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Collective Digital Storytelling: An Activity-theoretical Analysis of Second Language Learning and Teaching

Les histoires numériques collectives : une analyse systémique de l'activité d'apprentissage-enseignement d'une langue seconde

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Abstract

This paper describes the collective activity of a group of four students who created a digital story as a teaching resource that was to be used for teaching English as a foreign language. It uncovers and analyzes the actual processes underlining the activity as it unfolds from one stage to another. Four processes, viz., sociocognitive interactions, methodological processes, reflective processes and techno-semiopragmatic interactions were identified during the unfolding of the collective activity. Moreover, the results of this study highlight the role of the community in determining the activity of a lower level language group.

Résumé

Cet article décrit l'activité collective d'un groupe restreint de quatre étudiants qui a créé une histoire numérique en tant que ressource pédagogique pour l'enseignement de l'anglais langue étrangère. Il analyse et révèle des processus de l'activité lorsqu'elle se déplie d'une phase à une autre. Quatre processus, à savoir les interactions sociocognitives, les processus méthodologiques, les processus réflexifs et les interactions techno-sémiopragmatiques ont été identifiés. Les résultats de cette étude soulignent également le rôle de la communauté pour déterminer l'activité d'un groupe restreint ayant un niveau linguistique inférieur par rapport aux autres groupes.

Introduction

The practice of storytelling has always been at the "core of human activity" (Lambert 2002, as cited in Brígido-Corachán & Gregori-Signes, 2014, ¶ 1) and used for centuries as a medium to communicate messages and teach people. With the evolution of technology and its various artifacts, everyday people, not necessarily versed in digital and film techniques, can

narrate their own life's experiences or memories using different types of media. Such a practice is called digital storytelling, the educational implications of which are currently being explored in various fields of research.

This paper aims to describe the collective activity of one group of four students who created a digital story as pedagogic material for teaching English as a foreign language. It aims to detail the complexity of such an activity, which provides opportunity for its creators to think pedagogically, work autonomously, and practice their language skills.

The literature review will first consider the concepts of digital storytelling and collective learning and then outline how activity theory can contribute to our understanding of collective work processes. The research context and design will then be briefly outlined. The analysis and results will finally be presented, which will answer the research questions stated explicitly in the second part of the paper.

Literature Review

Digital Storytelling

Based on a constructivist approach to learning, digital storytelling is the practice of combining traditional storytelling with new-age digital media. Drawing upon research from different scholars, Brígido-Corachán & Gregori-Signes (2014) define digital stories as "short narratives (between 2-5 minutes) that combine traditional modes of story narration with other multimedia tools, such as drawings and graphics, audio material, video extracts, animation and online publication – with one of its most noteworthy characteristics being that the author narrates the story with his/her own voice" (¶ 2).

Initial research on this subject found that the activity of digital storytelling had positive effects on students' motivation and engagement levels (Dogan & Robin, 2008) and that sharing the storytellers' experiences revealed "how the community actually lived their experience of creating digital stories" (Nguyen & Robin, 2014, n.p.) which, in turn, helped "reflect and self-evaluate" (n.p.). In the field of foreign language teaching and learning, Normann's exploratory Master's thesis (2011) suggests that digital storytelling could be instrumental in content-based language teaching. Moreover, the regular use of voice recordings as "stories"[1] could help "bolster students' language accuracy" (Lee, 2014, n.p.). They could also offer the opportunity for teachers to get learners to target two or more language skills simultaneously (Torres, Ponce, & Pastor, 2012), and could allow them to develop language skills autonomously (Godwin-Jones, 2012; Kim, 2014).

Thus, while several scholars have observed the learning outcomes of digital storytelling in educational settings, few studies (like Nguyen, 2011) seem to document the actual processes involved in creating a digital story. Understanding the processes that underline the creation of pedagogical material is, to the researcher, as important (if not more) as inspecting its final outcomes. Moreover, while individual storytelling processes have been highlighted, no study, to

[1] In the study's research context, "stories" refer to digital news

our knowledge, has yet explored the possibility of students creating digital stories collectively in a second language.

Collective Learning

Nissen (2005) defines a small group as one of limited size, made up of people who share the same objectives and who are able to communicate with each other. An essential factor for smooth functioning of a group is its commitment towards the other members of the group (Henri & Basque, 2003; Nissen, 2005). In the field of computer-supported collaborative learning (CSCL), a small group is often considered to be the paradigmatic unit of analysis (Stahl, 2015) and as a result "how people in groups make sense of situations and of each other" (Suthers, 2006, p. 321) seems to have been the research agenda of CSCL for the past few years.

George (2001) proposes the generic term "collective learning" (p. 52) to underline situations of collective activity between learners. He argues that it is not to be confused with collective meaning *en masse* as one would understand learning en masse versus individual learning, but rather to refer to work accomplished by small or big groups of people having a common goal. Collective learning or collective work can be of different types. Mangenot and Dejean-Thircuir (2009) distinguish between four types of collective activity: cooperation, collaboration, pooling and discussion (cf. appendix 1). For these researchers, both pooling and discussion "imply neither working in small groups nor a common final production[2]" (p. 2). For the purposes of this study, pooling will refer to the act of consolidating information or resources with a view to sharing them with the larger group. On the other hand, both cooperation and collaboration entail work in small groups having different degrees of interaction with the purpose of accomplishing a common task.

The two modes of collective activity, face-to-face and distance, have been studied across various situations and learning frameworks (Dejean, 2004). However, few studies seem to have concentrated on collective learning in a blended learning environment (Nissen, 2014) in spite of its multiple advantages.

Activity Theory

The "well-kept secret" (Engeström & Miettinen, 1999, p.1) of activity theory (AT) is a conceptual and theoretical framework "for studying different forms of human practices as development processes, with both individual and social levels interlinked at the same time" (Kuutti, 1996, p.25). According to Engeström (2001), modern AT has evolved through what he calls three "generations" of research. The first is centered on Lev Vygotsky's idea of mediation, which is commonly expressed through the triangular model of subject, object, and mediating artifact. The second generation is centered on Alexei Leontiev's research that argued for a distinction between an individual action and collective activity. Engeström suggested a diagram of Leontiev's model (Engeström, 1987, p. 78) that represents the structure of a human activity system.

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[2] *La mutualisation ainsi que la discussion* « *n'implique[nt] ni travail par petit groupe ni production commune* » Mangenot and Dejean-Thircuir (2009).

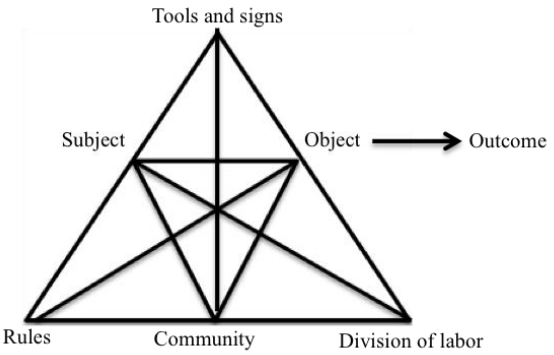

Figure 1. Graphical representation of the second generation model of an activity system (1987, p. 78).

The triangle in Figure 1 is based upon three poles – community, rules and division of labor – that "bring together local human activity and larger social-cultural-historical structures" (Lantolf & Thorne, 2006, p. 222). The two poles at the second layer of the triangle – subject and object that leads to an outcome – are mediated by tools and artifacts situated at the top of the triangle. The uppermost sub-triangle formed through the poles tools and signs, subject and object "may be seen as the 'tip of the iceberg' representing individual and group actions embedded in a collective activity system" (Engeström, 2001, p. 134).

While earlier activity theoretical studies focused on the activity of individual language learners (as cited in Blin & Appel, 2011), second generation AT (Engeström, 2001) targets the entire activity system and studies the dynamics generated between the various poles of the activity system. According to this model, the subject can either be individual or collective. The object describes the orientation of an activity and "refers to the 'raw material' or 'problem space' at which the activity is directed and which is molded or transformed into 'outcomes' with the help of physical and symbolic, external and internal tools" (Engeström, 1993 cited in Lantolf & Thorne, 2006, p. 223). Rules are the set of explicit and implicit regulations, norms and conventions that limit actions and interactions within the activity system. The community is made up of one or multiple other groups that share the same object. Finally, division of labor refers to the horizontal actions and interactions among the members of the community and "to the vertical dimension of power and status" (Engeström, 1993 cited in Lantolf & Thorne, 2006, p. 223).

Engeström (2001) articulated the need for a third generation of AT, in which the basic model is expanded to include at least two interacting activity systems. For the purposes of this paper, we will be referring to the second generation of AT in order to focus on the dynamics generated between the various systems of the activity.

Research Questions

In the light of the literature review, this paper aims to describe the collective activity of one group of students who created a digital story for pedagogical purposes. It thus seeks to address the following questions:

1. What is the nature of collective activity that takes place in a setting that emphasizes autonomous work in a blended learning environment?
2. What are the processes that underline the creation of digital stories that can be used for teaching a foreign language in a primary school context?
3. How efficient are the internal dynamics of a group in such a setting?

Method

Research Context

The present study is situated in the framework of an elective called Applied Methodologies for Teaching English that introduces first-year undergraduate students to the profession of teaching English in primary school contexts. Primary school teachers in France are also expected to teach English among other subjects.

Given that the targeted public is comprised of newcomers, the course content is limited. In the first semester, we address certain basic concepts linked to language learning and teaching (for instance, the difference between acquisition and learning). In the second semester of the course (from January to April) students are solicited to create pedagogical resources that would help them acquire practical experience and practice their language skills. While the explicit objective of the course is the application of pedagogical methodologies to teaching English, a more implicit objective is to make students aware of their own linguistic limitations, enabling them to autonomously regulate their learning and improve their skills, which have not yet been fully mastered.

Unit of Analysis: "Digi-Tales in English"

In the second semester of the academic year 2012-2013, a new project was introduced to the students: that of creating digital stories with appropriate pedagogical material. It was to be carried out in small groups of three or four students. As modeled in the figure below, the primary unit of analysis for this study is the collective activity, which took place over the project "Digi-tales in English".

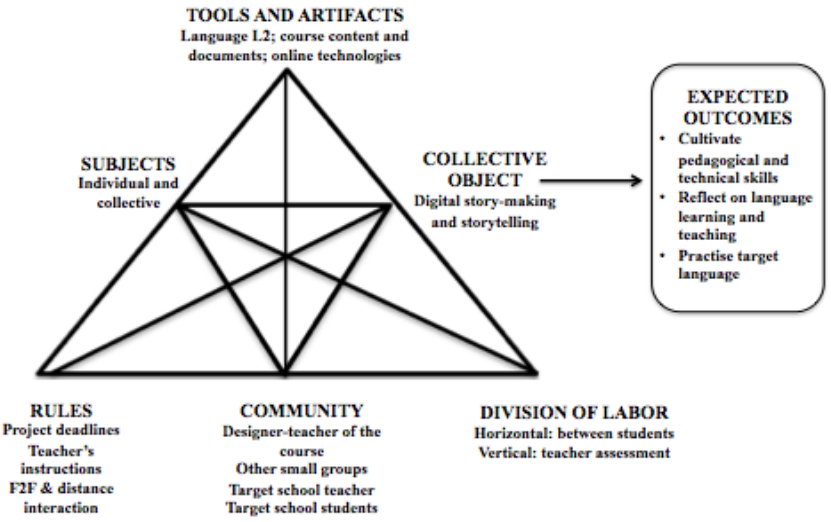

Figure 2. Modeling of the principal activity system.

Subject (individual and collective). The subjects are not only the individual participating students but also the small groups, which were self-chosen at the beginning of the semester. For the purposes of this study, the activity of only one such small group has been taken into account (Table 1). The group that was chosen for this study was one of the most enthusiastic groups in the class. They participated well, were committed to the cause of the project and responded to the researcher's questions through the individual questionnaires and the focus group. Another reason that it was chosen was because, compared to the rest of the class, it was undoubtedly a lower level language group.

Table 1

Profile of the Subject Collective

Small Group SG-B	Sex M/F	Age	Average Level Awarded after Placement Test (CEFRL[3])	Reason for Enrolling in the Course (student's words translated into English)
B1	F	20	B1	*"get a first approach to teaching English to children"* (795)
B2	F	18	A2+	*"how to address something (to teach) to children"* (793)
B3	F	19	A2+	*"it was simply to give myself an idea of the profession"* (826)
B4	M	19	B1	*"it was an option that interested me more than the others"* (782)

[3] Common European Framework of Reference for Languages

The subject collective chosen for this study has been anonymously named SG-B, and the participants B1, B2, B3 and B4. At the time, B1 and B2 seemed to be sure of wanting to become teachers, whereas B3 wasn't sure. B4 was clearly enrolled in the elective as the other available subject options interested him less.

Collective object. The collective objective of each of the groups was to create a digital story and teaching material (a lesson plan and activities) based on the story, which would enable the school-teacher to use the story for the purposes for which it had been conceived. This kit was to be sent out to a collaborating French primary school. As a result, a high degree of engagement and commitment was required from the subjects, as participating teachers would eventually be testing their creations in real-time.

Community. The community is made up of the designer-teacher of the project, the other students enrolled in the course (other small groups), the school teacher who would be using the pedagogical material and the target audience who are primary school students. At the beginning of the project, each group received a "pupil profile sheet" from the teacher whose class was targeted, and thus had an idea about the general language level of their target-class.

Rules. Students were required to attend two hours of face-to-face (F2F) instruction for a total period of 12 weeks. Every week, a certain element of storymaking and storytelling was reviewed in class and students would work in their groups to accomplish the task set for the week. The classroom time allotted often barely sufficed, although it was expected that the work be accomplished before the following week (see below, Table 2).

In addition to working on the story, each group was asked to maintain a common reflexive blog in which they were expected to write every week. The articulation between F2F and distance modes of communication was expected to take place on a common social platform created for the purpose.

Mediating tools and artifacts. The social platform used for out-of-classroom communication and management was Edmodo[4]. A particularly interesting feature of Edmodo is that it allows teachers to create multiple "small group" spaces that are restricted to its members and to the teacher who is added to each of the groups by default. The small group spaces allow students to share documents and communicate in their groups and with the teacher.

Blogger[5] was the recommended site for students to create their blogs but they were also free to use any other service they desired. As for the digital stories, they were supposed to be created, uploaded and read out using an online tool called VoiceThread[6]. This is an online multimodal presentation tool that allows a user to record her/his own voice in order to comment on a slide[7].

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4 http://www.edmodo.com
5 http://www.blogger.com
6 http://www.voicethread.com
7 For more information, cf. Kalyaniwala-Thapliyal, 2013.

Besides these online tools, the course content, the documents and videos served as material, pedagogical and semiotic tools. As for the linguistic tool, English was to be used for the purposes of communication, negotiation and discussion.

Division of labor. Although certain basic rules had been laid out, the teacher supervised neither the division of tasks nor the functioning of the group. Each group could autonomously decide how it wished to accomplish their collective objective.

Expected outcomes. At the end of the project, it was expected that students would cultivate pedagogical (PS) and technical skills (TS) that they would reflect on their own language learning processes (R) and that they would learn to use the target language to communicate and work effectively (LS).

Five Phases of the Project

At the outset of the project, the didactic sequence (scenario) predetermined five principal phases of the project and advised the time limit to be allotted to each of the phases. Table 2 describes the same.

Table 2

Phases and Time Frame of the Project

Phases	Description	Weeks Allotted
1. Presentation	Understand the project, its objectives and outcome desired; Make small groups and choose members	2
2. Pre-production	Understand the concept of 'digital storytelling'; Establish first contact with the target school teachers Understand the profile of target school students Think about and draft out the story, character sketches and teaching kits	3 + winter vacation
3. Production	Finalize drafts and create stories; Learn to manipulate certain technical tools	2
4. Post-production	Present story to the class; Give peer feedback; Revise stories and kits Deadline: submit the stories before the Easter break	2
5. Test and reflection	Stories tested and feedback received from the teacher Reflect on your own group story and on the story of one peer group; Write and submit a reflexive essay in groups	3

Research Design

Data were collected through the entire course of the project. This included lesson plans of the teacher-designer of the course, asynchronous messages left on the blog, on the platform Edmodo and the final digital stories. Along with this ethnographic data, complementary data were also collected towards the end of the project, which included online individual questionnaires directed to the student-participants of the study and a focus group that provided more insight on factors pertaining to the group's offline and online activity.

An online survey was administered to the participants at the completion of the project via Google Forms (a function within Google docs, now known as Google Drive). The questionnaire was divided into three parts: the expectations of the participants at the onset of the project, the participants' personal and perceived experiences during the course of the project, and their personal appreciation at the end of the project. The objective answers received from these questionnaires were used as a starting point for the focus group.

Next, field and produced data were collated in order to get a clearer picture. Once all the data had been compiled, it was made anonymous and documented. Blog posts were coded depending on the types of content. The focus groups and interview were transcribed and, wherever required, translated into English.

Analysis and Results

Description of the Digital Story Created by SG-B

SG-B's digital story is titled "Romeo and His New Friends" and addresses the social problem of racial discrimination. It is based on the confusion and distrust generated among a group of white and black bears due to the sudden appearance of Romeo the panda. Most of the bears reject Romeo because of his twin-colored body but the bears Lucy and Teddy become friends with him. Soon after, the other bears realize their mistake and everyone lives happily on the icy mountain.

The digital story presented on VoiceThread is made up of fifteen slides that contain sketched and edited images, text, and audio recording that lasts 2 minutes and 41 seconds. The teaching resources submitted also contain a lesson plan that suggests four listening and reading activities: a crossword, a matching quiz, a multiple-choice questionnaire and a creative activity.

Modeling the Activity Systems as They Unfolded

Although the didactic sequence had predicted five principal phases of the project (*supra*), SG-B's actual collective activity was found to have unfolded over seven stages, each established within its own activity system. This is why the phases have been studied as individual (sub-) activities that consolidated into the realization of the principal activity (Figure 3).

The first four activities were identified by the group (focus group), whereas the last three were identified by the researcher through the didactic sequence as noted in the teacher's notes. The first contact made by the students with the teacher (phase 1 of the project) has not been included in the present study. However, the final phase (5) of the project, that entails reflection

and the collaborative writing of the reflective essay, has been taken into consideration as the information it provides is pertinent to the understanding of the group's learning activity.

As can be observed in Figure 3, the nature of each individual activity (except activity 5) was a result of a conscious choice made by the subject collective. In other words, the participants themselves decided which type of activity to resort to, depending on the object of the activity. The outcomes expected from each activity remained more or less the same, varying only in degrees of importance depending on the type of the activity. Analysis revealed that although each activity was supposed to lead to the next in an almost circular manner, on receiving feedback (activity 5), SG-B was compelled to re-write a part of its story (activity 6 leading to 1) and re-record their narration (activity 4). The process that was hitherto supposed to be smooth was thus hindered due to the way in which the group functioned.

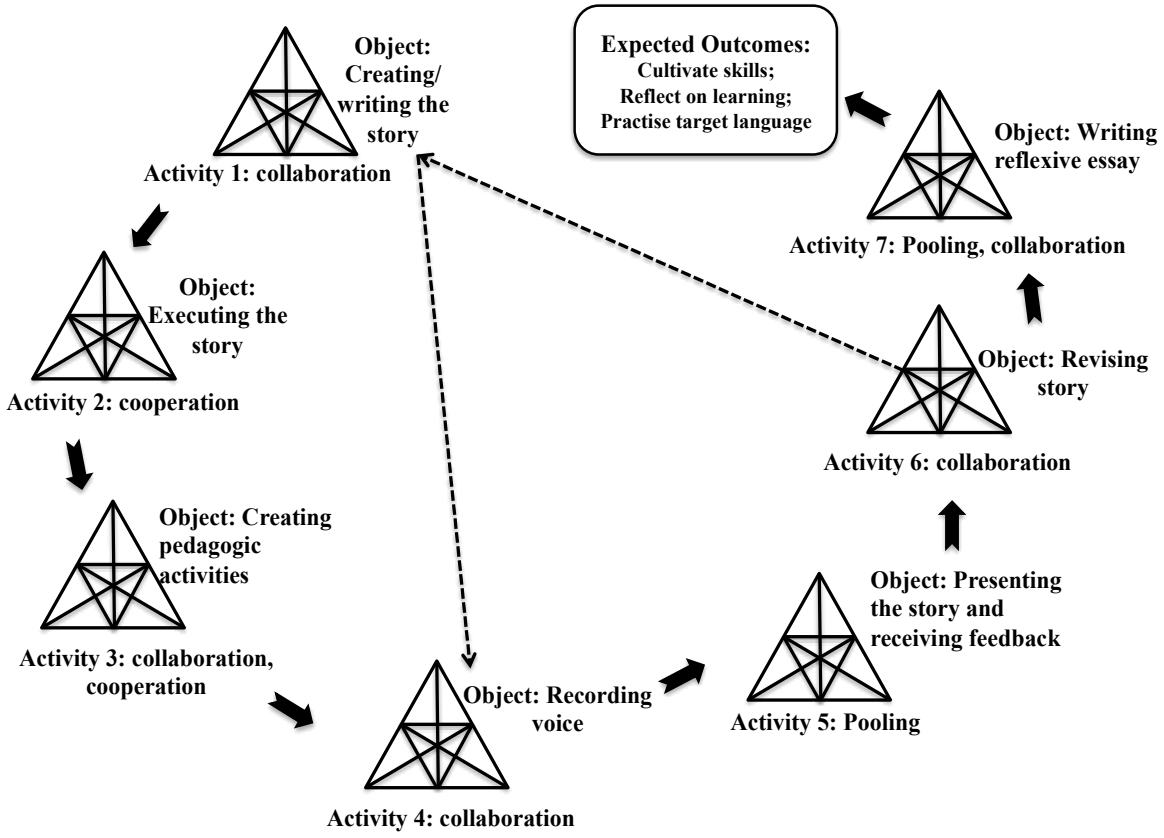

Figure 3. Modeling the activity systems as they unfolded.

Table 3 summarizes the findings of the analysis. It identifies the nature of each individual activity and the processes undertaken during the unfolding of the activity. Moreover, the final column lists the elements that SG-B took into consideration at every stage.

Table 3

SG-B's Collective Activity

Activity	Object	Actions	Expected Outcomes	Nature of the Collective Activity	Processes	Elements Taken into Consideration by SG-B
1	Creating/ writing the story	Choose the theme of the story & the characters Draft the story	PS LS R	Collaboration	Sociocognitive reflection Verbal negotiation	Age and language skills of the target audience
2	Executing the story	Draw images Scan images Upload on VT	TS PS R	Cooperation	Division of labor Cooperation Manipulation of technical tools	Prior knowledge of tools Perceived affordances of tools
3	Creating peda-gogical activities	Write a lesson plan Research different types of pedagogical activities Create activities	PS LS R	Cooperation, Collaboration	Cooperation Verbal negotiation Co-construction of knowledge	Age and language skills of the target audience Attempt to add an element of fun
4	Recording voice	Record voice	LS R	Collaboration	Distribution of roles	Pronunciation Intonation
5	Pooling	Present story to the community Give feedback Receive feedback	LS TS R	Pooling	Reflection Sociocognitive reflection	Feedback from community
6	Revising story	Re-record the story	R TS LS	Collaboration	Verbal negotiation Decision-taking	Feedback from community
7	Writing reflective essay	Write the essay	R LS	Pooling, Collaboration	Metacognitive reflection Cooperation	Feedback from community

Nature and Types of Collective Activity

The fifth column of table 3 suggests that SG-B resorted principally to three types of collective activity: cooperation, collaboration, and pooling.

The activities that primarily worked through face-to-face interaction (1, 4) took place both in and outside the classroom environment and required the use of digital resources. While writing the story, the group was required to make use of adapted vocabulary, whereas recording the story meant working on one's pronunciation skills. Technology thus played a determining role in these phases.

Five out of seven activities took place in both modes of interaction, face-to-face and distance. It will be difficult to determine exactly what part of which sub-task was accomplished in which mode of interaction as the traces of the same activity appear in both the teacher's notes and on the online spaces like the blog and platform. In any case, it is difficult to determine which one of the two modes dominates over the other, as Nissen opines (2014), but it is possible to understand the overall nature of the unfolding collective activity.

The table also suggests that the favored mode of collective activity for SG-B is collaboration. However as Nissen (2014) suggests, it is rather difficult to observe the activity of a group in hybrid learning that will resort to "pure collaboration" while accomplishing a project. Moments of collaboration will indeed be combined with moments of cooperation and, as in our case, pooling. The task design may also impose a certain type of collective activity, as in the case of "imposed" collaboration in the first activity or pooling in the fifth.

Processes Identified During the Unfolding of the Collective Activity

The sixth column of Table 3 points to four principal types of processes SG-B was engaged in during its activity:

Sociocognitive interactions. Sociocognitive interactions are understood here as processes that deal with the "relations between the mind, discursive interaction and society" (Van Dijk, 2009, p. 65). From an activity-theoretical perspective, division of labor among the members of a group as well as the interaction between the various poles of the activity system would be implied. In the first activity of the project, brainstorming for ideas, choosing the story's theme, its plot and characters were the principal actions targeted. Other elements taken into consideration were the profile of the target audience, their age and prior knowledge of the language. As a result, participants felt the need to introduce new vocabulary in the form of comprehensible input and tried to identify themselves with the schoolteacher, who was to receive the teaching materials. In this way, the first phase seems to have encouraged moments of social and cognitive interaction.

Let us now consider an example that illustrates the dynamics between the poles subject collective, community and object and one that is characteristic of sociocognitive interactions. When the first version of the story is drafted out on the common blog of the group, it contains quite a few linguistic errors (Appendix 2). A second version of the story (Appendix 3) is later uploaded on Edmodo's small group space. The teacher's notes show that this had been corrected in class prior to its upload and was to be the definitive version of the story. Each point of this

version was to be read out in conjunction with a picture on an individual slide of VoiceThread. The interaction between the subject and community over the collective object proved to be beneficial here as a "perfect" version was created.

It is, however, neither the first nor the second versions that are finally presented in class (activity 5), but a third version (Appendix 4). This newer version had been created by the subject collective without consulting the teacher and contained a grammatical error: "The other bears *doesn't* like Romeo because he is different: he is black and white!"

The initial conflict between the poles resulted in the transformation of the activity during the second (sub-) activity itself. The error would not have appeared in the final version had the text been read out exactly as it was drafted out at this stage. However, the third version of the story does contain the error. We cannot ascertain its origin although we can state with certainty that it arises sometime during the third and the fourth activity.

The error is recognized by the community (C4) in the fifth activity. Once again, the interaction between collective subject and community can result in the transformation of the activity, and would have, had the corrections provided by a fellow student been taken more seriously. One may suppose that the linguistic correction wasn't deliberately ignored, but merely put aside because other corrections (essentially technical in nature) needed immediate attention.

Recognition of the same error finally resurfaces in the seventh and final activity of the project, when written feedback is received from the community on how the peer story could have been improved. This time around, the error is certainly considered by SG-B who make a note of it in their reflexive essay: "On the story about the linguistic aspect in our story making-process we have some points that we would change. Indeed, first, we would have not make the mistake at « the other bears doesn't want to play with him »" (sic.).

The recognition and admittance of having committed the error, albeit in the final stage of the project, constitutes an important sociocognitive process as it questions their language autonomy and forces the participants to recognize their linguistic limitations. Moreover, this example also illustrates the importance of the community for the group in question.

Methodological processes. These processes are essentially characterized by management and organizational sub-activities like dividing tasks, distributing roles and deciding work plans. Realizing a project of these dimensions by absolute amateurs requires an elevated level of "balanced cooperation" (Mangenot & Zourou, 2005, p. 64), which implies coordinated sharing of individual actions. SG-B's main "labor" was divided into sub-tasks and each participant was delegated a sub-task that suited his/her artistic, computing or material capacities. For instance, participants B1 and B2 drew by hand while B4 scanned the drawings and sent them to the small group space on Edmodo. B2 edited the drawings using (Microsoft) Paint and uploaded them on VoiceThread.

Mangenot and Nissen (2006) argue that a small group may be considered as autonomous if its members are able to collaborate. While the researchers may be referring to online tutoring, the same could well be applied to the present context. Taking over the management of one's own

group, at least at an organizational level, minimizes the need for a tutor or, in this context, a teacher, who can then target other objectives.

The study also revealed that the participants needed to juggle between the rules (institutional calendar, project deadlines) and their own individual objectives. They needed to plan and regulate the functioning of the group, respecting individual constraints and constantly compare their group's performance with the pre-fixed objectives of the course.

Reflective processes. The course design also called for a certain amount of reflection. Lamy (2001) highlights the need for collaborative reflection that helps students co-construct their cognitive object and develop their reflective consciousness. In order to accomplish this, participants of the study were consistently encouraged in their groups to reflect on their learning processes by writing on their group blogs.

Each (sub) activity (cf. Figure 3) entailed reflection. During the first four activities, contemplating on the various aspects of storytelling was decisive. For instance, as B1 explained in the focus group, the decision that SG-B's story should have a moral ending seems to have been taken at the outset of the storytelling process: "[W]e explicitly stated the moral… throughout the story, we tried to show, little by little, that it is not because we are different that we cannot be friends". The last three activities called for reflecting on another group's story and on revisiting their own. The final stage of the project (i.e. that of writing a reflective essay), was the precise moment of reflection that took into account the mechanics of the entire process of storytelling.

Techno-semiopragmatic interactions. Peraya (2000) introduced the term "techno-semiopragmatic" to refer to an ensemble of interactions that take place in and around all types of media, machines, or information, communication and technology (ICT) environments. According to him, the field of ICT lies on the border of three worlds, technical, semiotic, and social or relational.[8] Therefore, it becomes important to consider the relationship between a tool and its user and also to understand the reasons and the manners in which technological tools are used for the means of accomplishing a task. During the course of the story-making activity, participants made use of various digital tools, with or without the express knowledge of the teacher-designer of the course. The use of the website bloggif.fr for creating text in a gif format or the use of Paint over Gimp as suggested by the course design seem to suggest that prior knowledge and compatibility with a certain tool are elements that influence decision-taking.

Furthermore, perceived affordances of an artifact may also play an important role in tool determination (Kalyaniwala-Thapliyal, 2013), for instance, SG-B's use of Facebook as a means to communicate with one another, in spite of a ready social platform like Edmodo at their disposal. The focus group revealed that Facebook was chosen over Edmodo due to three reasons: the ease, the habit and the use of language recommended. Edmodo, on the other hand, was rejected because of the way in which it was perceived by the participants. B3 felt that it was

[8] « *Nous avons défini un dispositif techno-sémiopragmatique (DTSP) comme l'ensemble des interactions auxquelles donnent lieu tout média, toute machine à communiquer, toute technologie de l'information et de la communication (TIC) entre les trois univers technique, sémiotique, enfin social ou relationnel. Les TIC se constituent en effet à la frontière de ces trois univers* » (Peraya, 2000).

difficult to "joke around with one another" on Edmodo with the perceived presence of the teacher and the recommended language English.

SG-B's Division of Labor, and the Efficiency of Internal Dynamics

As noted previously, the division of labor was intentionally horizontal, that is, each member of SG-B tried to contribute equitably to the project and in a balanced manner. Decisions seem to have been taken unanimously by all the members of the group. Furthermore, their online contribution as a team (Table 4) portrays a far more quantitatively significant contribution as compared to the teacher's, which in turn, implies their commitment to the project. It should be noted that although B4 refused to write on the common blog, he seems to have made up his contribution by working on the main project.

Table 4

Individual Online Contribution of SG-B

Members of SG-B	Blog Posts	Blog Comments	Edmodo Posts	Edmodo Comments
B1	5	7	3	2
B2	5	4	1	1
B3	6	9	2	1
B4	-	-	3	1
E		5	5	3
Total	16	25	14	8

Although an objective study of the individual contribution of each of SG-B's members does indeed show a great amount of work, planning and negotiation put into the final product, an in-depth analysis of the group's linguistic errors questions the efficiency of the same. Deep in the process of accomplishing the task, the group members were unable to identify their linguistic errors, like the one between "don't" and "doesn't". While this was pointed out twice, it appears that it is not the repetition of the correction, but the mode of communication used that seems to have triggered comprehension and realization.

Discussion

Role of the Community and the Situated Nature of the Course

The ubiquitous presence of the community seems to be mandatory for SG-B to function effectively, and its role in the entire activity cannot be downplayed. The teacher-designer of the course and the other small groups help SG-B improve their story and regulate their learning. While the teacher and C4 contribute by correcting it, viewing other stories during the fifth activity inspire SG-B to modify the end of their story by adding a musical element to it.

The perceived presence of the community also seems to be instrumental in generating a feeling of mild competition. Aware of their linguistic limitations, it seems as if SG-B needed to compensate by writing the maximum number of blog posts (appendix 5). Mangenot et Zourou (2005) refer to this state as "emulation" (p. 65) and find in the context of their study that such an attitude may either be considered positively by learners or may provoke moderate frustration. In either case, emulation has been seen to trigger metacognitive strategies (Mangenot & Zourou) as it makes subjects reflect on their own learning and performing strategies and eye their own work critically.

An almost invisible part of the community was the target audience, the primary school class for whom the story was made, as well as their class teacher. An example of this can be found in B1's note on the blog: "We have decided to draw our story, because the story will show to students, so we wanted to do like if it was children who drew them. And we have also tried to make cute drawings."

The situated nature of the module, the fact that the story was to have a target audience, real people who would be using the story seems to have considerably contributed to the enthusiasm and the willingness to work in spite of the time and energy consuming project.

Learner Perception of Participation, Language Learning and Autonomy

As a whole, the project encouraged students to work as autonomously as possible with their chosen group partners. While the guidelines were laid out from the beginning and the teacher earmarked weekly activities to be accomplished, the students were more or less at liberty to modulate their work as per their own convenience. They could take independent decisions as to the content and presentation of the pedagogical material.

Every group without exception seemed to have perceived this "independence" positively. SG-B for instance appreciated the fact that they could choose the characters, genre and theme of the story.

Furthermore, the members of SG-B displayed a certain level of autonomy as they accounted for their difficulties on their group blog and ways in which they overcame them. Mostly, they resorted to doing research online whenever they seemed unsure about something. Participant B3 for instance tried to keep track of the new words she would learn regularly and the different websites she found that helped her learn better. For example, she notes the discovery of a pronunciation dictionary she had found: "I did some searches on Google! There are many websites which propose to improve my English ! One of them is howjsay.com ! (http://www.howjsay.com/) I have only to write the words and I get the pronunciation !" While this type of note-taking may have been for individual reasons, the mere reading of this note may have inspired the other members of the group to consult the website themselves.

This was perhaps also another reason why the focus group revealed a certain level of comfort and confidence with respect to pronunciation. Online dictionaries and translation tools[9] certainly seemed to have been instrumental in correcting words hitherto mispronounced, like

[9] http://www.wordreference.com and Google translation

bear (initially pronounced as *beer*), happy (initially pronounced without the *h*) and panda (initially pronounced as /*pəndə*/). In fact, B2 even corrected B3's pronunciation of the word *bear* during the focus group.

This perceived improvement in pronunciation is however strictly limited to the vocabulary used in the story. Moreover, most of this vocabulary was mentioned by B2, the narrator of the story who was required to make use of them. While subjective conversation suggests the participants' comfort with pronunciation, objective questionnaires paint a different picture. These reveal that although the participants mentioned having worked on their pronunciation, two of them (B1, B3) were not sure whether they had *ipso facto* made any improvement, and B4 didn't seem to know or couldn't decide whether his pronunciation had indeed improved. B2 was the only one who felt certain that she had improved her pronunciation.

On the whole, the data reveals that all four students were globally satisfied with the course content, the proposed project and their own participation. While it was considered to be time-consuming, it also seemed to be worth the effort.

Limits and Conclusion

The present study has been undertaken to comprehend the collective activity of a small group that created a digital story followed by pedagogical material as teaching resources. It has also tried to convey the potential of digital storytelling "as a vehicle for social reflection and personal introspection" (Rodriguez-Illera, 2014, n.p.). In this paper, I have tried to uncover and analyze the actual processes underlining the activity as it unfolds from one stage to another. Analysis of the collective activity reveals that although phases of work may be determined *a priori*, they do not take place in a linear manner. They could, on the contrary, be cyclical in nature wherein one phase or activity can trigger another, which may then result in a modification of the first.

The limits of this study are multiple and rather evident. For the purposes of this paper, results emanating from qualitative analysis have been deliberately chosen. While this type of analysis exposes and describes micro-processes, quantitative data is equally necessary to objectively substantiate results. Moreover, as human activity evolves with the obstructions it meets (Engeström, 2001) and individual objectives can and will be transformed during an activity (Engeström & Escalante, 1996), it is important to document the dynamics of other small groups that participated in this study, each contributing distinctly to the process. As comparison and contrast will pave the way for effective quantification of data, there is a need to explore and detail the collective activity of different types of groups.

Although a lower level language group was chosen for this study, focusing on the unfolding of their activities helped reveal processes that solicited mental functions at a higher level (Wertsch, 1985, as cited in Cappellini, 2014). If group autonomy (or what Mangenot (1996) calls "social autonomy"), is the capacity of a group to manifest itself at a socio-affective, sociocognitive and at an organizational level (Abric, 1996, as cited in Mangenot & Nissen, 2006), the small group studied in this paper can certainly be considered autonomous. As these researchers argue, all groups, including lower language level groups may be able to "take

autonomous decisions revolving around organization" (Mangenot & Nissen, 2006) and successfully complete complex tasks together.

However, the results of this study suggest that the language skills possessed by the members of a group determine, to a great extent, a group's activity and their level of linguistic autonomy. My contention, therefore, is that autonomy in the hands of less accomplished language learners could be a double-edged sword. While they may enjoy the liberating feeling that autonomy brings, they might be unable to fully appreciate the responsibilities and implications it carries. They may demonstrate, for instance, incapacity to recognize when they require guidance and when they can manage without.

Current research globally is trying to explore the relationship between autonomy and self-regulated learning (Murray, 2014) and the extent to which individual self-regulated skills are linked to socially shared regulated skills (Panadero, Kirschner, Järvelä, Malmberg, & Järvenoja, 2015). Preliminary results of the latter study attest to the fact that groups with better individual self-regulators show higher levels of group regulation. However, future research needs to address these issues in order to better understand the variables that could redefine collective learning.

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Appendix A: Modalities of Collective Learning

Table 5

The Modalities of Collective Learning (translated, adapted and reprinted from Mangenot & Dejean-Thircuir, 2009)

Modality	Shared Conception, Negotiation of Meaning	Work in Small Groups	Common Production
Pooling	Not necessary	No	No
Discussion	Yes	No	No
Cooperation	Yes	Yes	Yes (distributed work)
Collaboration	Yes	Yes	Yes (every step is negotiated)

Appendix B: Text Found on the Blog on 11/02/2013 (B1)

White and brown bears live together in mountains, the top is icy and it's also a place where there is grass on the ground. One day, a panda, Romeo, arrived and nobody know where he comes from. He's not like others, and because of his difference, he's rejected. But Lucy and Teddy decide to be nice and stay with him.

At the end, everybody are together and happy

Appendix C: Text Found on Edmodo's Small Group Space on 4/03/2013 & 13/03/2013

1/ On the Icy mountain white and black bears live together....

2/ Lucy is a little white bear and Teddy is a little black bear...

3/ They are friends.

4/ Lucy and Teddy play in the Icy Mountain/

5/ They see a strange little animal.

6/ « Oh, who are you ? » says Teddy

7/ « I am Romeo, the panda » he answers.

8/ « Do you want to play with us ? » asks Lucy.

9/ « Yes ! » answers Romeo.

10/ But the other bears don't like Romeo because he is different : he is black and white !

11/ But Lucy and Teddy want to play with him.

12/ The other bears look at Lucy, Teddy and Romeo.

13/ Finally they find that Romeo is very nice.

14/ So, all the bears play, dance, sing... with Romeo the panda/

15 / And everybody is happy now !

16/ Never reject someone who is different !

Appendix D: Text Found on the Lesson Plan Designed for the Target-teacher

On the Icy mountain white and brown bears live together....

Lucy is a little white bear and Teddy is a little brown bear... They are friends. Lucy and Teddy play on the Icy Mountain. They see a strange little animal.

« Oh, who are you ? » says Teddy

« I am Romeo, the panda » he answers.

« Do you want to play with us ? » asks Lucy.

« Yes ! » answers Romeo.

The other bears doesn't like Romeo because he is different : he is black and white ! But Lucy and Teddy want to play with him. The other bears look at Lucy, Teddy and Romeo.

Finally they find that Romeo is very nice. So, all the bears play, dance, sing... with Romeo the panda ! And everybody is happy now !

The moral is : Never reject someone who is different !

Appendix E: An Example of the Competitive Nature of the Group (Translation)

[702] E: did you read other group blogs as well?

[703] B3: yes, I did, yes, yes, in fact I go often, I go to see whether anyone has surpassed us

[704] E: [*laughs*] why do you say that B3?

[705] B3: I wanted us to have the most number of articles on our blog

[709] B3: well, there is a group that has exactly 14 articles, but as B1 has just added a 15th, well, we've beaten them [*laughs*]

[711] B2: the final article that changed everything [*laughs*]

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