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Methodological challenges for digital ethnographers. Reflecting on teenager practices mediated by mobile devices

Pilar Lacasa
Julián de la Fuente
Laura Méndez

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Abstract: This paper focuses on the challenges digital ethnography faces when analyzing specific mobile-mediated everyday practices that are part of children and youth cultures. The use of digital tools requires transforming research activities from a double perspective. Firstly, because children and adolescent practices are mediated by mobile communication tools that allow them to participate in online environments combined with their everyday offline scenarios. Secondly, the Internet and other digital technologies provide new analytical tools that interact with developmental and literacy theories and even transform the basic principles of traditional methodologies such as ethnography. We explore the methodological challenges taking our own research as an example. We focus on eleven workshops which took place in a community center and more specifically on Nadia, one of the nine-year-old girls who participated on those workshops. Focusing on the use of multimodal discourses we adopt the concepts of internal and external grammars of digital discourses and adopt several units of analysis (from macro to micro perspectives) to explore those.

Keywords: Mobile devices; Multimodal discourses; Teens; Unit of analysis; Digital ethnography.

Resumen: Este artículo aborda los desafíos que enfrenta la etnografía digital al analizar prácticas cotidianas específicas mediadas por dispositivos móviles que son parte de las culturas de niños y jóvenes. El uso de herramientas digitales requiere transformar las actividades de investigación desde una doble perspectiva. En primer lugar, porque las prácticas de comunicación móvil median en las prácticas de niños y adolescentes que les permiten participar en entornos en línea combinados con sus escenarios cotidianos fuera de línea. En segundo lugar, Internet y otras tecnologías digitales proporcionan nuevas herramientas analíticas que interactúan con las teorías del desarrollo y la alfabetización e incluso transforman los principios básicos de las metodologías tradicionales como la etnografía. Exploramos los desafíos metodológicos tomando nuestra propia investigación como ejemplo. Nos enfocamos en once talleres que tuvieron lugar en un centro comunitario y más específicamente en Nadia, una de las niñas de nueve años que participó en esos talleres. Centrándonos en el uso de discursos multimodales, adoptamos los conceptos de las gramáticas internas y externas de los discursos digitales y adoptamos varias unidades de análisis (de macro a micro perspectivas) para explorarlas.

Palabras clave: Dispositivos móviles; Discursos multimodales; Adolescentes; Unidad de análisis; Etnografía digital.

Video resumen / video abstract: https://youtu.be/JD-V4Zkk_2c

Authors

Pilar Lacasa*

Julián de la Fuente*

Laura Méndez**

*Universidad de Alcalá de Henares, España

**UNED, España

correo-e: placasa.uah@gmail.com

Paper

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The starting point...

The use of digital tools requires transforming research activities from a double perspective. Firstly, because children and adolescent practices are mediated by mobile communication tools that allow them to participate in online environments combined with their everyday offline scenarios (Boellstorff, Marcus, & Taylor, 2012; Rogers, 2013). Secondly, the Internet and other digital technologies provide new analytical tools that interact with developmental and literacy theories and even transform the basic principles of traditional methodologies such as ethnography (Jenkins, Ito, & Boyd, 2015).

Recently, this journal published a dialogue between Henry Jenkins and James Gee in which they confronted their conceptions of networked youth practices as participatory cultures and affinity spaces, respectively. While Gee stresses the affordances present in a designed environment, Jenkins emphasizes the ties that occur between members of a fan community (Jenkins, Al Shafei, & Gee, 2018). Both perspectives can be perfectly compatible if they are observed as different planes, individual and collective, of the same unit of analysis (Matusov, 2007, Rogoff, 1995)

This paper focuses on the challenges digital ethnography faces when analysing specific mobile-mediated everyday practices that are part of children and youth cultures. **Figure 1** is an example of some of the situations examined in this presentation, exploring the teens' collective and individual practices.



Figure 1. Collective and individual practices using mobile devices (Madrid, 2015)

A sociocultural approach

More and more studies are committed to qualitative methodologies, especially in the field of new media. Although, it must be recognized that the boom that has been experienced in recent times is justifying the increase in multidisciplinary research halfway between media, education and society studies. (Berger, 2016, Maxwell, 2013). This leads us to seek a methodology for media education, which is not limited to functional literacy, but is also capable of fostering practices and discourses of the sociocultural context of young people. Which brings us back to cultural psychology and the tradition of cognitive learning models such as Lev Vygotsky's (Cole, 2003).

Our research is marked by practices in new media and the discourses associated with its context, but we also want to focus the study on a population especially sensitive to these changes, that is, youth. In this sense, the concept of practice (Bourdieu, 1977) is key since it allows us both to observe the process and to understand the results within the context. Numerous social scientists define these practices as models of behaviour linked to activities, objects and cultural uses (De Meulenaere and De Grove 2016, Dorsten and Hotchkiss 2014, Jensen and Laurie 2016) Therefore, an empirical investigation based on these practices should include, according to Meulenaere and Grove (2016, p.214): the study of the procedures by which it is carried out, the understanding of the meaning it has for the participants and the identity that is established with the material results. Only if we take these factors into account can we interpret the true meaning of the practices in new media.

Thus, our object of study would be the practices that youth develop within a community of which researchers are part. According to Susan Gair and Ariella Van Luyn (2017), this context can be achieved through the development of creative activities through new media and, at the same time, in physical contexts, both shared by researchers. In our case, we decided to generate these communities of practice through the achievement of digital art workshops with youth in participatory contexts. The objective was to take advantage of these contexts to approach the practices of young people in social networks from an all-encompassing perspective. This is in addition to promoting creativity, committing ourselves to facilitate media literacy and promote social participation through new media.

We explore the methodological challenges taking our own research (Lacasa, de-la-Fuente, & Martín-Garrido, 2016) as an example. We focus on eleven workshops which took place in a community centre oriented to propose design models to help create interactive digital environments and which provide new forms of human knowledge creation. The task is to analyse human practices by combining multiple written and visual sources of online and offline data, organised according to several levels of analysis: individuals, collective practices during the workshop and cultural dimensions of activities (Correa-Chavez, Mejia Arauz, & Rogoff, 2015; Hjorth, Horst, Galloway, & Bell, 2017).

Mobile culture

Today, mobile tools transform everyday life. We are interested in their use among young people, who need to control multimodal communication tools beyond reading and writing, specific skills that shape the human mind and allow them to be considered as 'literate'. It is a cliché that mobile technology is supported by certain codes in which image and sound prevail, but it's also something that should be taken into account. Communicating effectively, using multiple codes, is something that can be learned, and there is no end to this path as progress is always possible.

Moreover, this paper associates mobile cultures to participation in the network, something that goes beyond individualistic approaches in art, knowledge construction and the use of technology. These processes need to be contextualised media communities, not so much to establish absolute counter positions between individual and collective, but rather to show the differences appearing between scenarios that are placed through a continuous line. In one of its extremes we have personal interaction, mediated by affection; in the other, the person is replaced by the role he or she plays, associated with his/her activities.

According to Manuel Castells and his collaborators (Castells, Ardèvol, Qiu, & Sey, 2007) there is a youth culture defined by their participation in the network through mobile communication tools as a form of expression and reinforcement. From there, communities are sometimes built. For instance, relationships between peers mediated by mobile technology generate forms of collaboration. Generally speaking, we associate culture with certain practices mediated by tools, places and also values systems that facilitate community participation. Mobile devices, both phones and tablets, watches and digital glasses are cultural artefacts as much as they are consoles or cameras. Goggin (2006) pointed out a few years ago that the meaning attributed to these tools, collectively constructed, is a precondition for any social practice.

We will explore this phenomenon considering young people's creations appearing on social networks such as Instagram, Vine or Vimeo and produced with mobile phones (or even those which were stored on the mobile tools without being published) as a starting point. We will examine how these creations open a path for participation in social networks and communities. Considering some examples, we will interpret the youth culture associated with these devices, looking at both practices, contents and contexts connected to them from individual and collective perspectives.

Contexts mediated by mobile devices

The tools that people use orient and transform contexts and practices. Bentley & Barrett (2012) analyse the design of mobile tools with a clear purpose: to make the experiences they allow to contribute to constructing better friends, neighbours or citizens. Let's see how this refers to the concept of mobile experiences: "To us, a mobile experience is everything that happens to a person once they learn about a new application. (...) Building an experience means building systems that support authentic, real-world interactions: interactions with people and places that change the way users experience a place and time." (Bentley y Barrett, 2012, pos. 50).

In our opinion, however, something else is needed. Researchers must listen and understand the participants' voices, meaningful practices within the framework of particular communities. Same as in other studies (e.g., Rothenbuhler & Coman, 2005; Horst & Miller, 2006), we explore situations of everyday life related to media interpretations. In this sense, we must consider some characteristics about the so-called Mobile-Centric Society 'MSC': "1) multimodality, 2) convergence, 3) creating & sharing 4) fluid communities of interest and finally, 5) distributed knowledge" (González-Patiño & Esteban-Guitart, 2014, p. 70).

We will look at how to build meanings when participants use multiple modes, understood as expressive forms, thus adopting a multimodal approach. Following Gee (2014), we consider that modes relate to the materiality of signs such as gesture, speech, static or moving images, writing, sound and music. All of them are combined in the texts, understood as the result of a semiotic design, as a process of composition and production. The text is an entity full of meanings that multimodal analysis must discover. Kress (2012) proposes several essential topics to be explored by the analyst:

- The relationships between the modes so that a coherent text is generated.
- The rhetorical processes facilitating the interpretation of multimodal texts.
- Understanding communicative interaction and the peculiarity of the texts.
- The content of these discourses, generated in a process of constructing meanings from a social context.
- What brings about learning processes and social life.

In short, any analyst adopting this perspective will be able to consider all five principles. New questions will arise from them in relation to the objectives and the specific questions posed by the research. In our case, this analysis is carried out considering three modes as expressive forms: photograph, video and written text.

But there is something else – We must explore the construction of meanings considering the rules that control discourses. Any piece of them, oral, written or audio-visual, is composed of a set of "grammatical clues" that help the listener or the reader in a set of tasks, intertwined with the meaning's representations. This process allows to move from discourse to context and vice versa. From this perspective, in order to analyse practices mediated by digital technology Gee (2007) used a concept that is now especially useful, the notion of **grammar** understood as a system of rules that gives meaning to the elements it includes. This author speaks of grammars to understand how video games and their social uses associated with cultural systems. In this research, we relate the notion of grammar to the mobile devices we use as communication tools. Same as James Gee, we talk about two kinds of grammar:

- First, *external grammar*, referring to principles and patterns, indicating what is usual in an external domain to the elements that are part of the system. In our research it is a social environment, including mobile phones considered from a double perspective: technological devices and the people who use them to communicate, either individually or in groups.
- Second, *internal grammar*, related to a set of principles and patterns that delimit particular context. If we relate it to the principles of a mobile phone, we talk about interacting and using certain types of discourse. We focus on the relationships of the particular modes that young

people use to understand the world and to express or communicate in online or offline worlds mediated by digital technologies.

Starting from these ideas, we want to show how to approach from an innovative methodological perspective, the analysis of teens' discourses mediated by digital technology and the way in which they combine *expressive and communicative modes for constructing meanings*, and we will focus on *the internal and external grammars organizing them*.

Aims

From the methodological approach adopted, three main goals orient our research:

- Analyzing adolescent practices when handling digital mobile devices in everyday life.
- Exploring how the digital tools mediating these practices allow to establish interactions between online and offline environments.
- Explaining how these ubiquitous tools, used in specific contexts, allow for the construction of meanings immersed in digital productions.

Context and participants

We met with children and young people aged between 8 and 14 and worked with them at workshops designed for educational and entertainment purposes. A series of workshops were organized at the Telefónica Flagship Store in Madrid, an open technological space where people can buy mobile devices, learn how to use them and explore other cultural spaces dedicated to innovative artistic, creative and technological exhibitions.

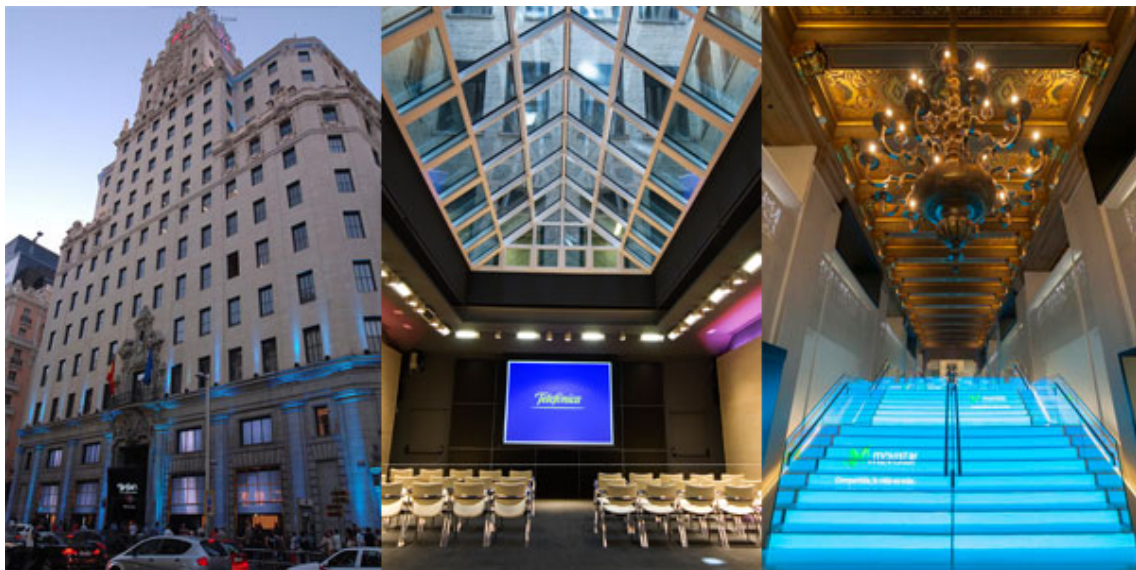


Figure 2. Telefónica Flagship Store (Madrid, October 2014)

The workshops were at the core of this experience which became a specific cultural context, allowing the children to interact with the research team by switching roles as expert and novice users of the hardware and software that support communication in real and virtual life. The workshops were an exploratory space for cooperation between participants: children, young people, adults, Telefónica staff and a multidisciplinary research team (Lacasa, de-la-Fuente, & Martín-Garrido, 2016a, 2016b).

The maximum number of attendees was 28. The sessions were held on Sunday mornings and lasted two hours. The team from the University of Alcalá comprised 12 to 15 people. Researchers from the Spanish distance learning university, UNED, and Universidad Complutense de Madrid were also present. The team was interdisciplinary and both senior and junior researchers took part.

Being in touch with young people in the workshops allowed us to focus on individual teens. This was the case of Nadia, a nine-year-old girl whose expressive and communicative practices, mediated by digital instruments, will be examined in this presentation.

The workshops as a collective space for learning

The workshops were organized to generate and interpret digital productions involving both photography and videos created by young people using mobile applications and social networks. Our aim is to encourage reflection and awareness of the discourses used, in a 'deep learning design' (Gee & Esteban-Guitart, 2019). We looked for young people to control multiple discourses, both in communicative and expressive contexts. Unlike what tends to happen at school, we considered people both as recipients of messages and creators of knowledge. **Figure 3** includes phases and activities that took place during the workshops.

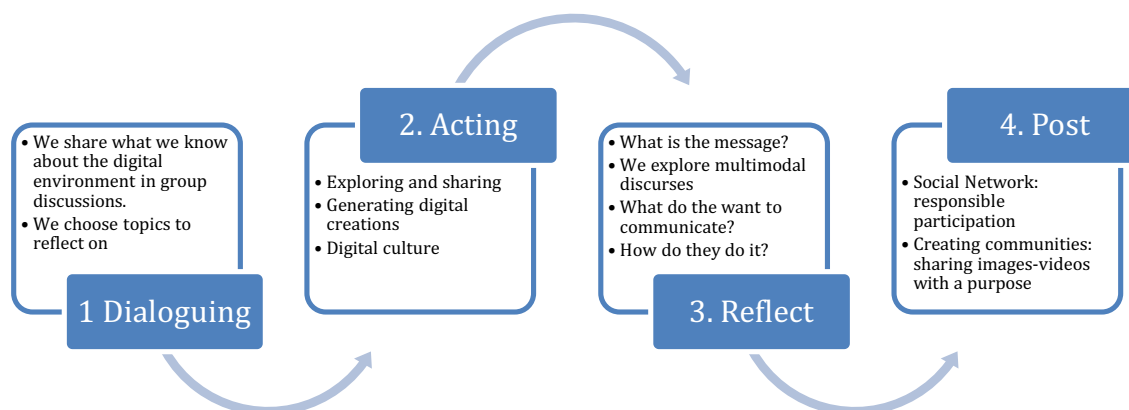


Figure 3. Workshop stages for every session (Lacasa et al., 2016)

Considering the data collection, all sessions were recorded with 3 professional cameras, photographs were taken and narrative summaries were drafted for each session and by each member of the research team. **Table 1** includes the collected data during the workshops.

Table 1. Sessions, participants and productions (Lacasa et al., 2016b)

Session	Topic	Participants	Team Photos	Children's Photos	Children's Videos	Team Clips	Team Recordings
0	Pilot	14	296	497	5	38	4:08:30
S1	Actors in social networks	11	734	523	4	56	6:35:51
S2	We work with apps	20	586	813	44	47	6:00:00
S3	Audiovisual discourses	15	153	19	63	10	4:51:19
S4	Professional as models?	16	195	64	95	18	6:23:24
S5	Sound	14	272	30	152	31	5:24:23
TOTAL		90	2235	1946	363	200	33:38:00

Nadia: A case study

In this presentation, we will focus particularly on Nadia, one of the participants. This nine-year-old girl had an iPad when she first attended the workshop, but was not present in any social network. She is the third of four sisters and the two eldest, aged eleven and thirteen, were very active participants. After attending the workshop, Nadia became active on *Instagram*. She now uses a private account on this network with over 150 followers and follows an almost identical number of people. She's also become a regular user of *Musical.ly*¹. In this network she has 173 followers, she follows 41 people and has liked posts 1,795 times. She also uses *Whatsapp* and *Snapchat*. Throughout this chapter we will explore her relationships with photography and video as ubiquitous phenomena, considering her online and offline life from a methodological perspective. We will show how some of her activities can be understood as practices mediated by ubiquitous instruments which contribute to the construction of meanings.

We will show Nadia's photographs in two contexts: the workshop (**Figure 4**) and her daily life outside the educational environment (**Figure 5**). There are clear differences between them, which focus on the way Nadia contemplates the environment. Both situations give an idea of how the context, the discourse's external grammars, help to configure her representations.

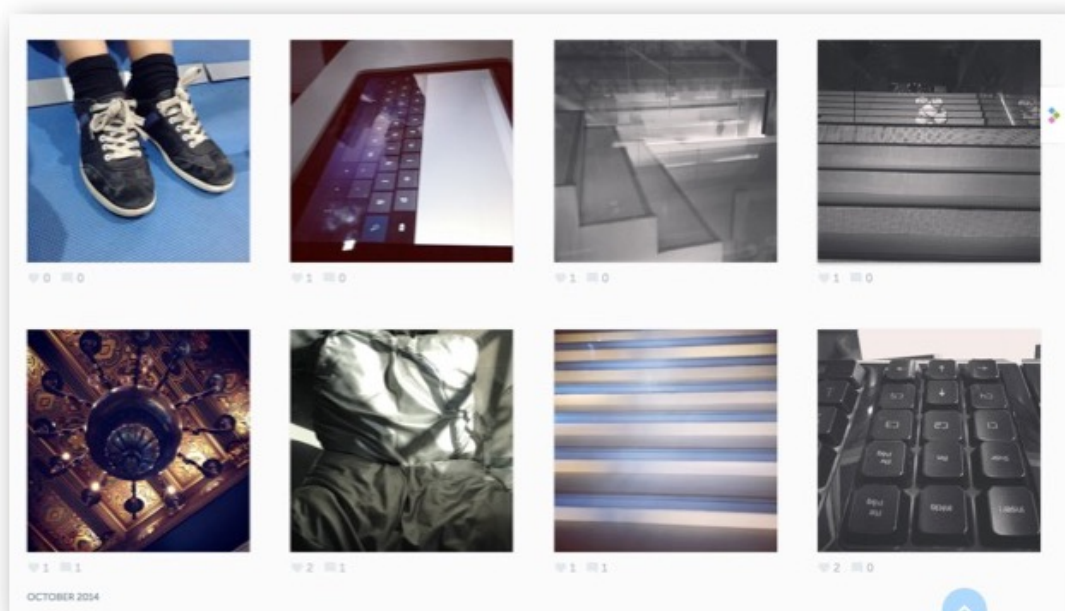


Figure 4. Nadia uploaded photos to *Instagram* as a participant (*Telefónica's Flagship Store*, October, 2014)

The photographs Nadia made in the workshop are close-ups. She's concerned with the geometric disposition of the elements and focuses on objects and spaces rather than people. She concentrates on specific elements through the building and the tools. From her photographs, we discover what the meaning attributed to the workshop is, populated by digital objects that relate to the activities of the people who participate in it, even if they are not present directly. In addition to this, she shared them through *Instagram*. These photographs contrast with what we discovered on her iPhone and where her attention, or that of her friends', is focused on her everyday life.

¹According to their own website, this is a 'global video community': <http://musical.ly/>

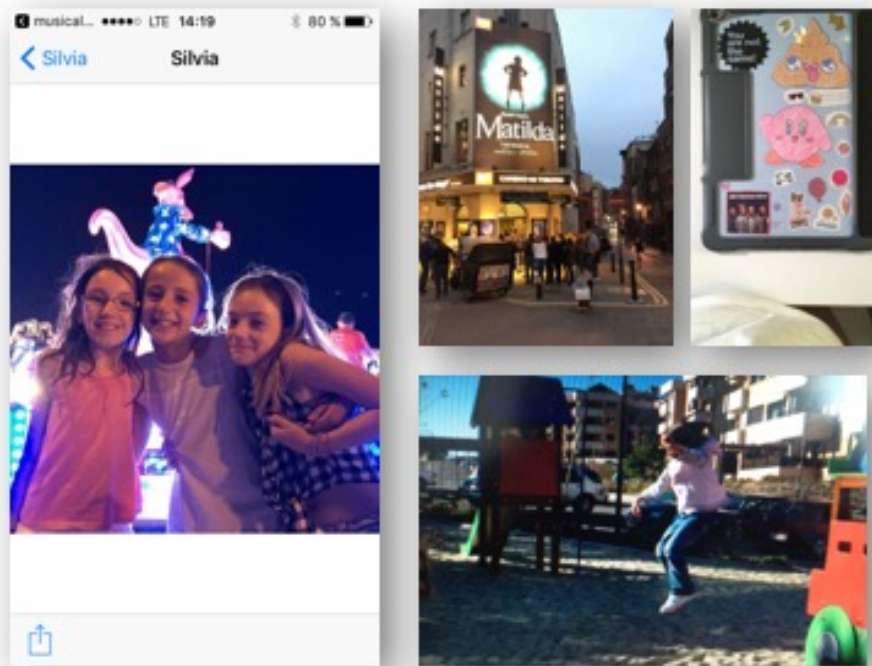


Figure 5. Observing Nadia's everyday life (2015)

An example of Nadia's everyday life appears in **Figure 5**. All the pictures have been taken from Nadia's phone. We can interpret them in relation to her practices and not so much to the content. They suggest several reflections: (1) Only one of them was published on a social network; (2) recording the screens and editing them is a regular practice for the girl, and (3) it is not always the same person who uses the mobile, because in addition to selfies, Nadia appears in the image, for example, jumping on a playground. At the end of the day, photography, understood as a practice, implies exchange and interaction.

Interpreting the data: The unit of analysis

Collecting data is perhaps easier than reconstructing and interpreting them. Data are taken in the field and progressively rebuilt. Interpreting data is the most complex process in ethnographic research, since all of them must be considered selectively on the basis of the specific questions that have been posed throughout the study. The interpretation process depends on the theoretical framework adopted by the research team, and it should begin as soon as possible, therefore it is necessary to specify a unit of analysis. We define it in relation to the focus, which can be more or less broad, but always a unit of meaning by itself. The concept comes from sociocultural psychology and that is where we find the light to understand it. Let's look at a definition by Matusov (2007, p. 310):

In our view, an entirely different form of analysis... relies on the partitioning of the complex whole into units. In contrast to the term 'element,' the term 'unit' designates a product of analysis that possesses all the basic characteristics of the whole. The unit is a vital and irreducible part of the whole... In precisely the same sense, the living cell is the real unit of biological analysis because it preserves the basic characteristics of life that are inherent in the living organism.

As we can see, it is about looking for a unit that is a whole by itself, where the parties acquire meaning depending on the whole in which they are included, but which in turn has meaning for itself. Other studies from different methodological traditions also define it as follows:

One of the most important ideas in a research project is the unit of analysis. The unit of analysis is the major entity that you are analysing in your study. For instance, any of the following could be a unit of analysis in a study: individuals, groups, artefacts (books, photos, newspapers), geographical units (town,

census tract, state), social interactions (dyadic relations, divorces, arrests). Why is it called the 'unit of analysis' and not something else (like, the unit of sampling)? Because it is the analysis you do in your study that determines what the unit is. (Trochim, Donnelly, & Arora, 2016, p. 21)

That unit of analysis can be specified at different levels, even embedded into one another. Our methodological challenge is to define these units considering the internal and external grammars, supporting multimodal discourse. Relationships among the elements to achieve coherence can be related with the community and the situation where discourses generated it. We will show it in three levels, depending on the unit of analysis (Lacasa, Martínez-Borda, & Méndez, 2013).

- The first level relates to activities in a specific cultural context, for instance, the social networks or the workshops where young people learn and teach digital literacies. This type of analysis units are the ones requested by socio-cultural psychology (Rogoff, 2012). In this research, the examples we will discuss relate to how Nadia's productions make sense in specific cultural contexts such as fan communities or certain social networks, which inspire both the content, the aesthetics and the coherence of the productions.
- The second level concentrates on the specific activities' circumstances bound by space and time. Ecological perspectives orienting the analysis of youth activities adopt this approach (Morris, 1998). In our work, we will look at how the internal and external grammars that organise Nadia's multimodal productions relate to meanings that arise from the teens' friendship contexts. We will explore how the productions published on Instagram are addressed to a specific target audience, one of Nadia's friend in her birthday.
- A third level, micro-analytical in relation to the construction of meaning, focuses on the minimum significant elements within a multimodal system (Gee, 2014). Considering an example, we focus on written discourse used in WhatsApp when there are communicative exchanges between teens.

Finally, we need to point out that specific commercial software was used to organize and analyze the photo and video productions, understood from the perspective of a multimodal discourse analysis. The photos are screenshots from Lightroom (Adobe) and Final Cut Pro (Apple), which were used for the organization, analysis and interpretation of the data. Specific software (NVivo) was introduced for the discourse analysis process. The software's main screens appear in **Figure 6**.

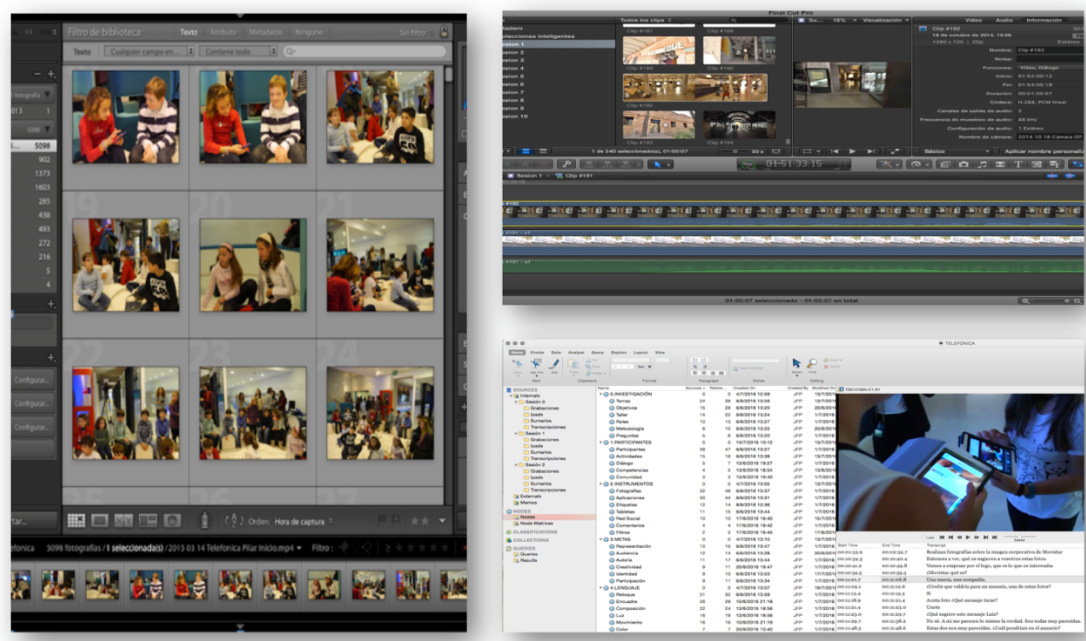


Figure 6. Data analysis: using commercial and CAQDAS software

Some results

From a methodological perspective, we focus on the three levels of analysis mentioned above considering Nadia's practices. We will explore how internal and external grammars interact when constructing and interpreting coherent multimodal discourses.

Multimodal discourses in cultural context

We understand culture as a set of practices, codes, and representations (Hammersley & Atkinson, 2007; Clifford & Marcus, 1986) that relate to the external grammars of discourse. In our research, they arise from online or offline conversations. They can be understood from the model of Henry Jenkins when he talks about *participatory culture* and associates it, for example, to fan communities (Jenkins, 1992/2013; Jenkins, Ito, & Boyd, 2015).

Other authors focus on culture in relation to the ideal or material objects that people handle. From this point of view, Cole & Amo (2003) understand human practices as immersed in particular cultural contexts transformed through an interactive adaptation process mediated by instruments. Different studies refer to material culture (Tilley, Keane, Rowlands, Spyer, & Kuechler-Fogden, 2006) or to digital materiality (Pink, Ardevol, & Lanzeni, 2016).

Again, Nadia's practices will be an example to deepen the analyst's perspective. We will consider two types of productions, photographs and videos, interpreted from the framework of the culture in which they have been generated. We want to show how external grammars, that is, the fact of belonging to a certain community or of using certain tools, contribute to generate the meaning of the production and the relations between their elements. In some way, coherence in cultural contexts is supported by the interaction between internal and external grammars.

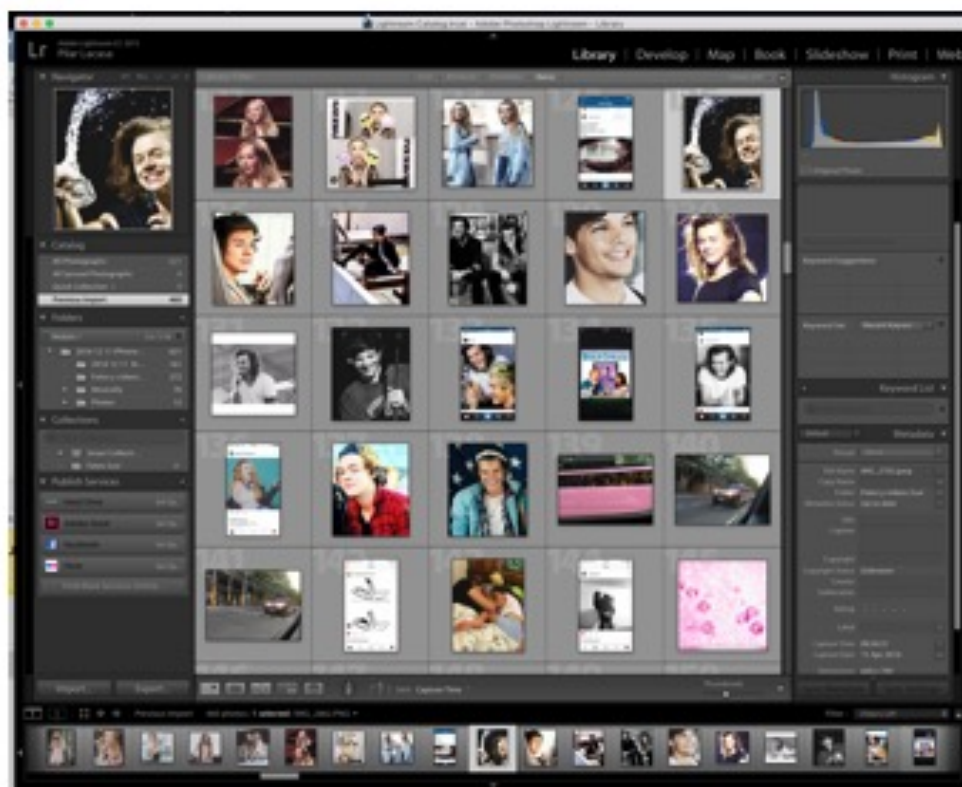


Figure 7. Nadia as consumer and producer of multimodal discourses in a fan community (2014-2017)

Figure 7 includes pictures and screenshots from Nadia's mobile phone. They have been organised by the researcher in the *Lighthouse* database. We focus on the screenshots stored by Nadia on the same day. The images' content mostly relates to the *One Direction* fan community. This is a well-known musical group among teens of which Nadia claims to be a fan. We interpret this practice, related to the fact of downloading idols images from the Internet and storing them in the mobile phone, as a sign of the fact that Nadia is immersed in a certain form of culture. Shared values and practices, agglutinated around the celebrity, relate to the external grammars of the discourse. Moreover, the elements included in each photograph arise from the context of a specific aesthetic generated in the fan community. This shows the interaction between external and internal grammars that organise Nadia's discourses.

Similar processes are present on Nadia's video. **Figure 8** includes some frames of the clip that Nadia uploaded to *Musical.ly*, a mobile app to produce video clips. According to their official website, it promotes creation through participation in the network. Productions are limited to 15 seconds. Creators record themselves or other people singing, dancing and even acting in karaoke format. Moreover, participants also become "muses" and inspire other users. Competitiveness is favoured, looking for the best videos that will inspire other users. The network allows the use of hashtags, facilitating the ranking of the most popular inspiring songs and the most recent videos.

Let's focus on an example of how Nadia uses the app by using a multimodal discourse. Considering the external grammars, the whole production has the song "*It's a hard-knock life*" from the musical *Annie*, represented on Broadway in 1977 and Mexico in 2015, as a motif. We are in front of an excellent example of popular culture and how this could be a model for teen productions. *Annie* is about an orphan girl and her adventures. In the case of Nadia's production, considering the frames and what she told us in a phone interview, she wanted to do a performance related to the content of the song. We could talk about the girl moving in a multimodal context since she produced the video clip considering information from several sources, external grammars that support the creation and coherence of discourse related to its internal grammars.

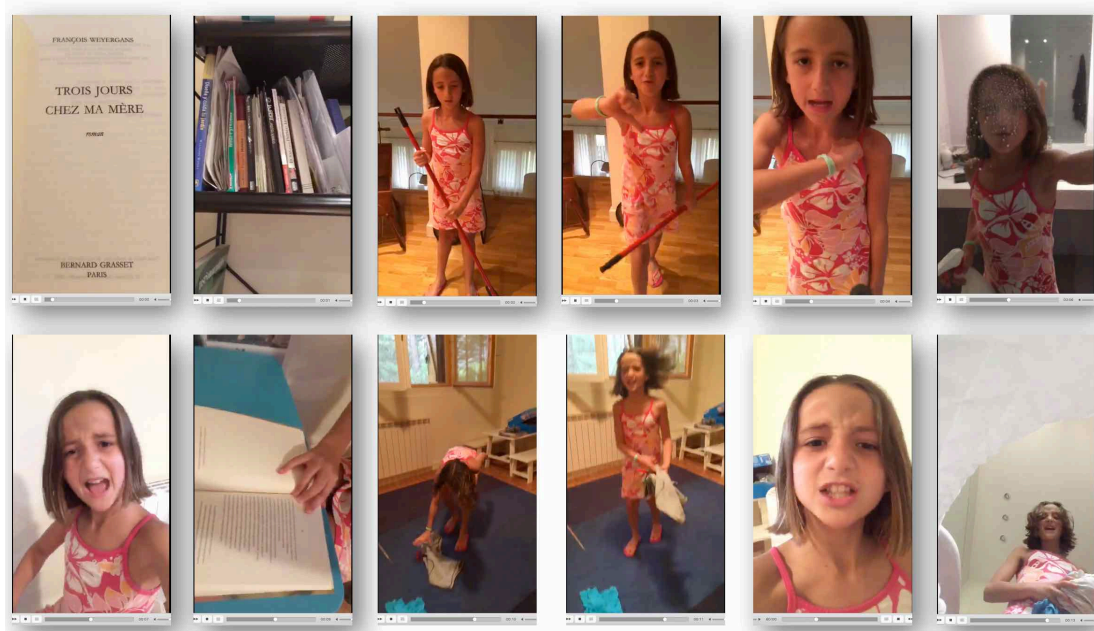


Figure 8. Nadia's production on Musica.ly

From this musical, Nadia gives us her perspective of everyday life (external grammars) by using a multimodal discourse. The researchers must explore, analyse and interpret it, looking for coherence and internal grammars. It is about looking for the relationships between its elements when it comes to building meaning. Focusing on the content, the video clip shows two types of concerns, both related to school and

home. She uses objects for referring to the two contexts: papers and books for the school and clothes on the floor for home.

At that time, the conversations with Nadia allowed us to interpret the process by which she created the video clip, considering the external and internal grammars that allowed her to establish relations between the elements. The accessibility of new media for any user, often through mobile phones or tablets, allows them to be present in particular cultural contexts, providing information that a few years ago would have gone unnoticed. Being a participant in these scenarios generates particular conditions to generate meaning discourses supported by internal grammars, reinforced by cultural scenarios.

Multimodal discourses and contextual practices

So far we talked about culture, but now we will move on to the immediate context, determined by a specific time and space (Bronfenbrenner & Morris, 1998). From this perspective, we consider social practices as an intersubjective tool that provides the foundation of meaning. Giddens (1979) referred to this analytical units years ago as the basic components of the social system. For him, it was about overcoming the dichotomy between the individual and the social. Bourdieu (1972) also shared this view, looking to go beyond the notion of context and consider practices as something mechanical. He introduced the concept of habit as a mediation tool linked to the person's history.

Looking for an example of these social practices, we focus once more on Nadia's practices, interacting with her mobile phone. Also, social relations are mediated by digital tools. **Figure 9** shows Nadia's iPhone screenshots as they appear on *iCloud* on April 16, 2017. At that time, she was looking to edit a video clip as a birthday present for one of her friends. The clip was uploaded to Instagram the following day.

Focusing on the screenshots appearing on **Figure 9**, we observe that Nadia applied various filters to the images. She used Snapchat, an app to chat where the visual prevails. There, messages disappear within seconds. When we asked Nadia about the process through which she produced her clip, she explained that she usually chats with her friend through this application. The images correspond to screenshots she had stored in her mobile while talking to her friend.

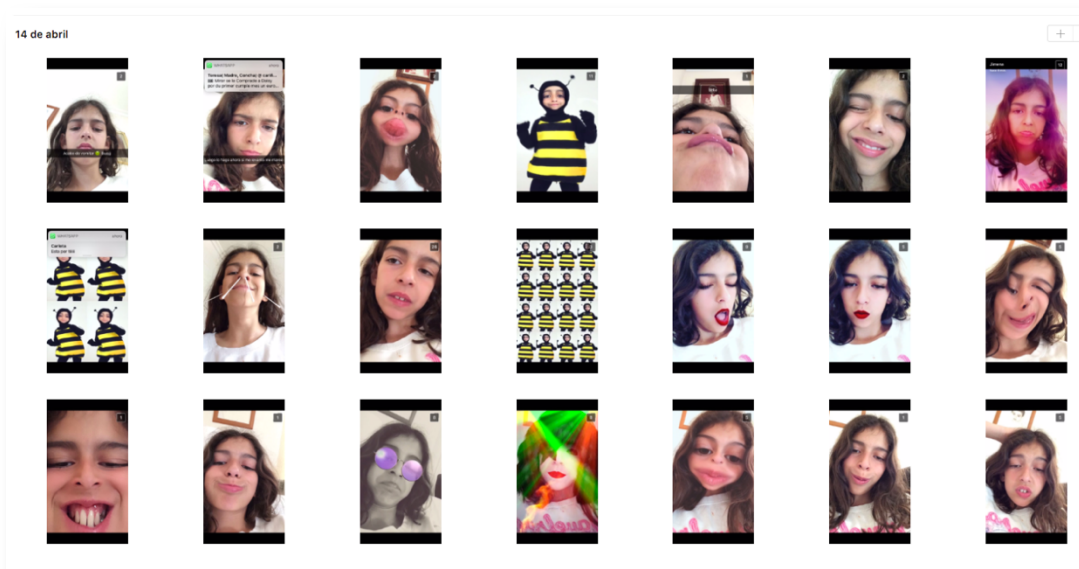


Figure 9. Nadia's screenshots on *iCloud* using *Snapchat* (2017)

Focusing on the multimodal discourses handled by Nadia, the external grammars relate, on the one hand, to her friendships and, on the other, to the apps mediating these relationships when using mobile app SnapChat. At the moment, Nadia is defining elements, which have sense for themselves, and which little by little will relate to each other to create the video clip. In that sense, both the screenshots and the video

clip are meaningful units, organized according to internal grammars, dependent in turn of the app conditions (the external grammars).

Her video clip was created using *Flipagram*, a mobile video editor that allows you to quickly combine photos, videos, text and special effects and upload them immediately to *Instagram*. **Figure 10** includes the video frames. We have already mentioned that she was using multimodal discourses where meaning grows from the information that comes from multiple sources by using multiple tools. At that time she was using both *Snapchat*, *Flipagram* and *Instagram*.

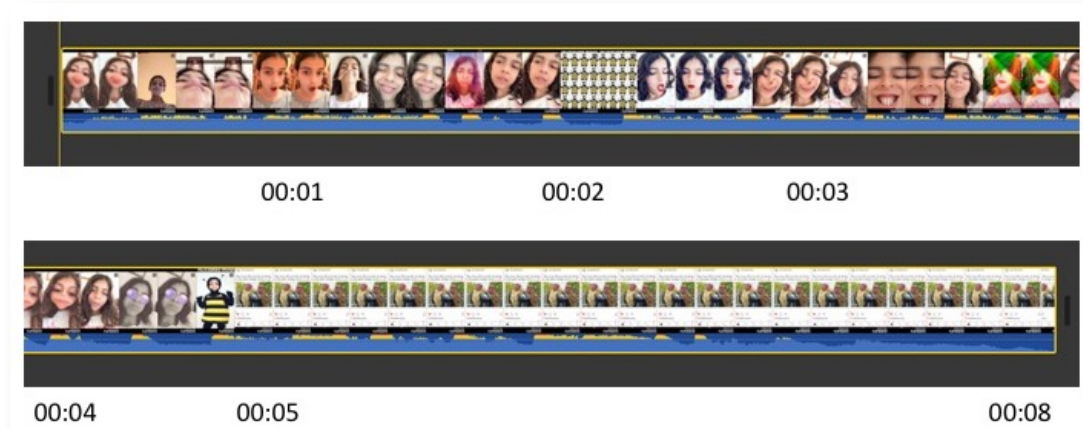


Figure 10. Nadia congratulates her friend through *Instagram* (2017)

Figure 10 shows the 8-second video clip as shown in the *Final Cut* timeline. As mentioned before, this is a professional video editing software that researchers use for analysis. First, and observing the video clip timeline, there is a similar distribution between all the frames except in the last one, which repeats for three seconds. We have already pointed out that when Nadia explained her edition process, she told us that it was a birthday present for one of her friends. This conversation helped us to understand that the last frame includes written text: *"I am very fortunate to have a great friend like you"*. She explained that she gave it more time because it would be necessary in order to be able to read it. Moreover, that image had been taken from another *Instagram* account, @textodenovias, which includes texts, images and tags to dedicate to your best friends. This last data was discovered by the researcher on Google, which could be the source of knowledge that inspired Nadia. Once again, the interaction between external and internal grammars needs to be mentioned.

All this, from a methodological point of view, shows us the need to define a specific unit of analysis, in this case a juvenile practice associated with the use of photography and video online, in the context of a personal interaction. Nadia's production brings us closer to specific social situations, in this case a friendship relationship mediated by digital tools. On top of analysing the video, we've had personal interviews with Nadia and explored the process of content generation. Our conversations with Nadia allowed us to interpret this process considering how external (the friendship interaction), and internal grammars (relationships among modes) interact to generate the meaning construction in communication situations mediated by digital tools.

Microanalysis is traditionally related to the presence of time in specific situations. It is a matter of paying attention to the minimum units of meaning (Gibbs, 2014). Especially interesting are the contributions of Maxwell and Chmiel (2014) when they approached the topic:

Contiguity-based analytic strategies are not limited to linguistic or textual materials. What (Erickson, 1992: 204) called 'ethnographic microanalysis of interaction' involves the detailed description of local interaction processes, and analysis of how these processes are organized. The analytic process 'begins by considering whole events, continues by analytically decomposing them into smaller fragments, and then

concludes by recomposing them into wholes. ... [This process] returns them to a level of sequentially connected social action' (1992, p. 217) (Maxwell & Chmiel, 2014, p. 28).

Therefore, it is not a question of segmenting events and then categorizing these segments to create a structure of similarities and differences between situations or individuals; we need to segment the data and then connect these segments by following a certain order within a real context. We will analyze the texts on **Figure 11**, which will be transcribed later on, by following James Gee's discourse analysis model (Gee, 2014). Again, we will show the interactions between external and internal grammars contributing to generate meaning when multimodal discourses are used.

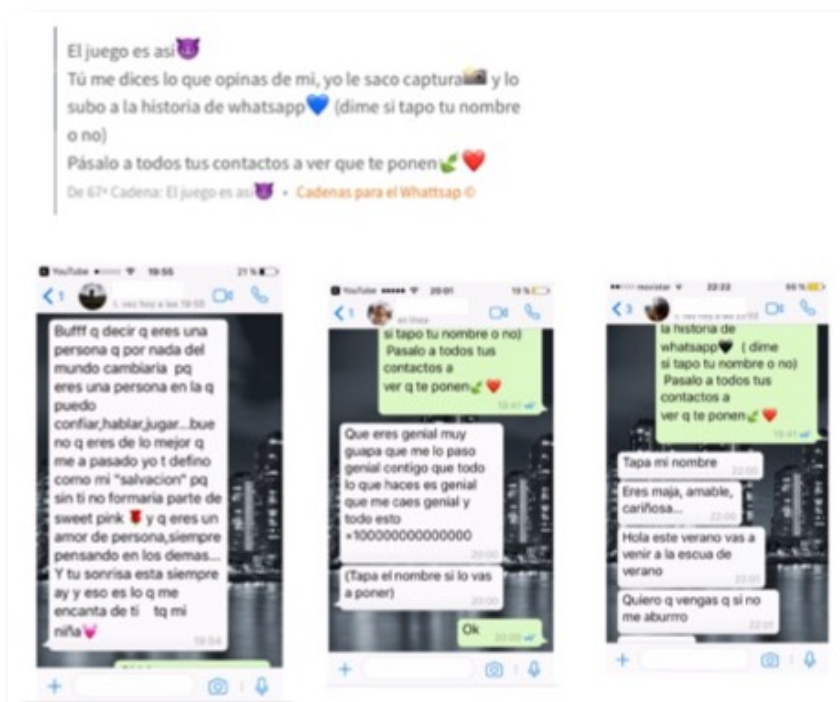


Figure 11. Towards a written text analysis in digital media (2017)

Let's see how to conduct the microanalysis. To begin with, we should observe how the transcription has been done, which should be easy in this case as it is a short text in line with what is usually found on social media.

Nadia

El juego es así Tu me dices lo que opinas de mí, yo le saco captura y lo subo a la historia de Whatsapp (dime si tapo tu nombre o no)	The game goes like this: You tell me what you think of me, I take a capture and I upload it to the WhatsApp story (tell me if you want me to cover your name).
Pásalo a todos tus contactos a ver que te ponen	Pass it to all your contacts to see what they think.

Friend

Buff q decir q eres una persona q por nada del mundo cambiaría pq eres una persona en la que puedo confiar, hablar, jugar, bueno q eres lo mejor q me ha pasado yo te defino como mi salvación pq sin ti no formaría parte del swittpink y que eres un amor de persona, siempre pensando en los demás ... y tu sonrisa está siempre ay y eso es lo que me encanta de ti tq mi niña	Well, what can I say, you're someone I wouldn't change for the world because you are someone I can trust, talk to, play with... You're the best that's ever happened to me, I'd describe you as my salvation coz without you I wouldn't be part of the SwittPink and you are lovely, always thinking of others... And your smile is always there and that's what I love about you, my girl.
Que eres genial muy guapa que me lo paso genial contigo que todo lo que haces es genial que me caes genial y todo eso	You are great, so beautiful, I always have a great time with you, everything you do is great, I love you and all that.

X1000000000000	X1000000000000
(Tapa mi nombre si lo vas a poner)	(Cover my name if you're going to put it)
Tapa mi nombre	Cover my name.
Eresmaja, amable, cariñosa...	You are kind, sweet, affectionate...
Hola este verano vas a venir a la escuela de verano	Hi, you coming to summer school this summer?
Quiero que vengas que si no me aburro	I want you to come, otherwise I'll get bored.

Fragment 1. Written discourse appearing on WhatsApp

First of all, we need to define the discourse units. The text acquires its meaning in the context of a *string of expressions*, a sequence, used somehow as a game, easy to find by running a simple Google search. With regard to the texts included on **Figure 9**, we found four separate blocks of information. In this case, they appear on several conversation screens and we can see that they have been divided into *stanzas*, each of them representing a thematic unit and containing a block of information. What we want to highlight is that when we focus on the stanza, we achieve a global perspective of the content.

Following Gee (2014), we will refer to some relevant dimensions in this work to conduct an analysis of the discourse. This will allow us to establish relationships between the internal and external grammars, considered as supports in the generation of meaning:

- If we look at the internal grammars, we must mention the relationships between the statements. Here we must point out, for example, that girls write as they speak. This fact explains the absence of punctuation marks, commas and full stops in the first blocks of sentences.
- Looking at the activity as such, the task being carried out, we found that it is a social game, a specific dimension of practice. The girls refer to the rules: forwarding the message to other people, but deleting the name that identifies the author. We can therefore allude to the awareness that the girls have generated of the internal grammars, the relationships among sentences, which are in turn conditioned by the external grammars, that is, the text present in a social network.
- Finally, if we pay attention to external grammars, we set some socio-cultural dimensions that support the production of this types of discourse. If something is clear in these fragments is the kind of interaction that exists among the girls. We are faced with what has traditionally been considered as relationships between peers. For example, their expressions would be different if there were adults present. At the end of the day, the use of specific discourses is organised by the social rules prevailing in Western cultures.

In short, what we wanted to show through this example is to what extent meanings are linked to social situations, defined by culture (external grammars) and the relationships between the discourses (internal grammars). In addition to this, we should highlight how the principles of a micro-analysis proposed by James Gee (2014) in relation to oral and written discourse can be applied in relation to the multimodal communication strategies used by young people.

Brief conclusion

Finally, and as a brief conclusion, we will focus on the five methodological challenges proposed by Hammersley & Atkinson (2007) for classical ethnography. Exploring the use of mobile devices by young people we reconsider these defies: First, the fact of *working in everyday contexts*, both online and offline, places how they use multimodal discourses at the heart of the research. Second, we must consider a *range of sources when young people use mobile devices*, particularly those depending on the social networks where they participate. Third, since ethnographers are involved in *unstructured data collection*, they must find theoretical models to approach digital and multimodal discourses. The concepts of internal and external grammars, as proposed by James Gee, were a useful starting point. Fourth, when *interpreting the meanings that people build and share*, we need to go beyond oral and written discourses. Finally, the fact of defining *several levels of analysis* guide the research perspective, allowing us to move from macro to micro genetics approaches.

Assuming these changes, in this work we wanted to show a different approach to classical methodological perspectives, which no longer offer an answer to researchers interested in understanding new youth practices mediated by mobile technology. These new perspectives and the changes that have meant, has facilitated to approach the phenomenon studied from different levels of depth. This methodological approach has allowed us a deep understanding of the new cultural contexts of literacy, as well as the ecology that characterizes the specific activities that young people carry out individually and collectively. At the same time, we consider it necessary to examine how these young people construct the meanings and incorporate forms of communication typical of the multi-modal systems in which they are immersed.

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