

“I do which the question”: Students’ innovative use of technology resources in the language classroom

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Abstract

Many reports suggest that the use of education technology can have a positive effect on language education. However, most of the research indicates that there is need for more detailed understanding of the pedagogical processes that support technology-enhanced language learning. This text takes a social semiotic perspective to examine multimodal interaction (Jewitt, Bezemer, & O’Halloran, 2016) of learners taking part in telecollaborative activities in a language classroom. The study aims to provide a detailed view of the ways in which the language teachers’ task-as-workplan (Breen, 1987, 1989), designed around different technologies, dovetails (or not) into the task-as-process (i.e., the way in which the learners interpret and act upon the task instructions). Comparing the teachers’ pedagogical design and intended purpose of different technology-supported tasks with the actual way in which the learners interact with the tools, the results show that the students often engage with the technology in unexpected, and at times, highly innovative ways that often diverge from the task-as-workplan.

Keywords: *Instructional Design, Language Learning Strategies, Multimodal Texts, Technology-Mediated Communication*

Language(s) Learned in this Study: *English*

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Introduction

Recent innovation in communication technology has had a visible impact on human interaction worldwide. To wit, a 2012 consumer report (Ofcom) on communication technology use in the UK estimated that more interactions are mediated by technology than those that occur face to face—a percentage that has most certainly grown over the past four years. Communication technology enables individuals to strengthen relationships with family, friends, and colleagues across the globe; opens up new possibilities for alternative education; facilitates growing opportunities for collaboration, game-playing and knowledge-sharing between people who are geographically separated; and even contributes to new forms of social, political, and commercial exchanges (e.g., the *sharing economy* or *collaborative consumption*). Arguably, a list of the way technology contributes to changes in social interaction could go on ad infinitum.

Understandably, as the use of technology-mediated communication has become normalized practice in personal and professional lives, educational initiatives are following suit. Encouragingly, research indicates that technology can provide foreign language students with ample opportunities for target language use and intercultural exchange, which is likely to promote learning (Thomas, Reinders, & Warschauer, 2013). However, there is still a need for more focus on what it means to efficiently design communicative target language learning events that integrate communication technology.

One area in particular that has grown considerably in language teaching is the integration of telecollaborative exchange between language learners (see Helm, 2015). The study in this article stems

from a telecollaborative exchange between two secondary education classes of English as a foreign language (EFL). However, this particular text focuses on the way in which the communication technology designed into the project was used in situ. The data are drawn from video recordings of the participants carrying out activities in the classroom (rather than the online asynchronous interaction), because the purpose of the study is to look at how they engaged with the technology during tasks designed for preparing them to communicate with their telecollaborative partners. The focus is principally on the students, although the role the teacher plays concerning their engagement with technology is also discussed. Some driving questions for the study were: Do they use the technology as initially planned in the telecollaborative project? Do the planning and implementation foster interaction between the participants “in personally meaningful ways” (Littlewood, 2014, p. 349) that help develop their communicative competence? What can these tell us about how teachers can optimally plan and implement the use of common technological tools for enhanced language learning?

The study aims to provide an overall view of what took place in the foreign language classes by looking at specifically instructed use of technology for completing language tasks (and how these instructions are interpreted) with more spontaneous, self-initiated use of technology resources (e.g. for resolving language difficulties). A commonly expressed teacher anxiety concerning technology in the classroom is that students will be sidetracked from the class objectives, but the question remains whether “alternative distractions [would] occur if the technological tools [were] removed” (Fang, 2009, *Distraction as Opportunity*, para. 2). A study of the ways in which students interpret the task instructions for using technology, along with the ways in which they accomplish other self-initiated tasks (related or not to the task-as-workplan; see Breen, 1987, 1989) through technology resources can further understanding about whether it is the technology or the instructional process that needs to be reconsidered.

In a previous study, Dooly (2011) suggested that a micro-analytical approach that combines both online and off-line data compiled during long-term telecollaborative interaction can support a deeper understanding of potential gaps between task plans, learner actions, and task output. That study took the notions of task-as-workplan and task-in-process (Breen, 1987, 1989) as part of the conceptual framework to study interactional data from a telecollaborative project with primary education students. Following up on this past study, this present article looks at data stemming from a 3-month telecollaborative project between two middle school classes in Europe (Spain and Sweden). This study also focuses on convergences and divergences from the original workplan as the tasks (involving technology) are interpreted and performed by the learners during their in-class activities. Similar to the study by Dooly (2011), the focus is on “track[ing] the relationship between the [...] phases as they unfold during the implementation” (Seedhouse & Almutairi, 2009, p. 312). However, in this current research there is more emphasis on the learners’ use of the technological resources as seen through a social semiotic lens (Bezemer & Kress, 2016).

Theoretical Framework

Multimodality

This current study expands on the previously mentioned ethnographic study (Dooly, 2011) to take into fuller consideration the role of multimodality in the communication events that occur in the language classroom. Multimodality is understood here as described by Kress (2010): sets of communication practices in terms of the textual, aural, linguistic, spatial, visual, and physical resources (modes), including technology, that are used to create meaning and understanding. This implies that the analysis moves away from language as the only focus of the language classroom in order to create an analytical focus with a wider range of the many communication modes people use, including (but not limited to) gestures, images, or technological tools and, perhaps more importantly, the way in which these semiotic resources are related (see Bezemer & Jewitt, 2010). Within the language classroom, these foci are especially significant as they often entail key aspects of communicative competence.

While we learn languages to communicate, language is not the only or even (at times) the primary mode of communication. These two simple understandings, which underlie the expanding interest of language educators and researchers in multimodality, and underpin shifts in our thinking about discourse, texts, and language pedagogies, are being reimagined to acknowledge the increasing prominence of nonlinguistic modes. (Early, Kendrick, & Potts, 2015, p. 447)

Likewise, language learning technology is increasingly being “framed in a much more multimodal context where learners enjoy greater agency and autonomy to produce language through digital forms” (Blake, 2016, p. 137). Thus, this study takes a “multimodal (inter)action analysis” in which the “the work of the actor is central because it is through interaction, as well as how space and artifacts mediate interaction, that social occasions are instantiated” (Jewitt, Bezemer, & O’Halloran, 2016, p. 132). As such, it aims to “collect multimodal materials in the ‘natural’ settings of the people under study” in order to provide a “fine-grained analysis” of “all the modes that are in use” (p. 136).

Educational Ethnography

This multimodal analysis takes place within a wider frame of educational ethnography. Traditionally, ethnographic research is an approach that facilitates holistic analyses of phenomena; the approach endeavors to investigate a focal phenomenon within a complex system, leading to a unique and context-bound understanding of what is happening. Along these lines, immersive fieldwork in classrooms has been referred to as *school* or *educational ethnography* (Erickson, 1973). Green and Bloome (2005) make a heuristic distinction between ethnography-of-education (they cite the example of anthropologists or sociologists studying education) and ethnography-in-education (usually carried out by teacher educators, teachers, education researchers, and students employing ethnographic research to study education). In this case, there were two researchers engaged in data compilation in the classroom: a junior researcher (Sabrina, a doctoral candidate) and a senior researcher (her doctoral supervisor) from a teacher education faculty. As part of the ethnographic study, the researchers immersed themselves in the community, collaborating with the class teachers in the design and implementation of the telecollaborative project while collecting data of all the participants (including themselves).

Following the approach used in Dooly (2011), the fragments shown in the data analysis (below) are compared with the original task-as-workplan. However, different from the previously mentioned study, the fragments analyzed here do not look at interrelated episodes of data segments between online and face-to-face contexts. Instead, the selected segments are from in-class activities only, although they are involved in task cycles that made up the telecollaborative project. Additionally, this study looks at unexpected outcomes of the interaction that unfold between the researcher and the learners during task-as-process, looking in particular at the ways in which technology often mediates their communication.

The expanded focus on other multimodal aspects of communication has inevitably had an effect on the way in which the data are transcribed. As Jewitt et al. (2016) point out, “there are no fully settled conventions for multimodal transcription” (p. 146). For this reason adaptations to already existent transcribing protocols, along with a proposed new model, are used for the representation and analysis of the data.

Data Compilation: Context and Participants

The data come from a 3-month exchange between two middle school classes (11- to 13-year-olds) in Europe (Spain and Sweden). Under the auspice of a research grant by the Spanish government,¹ the two teachers, along with the university teacher (and author) and a doctoral student, met in October of 2015 to plan a telecollaborative project. The teachers decided on the topic of Syrian refugees and co-authored an initial work plan for the project during the 3-day meeting. The plan was revised and published in a shared online document (a GoogleDoc) and served as the point of reference for weekly progress meetings between the teachers and the rest of the research team. The project aimed to guide the students through a series of research and discussion activities to help them understand what a political refugee is and get a

better understanding of the current European Union (EU) policies about relocating Syrian refugees and social actions that can be taken, while working on communication skills in the target language (English). The final output was a blog aimed to raise public awareness of the situation of political refugees and suggestions about ways EU citizens can help.

Out of 43 students, 15 were located in Terrassa, Spain (a region of Barcelona) and 28 in Hässleholm, Sweden. In the Terrassa school, the principal school language of instruction was Catalan, however the project lessons were carried out in the EFL class. In the partner school, the school language was Swedish, and the project also formed part of their EFL class. The focus of this article is only on the Catalan students' classes.

The data were compiled by the doctoral student and the researcher. All the class sessions that were related to the telecollaborative work were recorded using two cameras in the classroom, along with *spy glasses* (glasses with tiny cameras in them) in order to get the students' perspective of the interaction. Additionally, Skype messages, wiki audio recordings, online documents, and other multimodal data pertaining to the project were collected.

Data Management: Adaptation of Transcriptions

The fragments chosen for analysis were transcribed using the language archiving technology called Elan (see the transcription key in the [Appendix](#)). Permission to record in-class interaction and to collect online data pertaining to the project was obtained from the Spanish and Swedish students, their parents, and the schools' administration, and a research ethics and protocol contract was signed between the principal researcher and the heads of the schools. As agreed in the contract, the data were processed and analyzed only by persons pertaining to the research project and could be used for publication and teaching materials only after taking the necessary steps to ensure anonymity of the participants. For this reason, the faces in the images are pixelated and the names of the participants (except for the author) have been changed.

Multimodal texts are composite products of the combined effect of multiple semiotic resources that are often hard to represent in static form. Moreover, the analysis itself requires deliberately limiting the focus, due to the extremely wide range of potential dimensions in communication, including gaze, gesture, movement, body posture, and interaction with different semiotic objects of action, image, and speech (Bezemer & Jewitt, 2010). Thus, this article includes two types of transcripts that were deemed representative for the research purpose. The first transcription method, which is applied when "the mode of speech is involved" (Bezemer & Kress, 2016, p. 36) is an adaptation of the *vertical transcript* format (versus a *column* format) that is typical of interactional sociolinguistics; as in conversation analysis notation, these are segmented according to speaker turns (see Gumperz & Berenz, 1993).

To more fully approach the multimodality of the participants' interaction with the technology, the adapted version of the Jefferson Transcription System (Jefferson, 2004) used here includes images (screen captures from the video recordings) of actions that are considered key descriptive dimensions of modalities other than language. Furthermore, to underscore the relevance that non-linguistic communication (multimodality) has on interaction, these images have been numbered as turns whenever these actions had an impact on the sequentiality of the interaction. They are numbered thus because the use of other semiotic modes (apart from language) are seen here as an integral part of communication (Jewitt, 2011). Descriptive notes have also been added to the transcripts, with numbering and lettering to indicate correlation between actions and spoken turns.

Additionally, due to the focus of the research, a second type of transcription was created for this study. As Bezemer and Kress point out, it is important "to develop a framework that allows us to give accounts of instances that involve quite different sets of modes" used for communicating (2016, p. 36). Thus a new transcription framework was produced, herein called a *pictorial transcription* as it relied only on image, supported with textual description of the context or actions (based on researcher field notes). These were

used when other modalities (not language) provided a more accurate representation of the interaction that was being analyzed or when the preferred modality of communication (as oriented to by the participants themselves) was not primarily language-based. The numbering of these transcriptions was based on visible actions rather than spoken turns.

The analyzed fragments were selected based on the research interest of identifying the different ways in which students engaged with the technology (following the initial planning, ignoring the instructions, and amending and innovating on the planned use or bringing in different technology). These fragments spanned several class lessons and highlighted three main student groups. Field notes indicated that Group 1 (Marcel, Antoni, Jaime) usually accomplished the tasks, although they often engaged in side activities with technology. Group 2 (Alejandro, Joan, Pere) was a highly motivated group although the students tended to work individually. Group 3 (Miriam, Nieves, Marga) was made up of the least-participative students in the class; they were usually visibly disengaged from the language learning tasks. A whole class interaction completes the analysis.

Analysis 1. Synthesis Task: Comparing 3 Groups' Task-as-Process

The following three fragments show three different student groups engaged in the same activity. According to the task-as-plan (see [Figure 1](#)), this activity was an information-gathering and summarizing assignment. It was one of the first activities in the telecollaborative project. Students were supposed to view a video (originally posted by the BBC) to which the teachers had added questions and comments via the education tool [Zaption](#) (this tool is no longer available). This was an online platform that allowed the teacher to create interactive lessons (insert discussion cues, questions, comments) into any video on the web. As can be seen in [Figure 1](#), this was intended to promote in-class group work. The task-as-workplan shows that the students would first watch the video, then discuss and negotiate the correct answers, all of which would be compiled in an online document (GoogleDoc) to then be shared with their telecollaborative partners.

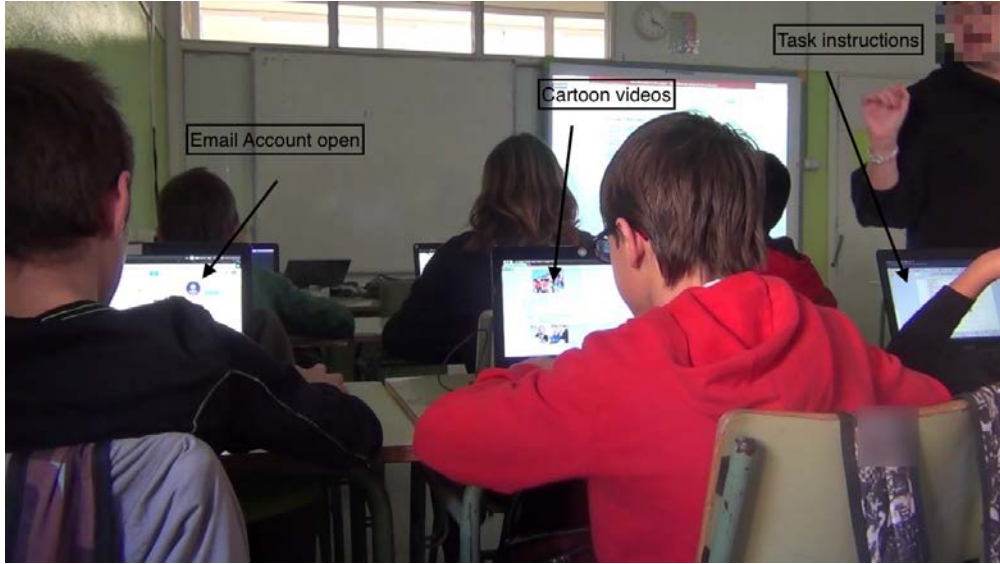
4 (Spain)	21 Jan	<p>Watch 2 videos about refugees (factpod #17 & 18). Watch video 17 for listening comprehension (questions added through zaption or similar programme). Discuss with groups to negotiate correct answers.</p> <p>Watch video 18 for key points (Based on question - what are the main points from this video that the rest of the world needs to know about the current situation). Discuss with groups to negotiate correct answers.</p> <p>Post main points in googledoc</p>	Key points summarized from video	Understand information provided in recorded video (aided by visuals such as graphs & charts); answer specific questions aimed to illustrate comprehension; take notes as a list of key points during a lecture; synthesize, discuss and write key points from oral communication (video)
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Figure 1. Shared teacher plans for the telecollaborative project.

That the teacher intended for the video to serve as stimuli for discussion was corroborated by the teacher's instructions of the task at the beginning of the class, as can be seen in [Fragment 1](#) of the classroom interaction. The teacher began this turn sequence with a typical discourse marker, *so*, followed by a slight hedge of the instructions to come: *what I would like you to do now* (Line 1). In the same line, the teacher drew out the word *groups* while raising her voice and made a gesture that indicated the whole class, thereby underscoring the notion that the task was intended to be a dialogic activity between the members of the group.

Fragment 1. *Teacher Instructions on Zaption Videos*

Participants: Teacher, Marcel, Antoni, Jaime

Line	Participant	Transcription
1	Tchr	SO: Teacher (0.1) what i would like you to do now\ in GR:OU::PS\ ((moves toward whiteboard, makes circle with hands to indicate everyone))
2	Tchr	(.) ok/ (.)
	Notes	((marcel has email account open on laptop; antoni searches for something in browser. only jaime has the instruction page open))
3	Tchr	is- (.) revise: those videos/ (.) revise those videos:\ ((walks in middle of aisle))
	Notes	((antoni now has cartoon videos on screen; marcel continues with email account; jaime still has instruction page open))
4		
5	Tchr	(0.1) and::: (0.1) find this info\ ((turns back to whiteboard)) ok::/the video is about: @what is the video about@/
	Notes	((teacher switches from instruction voice to question voice))

However, paying attention to key moments of modality (physical presence, movements, engagement with artifacts) of the others in the transcript of three groups of students as the event unfolds, we can see that the students do not orient toward the intended pedagogical purpose of the interaction (task-as-workplan). In [Fragment 1](#), Line 4, the students' computer screens show that only one of the three students in the Group 1 followed the teacher's oral instructions to open the shared file and download the written instructions of the task, along with the worksheet to be filled in. The other student (Marcel) has an email account open while Antoni is watching a cartoon video.

Looking at Group 2 following the same instructions ([Fragment 2](#)), the members appear to be very engaged in the task, but they are notably carrying out the task individually; no intragroup interaction takes place. [Fragment 2](#) (a pictorial transcript, based on researcher field notes and video observation), shows the sequence of events (task-in-progress) of the same task-as-workplan as they unfolded in this second group.

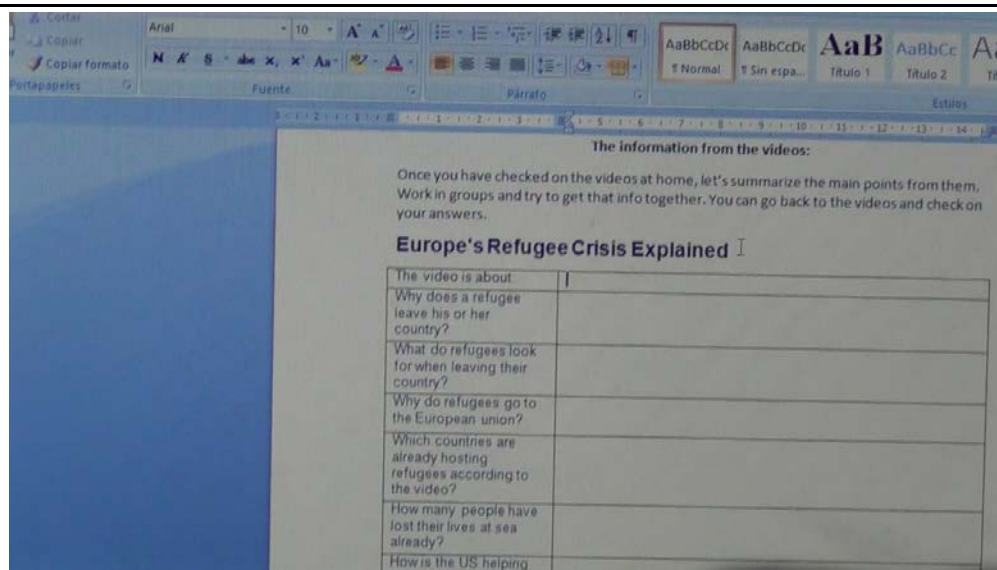
In [Fragment 2](#), Action 1, the screen capture shows that the students downloaded the instructions from the class folder and were watching the Zaption film. However, despite the seating arrangements for group interaction (as seen in Action 2), the students did not discuss their answers together (video observation showed almost no verbal interaction between them). Interestingly, the one modality which did not come into play was speaking. In this case, the use of technology (video, headphones) seemed to promote individual work rather than group discussion, (see Actions 2 and 3; use of earphones; individual computers). Actions 3 and 4 demonstrate one student's deftness at quickly clicking through the possible answers in the multiple choice questions in Zaption in a sequential order (top to bottom), rewinding the video slightly to return to the questions in the case of a wrong answer, clicking on the next answer and upon getting the correct answer cutting and pasting it in the shared document (word for word, not summarized) as seen in Action 4.

[Fragment 2](#). Working Individually in Group Work

Participants: Alejandro, Joan, Pere

Action Description

1



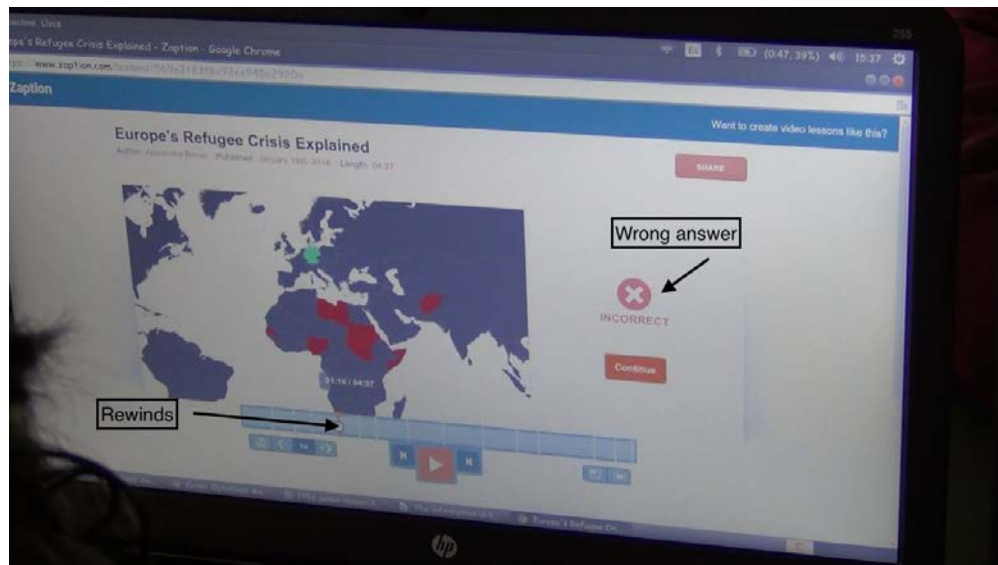
Students go to instruction pages. Modalities: visual interaction (reading) with static webpage (repository); reading of word document.

2



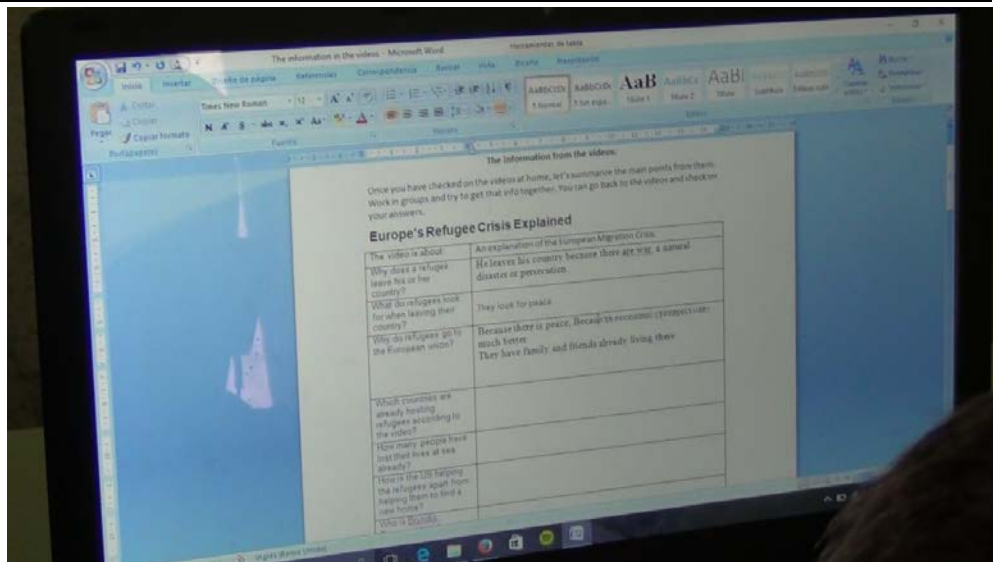
Students use earphones to watch videos. Modalities: visual interaction (watching) video and aural interaction (video and earphones); physical interaction with keyboard (writing on word document).

3



Student gets wrong answer. Rewinds Zaption. Modalities: visual interaction (watching) video and aural interaction (video and earphones); physical interaction with keyboard and mouse (rewinding video, writing on word document).

4



Student gets correct answer. Stops Zaption, copies answer. Pastes in worksheet. Modalities: visual interaction (watching) video and aural interaction (video and earphones); physical interaction with keyboard and mouse (rewinding of video, writing on word document).

The third group analyzed for this task-as-workplan (again demonstrated in a pictorial transcript, [Fragment 3](#)) was not engaged in the task at all. In fact, the participants did not appear to orient toward any part of the task-as-process until the activity was being drawn to a conclusion by the teacher. The teacher wrote the expected answers on the whiteboard. As can be seen in [Fragment 3](#), one of the students from Group 3 copied the teacher's answers into the group's shared document.

[Fragment 3](#). *Not Working During Group Work*

Participants: Miriam, Nieves, Marga

Action Description

1



Students arranged so that little interaction takes place. Do not use earphones to listen to video. One student (in front) has instruction page open and listens to teacher's explanation. The other students do not pay attention to the task. Modalities: visual interaction (reading) with static webpage (repository); reading of word document.

2



Group waits for teacher to give answers. First student copies answers directly into worksheet. Other students do not watch video or fill in worksheet. Modalities: physical interaction with keyboard (writing on word document).

3



Teacher writes answers on board. Modalities: (students) physical interaction with keyboard (writing on word document); (teacher) physical interaction with whiteboard (writing).

Interestingly, if the intended task-as-outcome (common answers in a shared document) were observed without the observed data from the participants' task-as-process, it could be inferred that this group's activities actually did converge with the task-as-workplan. Yet, observations of the three groups' interaction with the technology used in this first activity indicated several moments of divergence between task-as-workplan and task-as-process. The shared online document contained instructions, cues for answers, and spaces for summaries, all of which were intended to act as scaffolding tools for the

students to interpret and discuss the information contained in the video. They were then expected to communicate this information in a synthesized manner to their partners in Sweden. In fact, this document was used minimally as a scaffolding tool. The students waited for the teacher to give oral instructions, rather than reading through them autonomously, and then followed the links she copied on the board rather than going to the document. They either used the shared document for filling in text copied directly from the Zaption platform (this was the most common practice observed, not only in Group 2) or waited for the teacher to provide answers. Even the teacher did not make full use of the shared document in her computer (which was projected onto a large screen at the front of the classroom through an interactive whiteboard). Instead, she spent a large amount of time writing out the answers, in longhand, with a marker on the whiteboard next to the projected screen (Fragment 3, Action 3).

The seating arrangements for the students seemed to be aimed at facilitating discussion. However, requiring the students to watch the videos individually with earphones, along with allowing all of the students access to the final output document (rather than one group secretary, for instance) tended to countermand the potential for any sort of discussion. Furthermore, the types of questions that were used for the Zaption tool (i.e., multiple choice rather than dialogic) and the fact that the students seemed aware that eventually all of the answers would be written on the whiteboard by the teacher also contributed to divergence from the tasks as they were originally planned.

Analysis 2. Writing a Collaborative Essay: A Group's Task-as-Process

As can be seen in Figure 2 (showing the task-as-workplan), the students were expected to discuss arguments against accommodating Syrian refugees. This activity followed several classes in which they had been exploring political and social reasons for accepting refugees and aimed at raising their critical reflection and learning how to express opposing opinions in an argumentative text.


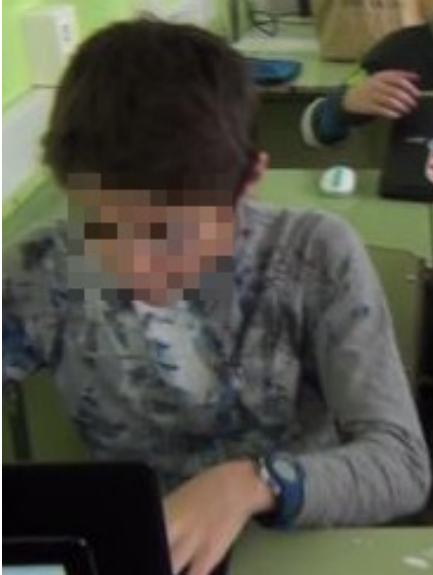
		HW: Each student has to bring in at least 1 for and 1 against argument for taking in refugees		
5 (Spain)	26 Jan	Review of information from videos (Kahoot) Discussion groups of arguments for/against Individual drafting of 1 st version of essay (Students will receive feedback from UIUC MA students)	1 st draft For/Against essay	Draft an essay, giving reasons in support of or against a particular point of view

Figure 2. Shared teacher plans for the telecollaborative project.

Following rather lengthy instructions by the teacher (58 seconds), in which she insisted on the importance of group discussion, Group 1 was chosen as the center of the researcher's focus and she began to shadow them with her handheld camera (see Fragment 4). The group members appeared to be oriented toward the task-as-workplan in Lines 3–7, however, their responses were actually prompted by the researcher who asked them what they had answered thus far (not included in transcription).

Fragment 4. Use of Unexpected Resources to Accomplish Group Work

Participants: Sabrina, Antoni, Marcel, Jaime

Line	Participant	Transcription
1	Notes	((antoni & marcel are sitting face to face with laptops between them open))
2		
	Notes	((marcel shifts to look at antoni closely, grins))
3	Ant	because they change eh our: eh tradition ((plays with laptop corner))
4	Sab	they change our traditions\ (.) >ONE<
5	Mar	vale\ ((starts to type))
	<i>Trans</i>	<i>OK</i>
6	Sab	second/
7		
	Mar	((typing, speaking to self))
8	Sab	second idea\ (.) come on/
	Notes	((marcel continues typing)) (...)

-
- 30 Mar °because°
Notes ((camera focuses on marcel))
- 31 Sab because/
- 32 Mar °a ver° (.) >one moment< ((typing))
Trans *let's see*
- 33 Sab a ver no\ a ver/
Trans *Let's see no let's see*
Notes ((still typing. This goes on for 2.8))
- 34 Sab did you find/
Notes ((camera focuses on jaime)) ((camera shows jaime's screen open to instructions for essay but no work done)) ((during this time of 1.5 seconds no one in the group talks))
- 35
-
- Notes ((jaime looks back at camera and researcher, hand resting on laptop near keyboard but not typing))
- 36 Sab why do you think/ they- they- (.) some of the people do not want:\ refugees in europe\
(...)
- 49 Notes ((marcel is typing all this time))
- 50 Jai because (.) °ehm°
Notes ((camera focuses on jaime))
- 51 Sab yeah/ (.) because/
(2.1)
Notes ((antoni stares at laptop. screen shows essay template still empty))
- 52 Sab come on: (.) come on: ((sing-song voice))
- 53 Mar ((reading from screen)) because some of them are desperate ((mispronounced as desesperAte)) and commit crimes\

54



Notes ((marcel looks at camera, slight smile))

55

Sab uh uhm:/ ok\

Notes

((marcel looks back at screen))

(0.2)

56

Sab did you take from somewhere/ he/

Notes

((marcel grins, leans over laptop, starts to laugh. Antoni joins in laughter))

57



58

Sab \$did you read that somewhere/\$

59

Mar he he he

60

Ant he he he

Notes

((marcel shakes head no))

61

Sab YOU ARE copying\ (.) i don't count it\ (.) come on\ you find another idea

62

Mar >but< i i i only- ((gestures hand up))

63



64 Sab: NO NO NO

65 Mar: i am writing\

66 Sab: ok\

During the interaction, in Lines 36–52, two of the students endeavor to provide affiliated, preferred responses to the researcher as she continually attempts to orient them to accomplish the task (i.e., finding *against arguments* about refugee asylum). In the end, the group was able to come up with an answer (Line 53), but it was attributable principally to the individual work carried out by Marcel, who proved that he was very adroit at finding answers for questions on the internet (his continual typing from Line 8 onward and his reading voice used in Line 53 implied he had searched for an ‘against argument’ on the web).

His embodiment in Line 57 and Line 58 indicated that he was aware that he transgressed the task-as-workplan by circumventing the intended dialogic process (group discussion). Instead, he found a suitable sentence in a quick online search. He laughingly denied copying in Line 59 and then positioned himself as a good student by stating that he was writing (or filling in the GoogleDoc) in Line 59, indicating an awareness of expected outcomes (and behavior) involved in the task-as-workplan. At the end of [Fragment 4](#), in Line 66, the researcher accepted (and validated) the use of the Internet as a resource for resolving questions posed by the teacher despite the fact that this was not the teacher’s intention.

Analysis 3. Suggesting and Voting: 2 Groups’ Task-as-Process

[Fragment 5](#) and [Fragment 6](#) demonstrate (through pictorial transcripts) other ways in which the students used alternative technology to accomplish the group work that was intended to be discussed orally between the members. In this assignment, the groups were asked to suggest group names for the international working groups that had already been set up by the teachers (between Spain and Sweden). The only technology that was included in the task-as-workplan was the shared GoogleDoc, to be used as part of the task-as-outcome (see [Figure 3](#)).

with the classes	
Transition from talking about what they deserve to Syrian situation - show face (only) of refugee - does he or she deserve less? Then show them in the full context of refugee camp	Sara sets up main document with group members' names
With their collaborative groups: Begin 'manifest' - every refugee deserves ... (shared googledocs; show different versions)	Members have to suggest group name; post it on googledoc Students have to 'vote' (I like this name)

Figure 3. Shared teacher plans for the telecollaborative project.

Similarly to his actions in [Fragment 4](#), Marcel used an online search as a resource for accomplishing the group task in [Fragment 5](#).

Fragment 5. Find a Name: Engine Search as Resource
Participants: Marcel, Jaime, Antoni

Action	Description
--------	-------------

1



Students are pushed to come up with names for their groups. Marcel searches for sites that suggest group names. Modalities: visual interaction (reading screen); physical interaction with keyboard (typing questions into search engine).

The members of Group 1 were oriented toward the task (their positions and gestures support this conclusion) but their focus was more on outcome than on dialoguing among themselves about names (the original intention being that they activate vocabulary in the target language by applying it creatively to come up with an interesting group name). Rather than discussion, however, the group gathered around Marcel's computer as he searched for potential names, with minimal oral interaction between the students. Similarly, Group 3 also used alternative technology resources to complete the task, rather than having a group discussion in the target language, as seen in the next pictorial transcription.

Fragment 6. Find a Name: WhatsApp as Resource

Participants: Miriam, Marga, Nieves

Line Participant Transcription

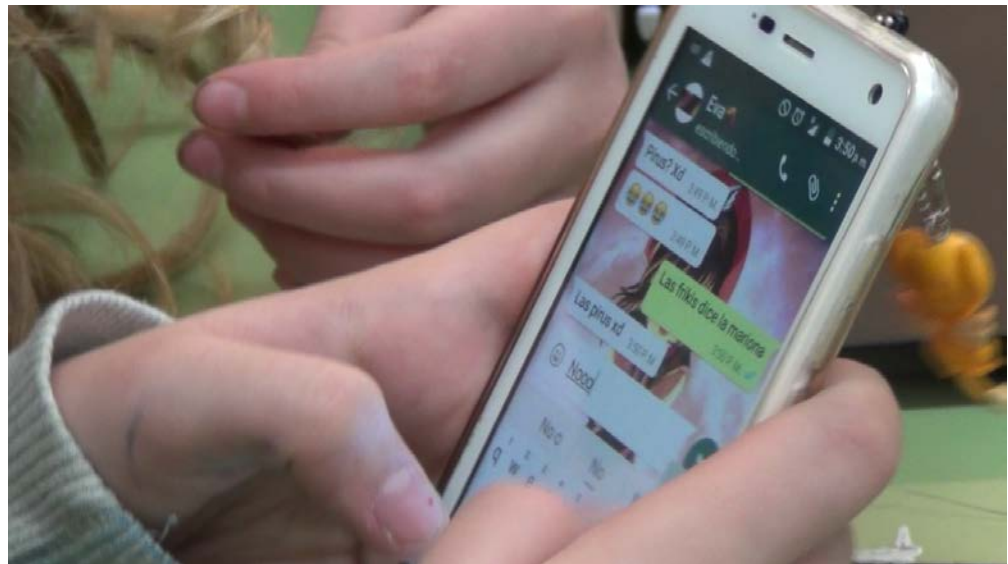
1



Notes

Usual leader of the group (Nieves) is absent due to illness. Miriam and Marga use their cellphone WhatsApp chat to contact Nieves for suggestions of a group name in English. Modalities: physical interaction with cellphone keyboard (writing); visual interaction (reading text on cellphone screen); spoken interaction (discussion between themselves). There is no interaction with the two computers.

2



3 Nie: Pirus? XD

Notes

((pirus is part of a magical charm that brings back the main character, Sakura, to life in the Japanese manga called *Bokusatsu Tenshi Dokuro-chan*))

4 Nie: <crying laughing emoticon, repeated three times>

5 Mir: Las frikis dice la Marga

Trans

Marga says the freakies

6 Nie: Las pirus xd

7 Nie: Nooo

8



Notes Girls laugh at suggestions by Nieves. Modalities: physical interaction with cellphone keyboard (writing); visual interaction (reading text on cellphone screen); spoken interaction (discussion between themselves). There is no interaction with the two computers.

9



Notes Marga shushes Miriam when she reads WhatsApp text out loud. Eventually girls decide on the group name of The Unicorns (based on a Manga character). Modalities: physical interaction with cellphone keyboard (writing); visual interaction (reading text on cellphone screen); spoken interaction (discussion between themselves). There is no interaction with the two computers.

Given that Group 3 was most frequently disengaged from the in-class activities (researchers' field notes), it was interesting to observe that the interaction mediated through WhatsApp (a cross-platform mobile messaging application that allows users to exchange messages without having to pay for SMS) promoted far more discussion (although it was in Catalan) than the interactions observed in [Fragment 4](#) and

Fragment 5 (by a group that was usually quite participative in class).

Analysis 4. Self-Initiated Technology Mediation: Personifying the Camera

In the following episodes (fragments 7 and 8), the interaction that took place between the researcher, Sabrina, and the students was largely mediated through the small handheld camera she was using to collect data for her PhD thesis. Sabrina did not simply record the students as they carried out the activities; she deliberately engaged them in dialogue, using the camera as a mediating tool between herself and the students. The episode in [Fragment 7](#) demonstrates that the students not only were aware that they were being recorded, but also used the technology as yet another means of mediation for communication. Sabrina tried to get the groups to tell her the names of the Swedish partners in their smaller online working groups. The task-as-workplan (see [Figure 4](#)) consisted of the students recording group messages for these online partners.

2 (Spain)	4 Feb	<p>Each class reads 2 different texts about Syrian refugee situation (4 texts in total)</p> <p>Students summarize key points that the world should know</p> <p>After reading texts; for homework students bring 1 idea for 'public poke' to class: What individuals can do; example talk to your politician ask for space in the empty warehouse/flat</p> <p>Discuss in groups, prepare recording to share with telecollaborative partners</p>	Key points from second text	Understand specialised article, use of resources (e.g. dictionary) for specific terminology; synthesize information into key points
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Figure 4. Shared teacher plans for the telecollaborative project.

In [Fragment 7](#), Sabrina inquired about their names to get the group to focus on the task, but the exchange evolved into a short episode of teasing. Aware he was being baited by the researcher about being attractive (and attracted to) the Swedish girls in the group, Marcel reacted to the camera as if trying to personify the camera as a third party to align with him (Lines 16–23; see also Robinson, 1994, p. 48).

Fragment 7. Only the Girls' Names

Participants: Marcel, Sabrina

Line	Participant	Transcription
1	Sab	ok\ i will ask marcel\ (.) marCEL/ >do you do you< do you remember/
	Notes	((researcher focuses in on marcel who is still very focused and working alone with laptop))
2	Mar	((continues typing for a few seconds then looks up at camera))
3	Sab	your friends/ yo- your junior researcher friends/
4	Mar	yes: (.) ((raise hand behind head. Brings hand down to indicate number one with thumb))
5	Sab	what are their names/

6 Mar vendela\joana\ ((hand goes up and back down with two fingers)) (2) ((holds up thumb and finger while thinking))

7



8 Mar [a boy] ((hand counts to three, marcel smiles))

9 Sab [erasmus]

10 Mar he he he

11 Sab and erasmus/ (.) erasmus/

12 Mar \$a little boy\\$\$

13 Sab = you no- you don't remember the name of the boy but only the girls/

14 Mar YES because: (.) the nam- the- ((extends arm to point behind him))

15 Mar is- eh- (1) their names is very com- comp- ((brings arm down))

16 Mar plic- (.) is very difficult\ \$YES::\$

Notes ((Marcel looks at camera, looks away, looks back at the camera and smiles, protests))

17 Sab just a moment\ (.) girls' names are easier than boys/

18 Mar yes:: he he

Notes ((seems self-conscious; grins at camera))

19 Sab rea:lly:/

20 Mar yes:: ((tone implies 'of course'))

Notes ((marcel looks directly at camera, rather impishly))

21



22

Sab

hmm::

Notes

((marcel grins widely, turns away, slaps forehead))

23



24

Sab

therefore you forget about the boys' names/

25

Mar

((shakes head in mock disbelief)) and mark (1.5) yes: ((takes hand away from forehead)) that one's- it is mark or- mark or max\

In the beginning, Marcel did not speak directly into the camera (see Lines 4–8). He appeared to be more directly answering Sabrina, as he ticked off, with his fingers, the names of the members of his international group. However, as he became more aware that Sabrina was teasing him about only remembering the girls' names in the group (Lines 15–20) he began to engage directly with the camera, as if appealing to the invisible audience to side with him, particularly through his gestures and posture (see Lines 16, 18, 20–23).

Analysis 5. Self-Initiated Technology Mediation: Complaining and Subverting

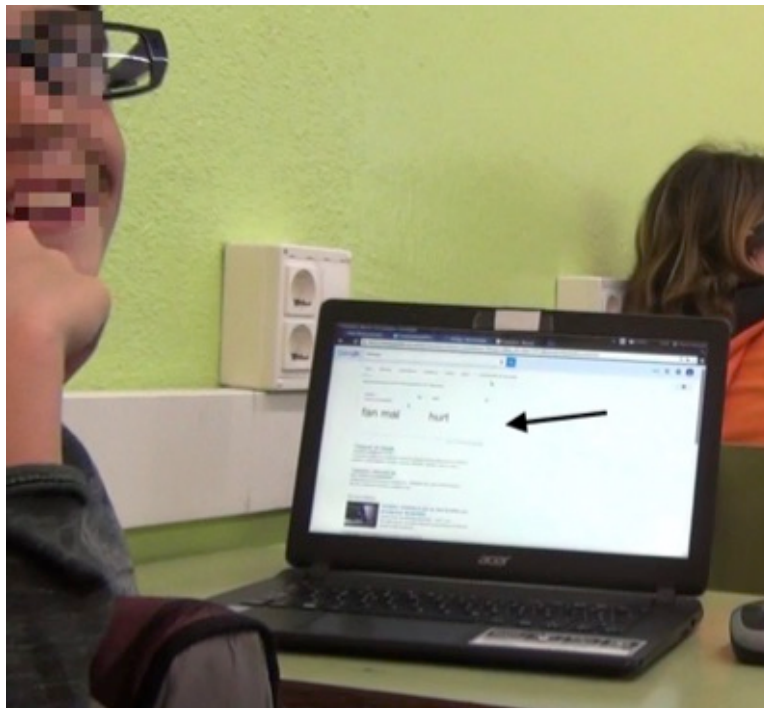
The interaction in [Fragment 8](#) demonstrates how one of the students used the technology resources he had at hand to engage with the researchers in the target language in conversations that were not part of the task-as-workplan. In [Fragment 8](#), Marcel reluctantly acquiesced to wearing spy glasses to record his perspective in the study (four pairs were used in the study, and wearers alternated each lesson).

Fragment 8. *Hurts*

Participants: Marcel, Antoni, Sabrina

Line	Participant	Transcription
1	Mar	((typing quickly into computer))
2		
3	Mar	((looks up at camera, is wearing spy glasses))
	Notes	((camera focuses in on marcel from behind))
4	Mar	look look
	Notes	((raises arm to get researcher's attention then points at screen on his laptop))
	Notes	((screenshot shows Google translation from Catalan <i>fan mal</i> to English <i>hurt</i>))

5



- Notes ((marcel points at glasses, grins))
- 6 Sab \$it does not\\$(reads the screen)
- 7 Notes ((marcel grins at camera, turns back to his laptop))
- 8 Notes ((antoni looks at marcel))
- 9 Sab i don't believe you\
- 10 Mar °really°
- Notes ((marcel opens up new window on laptop))
- 11 Mar XXX
- Notes ((marcel speaks to antoni in spanish, leans over to his laptop))
- 12 Notes ((antoni and marcel laugh about something on antoni's laptop; they try to block the screen from the camera. Researcher moves away as if leaving but captures shot of screen.))

13



Marcel began the fragment by furiously typing into the computer (Line 1), apparently doing a translation word search (Lines 4–5) so that he could have the appropriate vocabulary to complain to the researcher about wearing the glasses (Line 5 shows translation of the Catalan words for *it hurts*). Despite the fact that Marcel never audibly voiced his protest, he was able to communicate his disgruntlement about wearing the glasses to the researcher, who immediately dismissed the complaint. When this short exchange proved fruitless, Marcel disengaged from the researcher by first opening up a new window in his computer and then turning to Antoni’s computer screen, which showed a website for the videogame Grand Theft Auto (GTA), while attempting to block the researcher’s view with his body. The final screenshot supported the hypothesis that the students sometimes resisted the activities related to the task-as-workplan and used the technology tools available to them to accomplish activities related to personal interests. Field notes indicated that Antoni (the owner of the computer with the GTA website) routinely waited for Marcel to complete the group task while carrying out other (personal) activities online, and then transferred the correct answer to the shared group folder.

Analysis 6. Self-Initiated Technology Mediation: Word Search

The next fragment took place at the end of the telecollaborative project. The researcher had arranged for the students to interview each other about the project. Planned materials for the interviews consisted of strips of paper with prodding questions and the video camera for recording the sessions. Because this was an extracurricular activity, the teacher was not present in the classroom. The participants in [Fragment 9](#) were two of the girls from Group 3, the group that had been consistently unresponsive and disengaged during the in-class activities (see also [Fragment 3](#) and [Fragment 6](#)). In particular Marga had been resistant toward the use of English in her communication with the researchers and teachers (field notes). However, in this next fragment, Marga is very determined to use all of her resources at hand, including technology, to ask a question to the researcher.

Fragment 9. *I Do Which Question*

Participants: Marga, Nieves, Sabrina

Line	Participant	Transcription
1	Notes	((marga is typing rapidly into her cellphone with both hands. she does not pay attention to anyone else.))

2



3

Nie

que quiere enseñar/ ((not visible on camera))

*Trans**what do you want to show?*

(...)

(0.03)

7

Mar

((makes signal with hands to wait. whispers to self.))

8



9

Sab

do you understand the question/ ((behind camera))

10



Notes Marga finishes typing, pushes glasses up and hair back and takes breath to speak while looking at the mobile screen.

(0.02)

Notes ((reads from screen, smiles with satisfaction))

11

Mar i do/ which question\

(0.02)

12



Notes ((holds up the slip of paper with question written on it to the camera))

(0.02)

13

Sab huhm/

14

Mar [((looks uncertain, looks back at cellphone))]

15

Nie [°he he he°]

16

Mar ((ducks head, lays paper back down, seemingly in resignation.))

Despite the fact that Marga's use of a text translator on her cellphone did not appear to resolve the communication difficulties, as seen by Sabrina's responses in Lines 13 and 18, Marga continued to address the communication problem through the use of technology. Instead of orienting herself to her classmate, Nieves, for help (as she had usually done during in-class activities), Marga returned to her cellphone and sought another resource: the voice translator (see [Fragment 10](#)).

Fragment 10. I Do Which the Question Paper

Participants: Marga, Brandon, voice translator

Line Participant Transcription

1 Mar i do which\ the question °paper°\
 Notes Marga reads from cellphone screen, looks at camera and holds up slip of paper, smiling (0.03).

2



3 Mar he he he

4



Notes Marga moves hand to cellphone screen

- 5 Mar espera: que te enseñó\
 Trans wait i'll show you



- Notes Marga taps something on the cellphone screen
- 7 Bra =XX
- 8 Mar \$(ahora si veuràs)\$
 Trans now you'll see
- Notes Marga holds out cellphone toward camera
- Notes Marga looks expectantly at the camera, raises eyebrows and smiles while a voice translator plays from her cellphone
 (1)
- 9 Voice i do which the question paper\
 10 Mar he he he he
 11 Notes Marga continues laughing, hands the cellphone to the researcher to read the screen

12



Interestingly, because Sabrina did not understand the question in the previous fragment, Marga appeared to reword her input to be translated (previous to Line 1, Marga had typed something else into her cellphone). This resulted in a more awkward syntax in the second rendering (i.e., *I do which the question paper*; see [Fragment 10](#), Line 1). When her second translation was still misunderstood by Sabrina, Marga played the voiced translation function on her cellphone, then laughingly handed the cellphone to the researcher to read or repeat the recording (Line 12)—perhaps convinced that it was her pronunciation that was the barrier to communication. This relaxed attitude of Marga in this highly challenging communicative event was quite different from the tense and withdrawn attitude she had demonstrated during the in-class activities.

Analysis 7: Self-initiated Technology Mediation: Spontaneous Communication

Finally, in [Fragment 11](#) (a pictorial transcript), it is possible to see how the students brought into play unsanctioned (or unplanned) communication technology to contact each other between classes (Sweden and Spain) during a formally planned, end-of-project Skype meeting. As can be seen in the first image in [Fragment 11](#), the students were arranged in the rooms in both countries so that they could view the computer screen in order to have a group-to-group chat. The students had been instructed to think of minimally one short good-bye statement (e.g., “Thank you, it was nice meeting you and working with you”). The task-as-workplan consisted of individual rounds (see [Figure 5](#)).

4 (Spain)	10 March	Final presentation to school/other elective course students (optional); Class reflection (optional) HW: Come up with creative way to say goodbye to group mates GROUPS MEET TOGETHER ON SKYPE AT 14:40 - MEETING ORGANIZED BY JR RESEARCHERS Jr. Researchers responsible for arranging individual rounds for quick good-bye statements
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Figure 5. Shared teacher plans for the telecollaborative project.

However, as can be seen in [Fragment 11](#), there were no individual exchanges as expected in the task-as-workplan due to the sitting arrangement, the time limitation, and the use of a tablet rather than a computer for the online meeting (limiting the possibility of projection onto the wider screen so everyone could see the online partners). However, the students that had exchanged contact details earlier in the project conversed individually, via their cellphones, during the Skype chat.

Fragment 11. Skype Meeting

Participants: Whole group (both classes)

Action	Description
--------	-------------

1



Modalities: (whole group) visual interaction (watching tablet screen); spoken interaction (via embedded microphone in tablet); (pairs) visual interaction (looking at cellphone screen); physical interaction with cellphone keypad (texting).



These exchanges were confirmed by the students to the researcher in a short follow-up interview (she was not given access to the messages themselves). It can be assumed English was used as it was the only language that the students had in common in order to communicate.

Discussion

At least two broadly different scenarios centered on the use of educational technology seemed to emerge from the data presented in this article. First, it became clear that the task-as-process (the task as interpreted and performed by the students) often diverged considerably from the task-as-workplan (the group work that was explicitly designed into the task). The task-as-workplan consisted principally of very teacher-fronted instructions and tasks that involved technology and were quite linearly organized. The planning was lock-step organization of tasks involving repetitive interaction with the technology. No opportunities for individualized mediation with the technology were provided and there was very little variation on how the technology affordances might be interpreted individually and creatively to promote communication and shared knowledge building (see Dooly, 2010; Prensky, 2008).

For instance, in the task-as-workplan involving Zaption, it was expected that the students would use the technology resources to prompt group discussion for synthesizing their answers and then communicate them to their telecollaborative partners. However, the task-as-workplan ended up generating predominantly individual activities (e.g., listening to the videos independently or answering the questions on separate personal computers). Moreover, in several cases (although only one was analyzed in this article), the students displayed considerable competence in knowing how to accomplish the institutional task-as-output while circumventing the original task-as-workplan, as seen in their actions of rewinding, copying and pasting from online resources that were not intended for this purpose, or waiting for the teacher to give the correct wording on the whiteboard. This corroborated observations about new technology use dating back more than a decade:

Because many of the new technologies make possible a more student-centered classroom, teachers must spend some time asking how their classroom practices might be shifted to welcome and support such a shift. All too often the new goals will be subverted by relatively subtle factors such as the arrangement of classroom furniture so as to make group work difficult and frustrating. (McKenzie, 1993, sec. 2, para 8)

In the above quote, McKenzie points out the importance of the physical arrangement of the classroom for technology use, however, as technology has become more common in the classroom, this aspect of planning is often overlooked. As can be seen in the data, it is still a relevant aspect of planning and teaching with technology. For instance, seating students next to each other in face-to-face groups and then expecting them to mediate their discussions through their individual laptops resulted in far less online production (as was expected) and more oral interaction and individualized work. Some students completed the tasks without consulting others, some students engaged in off-task-online activities.

It is clear that the way in which technology use was planned for the activities in the project contributed to moments of student disengagement (e.g., waiting for others to complete the group task, using the technology for personal interests), arguably due to the lack of individual accountability for different aspects of the group activity. Inevitably, the planning of how to use technology for promoting collaborative learning (and subsequent discussion) must follow the same parameters as the collaborative work design in any face-to-face classroom—that is, interaction that promotes positive interdependence, individual accountability, simultaneous interaction, equal participation, and group autonomy (Jacobs, Power, & Loh, 2002).

Moreover, the lock-step, teacher-fronted task-as-workplan contrasted sharply with the multimodal approach the students often took to resolve language problems during moments when they displayed true interest in communicating (e.g., talking to the researchers, interacting with the camera). Their practices also diverged from the task-as-workplan considerably as they indulged in their own interests (demonstrated in their watching videos or searching for information about video games at different moments in the lessons or in communicating with their Swedish partners through a variety of mobile apps at moments that were not planned nor teacher-controlled).

The data also showed the different ways in which the students used the technology with complete adroitness to resolve not only the teacher-initiated tasks rapidly, but additionally, to resolve unexpected issues that emerged when using the target language (e.g., using the Internet as a quick way to find a group name). In other cases, the use of technology did not necessarily promote any use or reflection on the target language (e.g., group name negotiated through the use of WhatsApp). And yet, the technology-mediated communication in the L1 facilitated the expected final outcomes in the target language (e.g. an English name for the group). Clearly the students were competent at using the technology for shortcuts (as in [Fragment 2](#), [Fragment 4](#), and [Fragment 5](#)) or using mobile technology to involve participants who were not present in the class in discussions (as in [Fragment 6](#) and [Fragment 11](#)), as well as using their cellphones creatively to try to repair miscommunication with the researcher (as in [Fragment 10](#)).

Toohy et al. (2015) underscore the need to reconsider how digital tools are used in learning situations so that they are not employed merely “to accomplish the ‘same old’ objectives of school-as-usual” (p. 461). The analysis of the data collected and presented here appear to support this argument. Learning tasks should be planned so that technological resources can be used creatively by the students to resolve communication difficulties that resemble potential situations in the real world. Tasks should “aim to develop communicative competence in personally meaningful ways” (Littlewood, 2014, p. 349). This may require teachers to be more flexible in their planning of how communication technology is used in language learning tasks by proposing situations that challenge the students communicatively in the target language and then encouraging them to deploy communication technology creatively, collaboratively, and through the combination of different technologies to resolve communication gaps, thereby legitimizing their use of communication technology in innovative ways. In short, planning of communicative tasks might include requiring the students to explore different available tools to resolve communication issues, rather than proposing which tools to use. This more closely mimics real-world situations and fosters not only language gains, but also the development of digital competences.

This is not an argument for *ad hoc* language and technology classes. Teachers should provide models and proposals for using communication technology, while at the same time being aware of and willing to acknowledge and validate novel and unanticipated uses that might be put forth by the students. After all, this is the way in which the use of communication technology evolves in real-life situations and it is this flexible and critical thinking that is precisely what students need now and in the near future.

Notes

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Appendix. Key for Transcription

Code	Description
TEXT	Louder speech than normal
:	elongation of syllable or sound; each colon is about 0.1 seconds
\	fall in intonation
/	rise in intonation
?	rise in intonation and is clearly intended as a question
(.)	micro pause of approximately 0.1 second
((text))	annotator’s notes
text-	syllable is cut off abruptly
@text@	markedly different tone than elsewhere
(0.0)	longer pauses; per tenth of a second
>text<	speech is noticeably faster
°text°	quietly, or in a whisper
trans	annotator’s translation from another language
\$text\$	laughingly
=text	speech latched with previous utterance
[text]	overlapping utterances
[text]	

About the Author

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