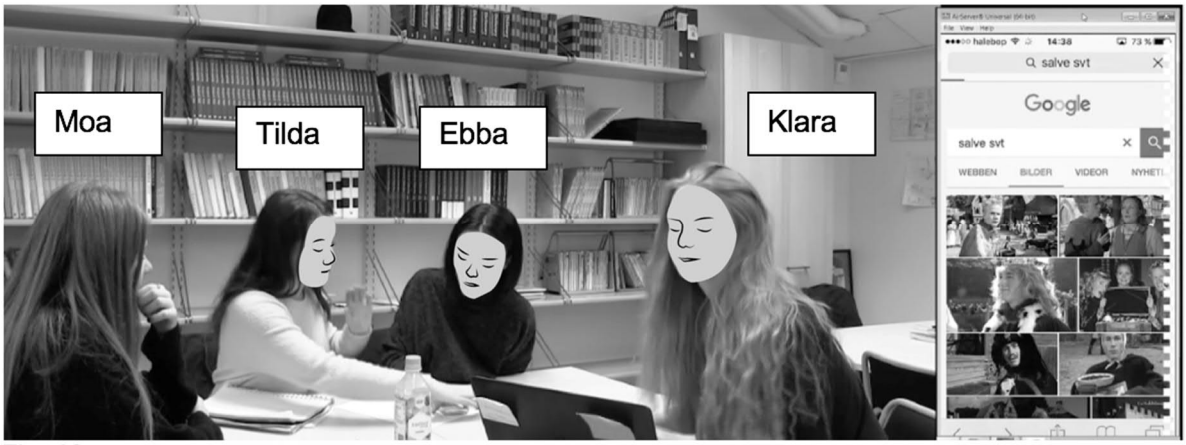

Fig. 12

In the following lines, Ebba refers to her personal experience and recounts that she was nine years (line 13) and Tilda responds to her by making an assessment of something 'that was strange' (line 14). Several minimal responses are subsequently made in response to Ebba's telling (lines 16 and 18). At this point, Tilda (line 19) shifts their focus from Ebba's pictures to the working process by saying 'mm: yes no let's go (.) so'. This works as a dismissal of Ebba's suggestion about this experience being something that could support them in the writing process. Ebba tries once again to maintain their interest in the TV program by stating 'here there are epis- '(line 20), but her peers do not respond to her suggestions and instead, Tilda grabs the phone (which is hers) and this interrupts the search for the TV program Salve.

During this phase of the group work, Ebba uses a smartphone to share her experiences as a resource to find inspiration. However, during Ebba's search, Tilda already expresses another thought: they should first concentrate on the big ideas. Thus, the analysis indicates that the students' ideas as to where to find inspiration are on different levels. Ebba searches for images on a detailed level, whereas Tilda continues to refer to ideas that are more abstract. The interaction involving the smartphone develops into a negotiation between different ideas on different levels, during which Ebba searches for details at a local level, while Tilda refers to a more global level and claims that they should organize their writing process in a broader sense.

Through her use of the smartphone, Ebba challenges Tilda's role as the leader in their interaction. Ebba uses the screen and the colorful pictures on it to make the others interested in her idea, and she receives some positive responses to this. However, Tilda uses her position as the document holder and as the owner of the phone (Tanner et al., 2017), and changes the topic from Salve to the writing process after having had the opportunity to assess Ebba's contribution. Again, the analysis reveals how this negotiation is not achieved primarily through their verbal expressions but through their use of bodily stance, gaze orientation and their phone as a material resource.

Some of the problems that the group have encountered in planning their text production appear to be caused by the difference in the level between the group members in relation to their text focus. The analysis reveals that some group members discuss the task on a local level while others are on the global level and they appear to encounter difficulties in locating intersections between these levels in order to proceed in their joint text production. In the negotiations that occur during this process, the group attempt to use the smartphone as a resource, but when they look for information on Salve and find it on a local and too detailed level, the students' struggle to find ideas on the global and structural level continues. Evensen (1997) demonstrates that a common challenge in writing in general, is to simultaneously manage the function and the formal linguistic requirements of the text to be able to view the thematic structure of the text while linking language elements together on a local level (see also Liberg, 2003; Randahl, 2014). The ability to build text structures is also linked to the knowledge of different genres and their features on global and local levels, which in this case pertains to knowledge concerning the genre of 'storyboard'. Since the students in this example focus on different levels in the writing process, the content of Ebba's internet search does not help them to proceed in their negotiations. From the perspective of writing-in-interaction, the example shows how the problem solving that the students engage in together, is depending on a wide range of interactional resources in the situated material environment which goes beyond verbal discussion. It is noteworthy how

bodily postures, gestures and physical handling of different artifacts seem almost more salient that the verbal arguments when the students negotiate what to write. The digital devices are deployed as interactional resources in the negotiation, first in relation to form (making a Google Drive document) and second as a matter of content (Salve). As the solutions that they provide in this case does not correspond to the problem, which is about how to operationalize their assignment, the digital resources are not really helpful.

5. Conclusion and Discussion

This article has examined text-planning processes in the interaction of digitally rich classrooms and focuses specifically on the role of the smartphone in these processes. Being stuck must be understood as an inevitable part of the writing process in general, and not least as a common feature during the planning phase of writing. First, our analysis of both an individual and a collective writing process, has shown that the transition from the text-planning phase into actually producing text is not necessarily a step that is easy to take. There is not always a distinct and clear line between completion of the planning phase and being ready to proceed in the process. Second, it is during the text-planning phase that writers must come to terms with how to understand the purpose and organization of the text, where one reason for being stuck could be switching between local and global text levels as our analysis of collective writing has shown. Not only should a common text be produced, but also different opinions must be negotiated both in relation to the overarching planning of the text and in relation to specific content.

In line with psycholinguistic and cognitive models of text-planning (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981; see Torrance, 2015), our result shows how the problems that arise as students become stuck during text-planning are very much about creating and mutually agreeing upon shared understandings about what kind of text that is to be written. Through our multimodal analysis of writing-in-interaction, we add to this an understanding of how text-planning processes are tied to the social and material environment in which they occur. Not only in in collective tasks, but also in individual writing assignments, the planning phase is managed in the situated interaction with peers and sometimes teachers.

When students write, a number of resources for text-producing are available to them, both digital and non-digital. The digitally rich classroom equipped with laptops and smartphones provides new and additional resources used in parallel to objects such as a pen and paper. As our focus students become stuck during the planning process, their use of pen and paper, laptops and smartphones become integral parts of the participation framework and coordinate with other verbal and embodied resources, such as bodily stance, gestures, gaze and talk. As for the use of smartphones, they specifically function as resources to take the initiative in relation to others during negotiations when students seek help from peers or in their group discussions.

Moreover, we suggest that together with various verbal and embodied activities smartphones seem to play a vital role when students *display* being stuck. As these activities are visually observable performances, they are open to other participants to make interpretations about the students' progress, or lack of progress, in the text-planning (cf. Jakonen, 2016). Thus, the smartphone, which the students use for help when being stuck, may be understood by the teacher as an object that disturbs their work.

Our study suggests that in relation to the activities of text-planning in classroom assignments, smartphones and laptops are resources that neither cause 'being stuck', nor solve the problems associated with 'being stuck'. Nevertheless, as the writer gets stuck and the writing process halts, students often resort to digital devices to seek solutions that could help their writing. In this case, the smartphone can be described as a resource in face-to-face-interactions and negotiations in both individual and collective writing processes. In individual writing processes, the smartphones have two roles. First, students use their phones to search for information during their text-planning. We have illustrated this by citing examples of Stella's writing to indicate that searching for new information can, but does not necessarily, facilitate writing or help students to get unstuck. Second, students may use social media during their text-planning, which provides an opportunity for taking a break and inviting other students to interact. In the example with collective writing, digital devices, such as a laptop, are used to change focus from content issues to form issues, and smartphones are used later to share content-related experiences. Neither of these activities appear to support the writing process further, as the resources are not immediately applicable to the nature of the problem in the specific context. Thus, our results raise questions and challenge common claims within the contemporary debate in relation to both the use of digital devices as a solution to pedagogical challenges and to the debate on the smartphone as a device that disrupts work.

What interested us when we observed the writing activities in different classrooms was that teachers quite seldom intervened in students' individual or collective text-planning processes. We also did not find much examples of students requesting help from their teachers about their problem to understand the task. Instead, students seem to prefer to receive help from their peers − or smartphones − when they experience being stuck. As our findings suggest, during their text-planning processes, the students' pauses and interruptions that occur when they are stuck, apparently relate to their difficulties in moving from one writing phase to another. As seen in our example above, the teacher's action precedes Stella's impulse to move from one writing phase to another, and the teacher may have noticed Stella's and the other students' modes of participation. Thus, in order to contribute to a student's writing processes, the teacher faces the challenge of recognizing these didactic moments as opportunities to support students in creating a shared and formulated understanding of their writing ideas. Such support could also help to recognize what it is that causes the problems as well as being aware of how to coordinate different resources that correspond to these problems. One of these important classroom resources could be the smartphone.

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