6 A Mediated Discourse Analysis (MDA) approach to multimodal data

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1.   Introduction

Just as research in language learning is moving beyond the four walls of the classroom, there is a growing awareness that language use (and simultaneous learning) takes place in increasingly complex and interconnected ways, in particular through the use of technology. "In the globalized era, transnational connections are thus increasingly 'taken to new levels' and 'shaped in new forms'" (Tarrow, 2005, p. xiii). As the catchphrase of 'global citizen' becomes entrenched in *vox populi*, there is now more recognition of the need for engaged and informed individuals who are not only traditionally literate, but adept in a new, systemic literacy (Seely Brown, 2008, p. xi). This is also what Kramsch (2006, p. 251) has called "symbolic competence" appropriate for today's "knowledge society" (see the so-called 'Paris Declaration', 2014, by the coalition GAPMIL). Kramsch (2006) uses the term symbolic competence to refer to a rather sophisticated ability to manipulate symbolic systems, including the many variants of discursive modalities (spoken, written, gestural, visual, electronic and so forth). However, as Blackledge, Creese, and Kaur Takhi (2013) point out, there is a need to move beyond simply harnessing multiple competences and repertoires of plurilingual learners. Teachers (and researchers) should strive to make visible the social, individual and cultural tensions and creativity that arise from their belonging to multiple communities. This affords them a space

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where plurilingual learners can command and 'ventriloquate' the many different 'voices' that populate the multiple, plurilingual communities of which they are members.

This new understanding of 'being literate' foregrounds the issue of modality in questions of communicative competence (which is the baseline of most language teaching approaches in the EU; Council of Europe, 2001). This, in turn, implies that multimodality holds a substantial role in language teaching and learning research. Moreover, the increased ubiquity of embedded multimedia and access to the Internet in language classrooms has contributed significantly to scholarly interest in the multiple semiotic complexities of the representations in discursive exchanges that take place in blended learning (in-class lessons combined with online exchanges with geographically-distributed peers) as well as non-traditional (informal) language learning environments.

Concretely, multimodality research in education seeks to shed light on how learners make meaning while drawing on various communicative forms – language, image, music, sound, gesture, touch and smell – all of which (apart from touch and smell) are increasingly present in online and blended learning interactions. Inevitably, dealing with the plethora of data that stems from diverse media can be challenging for the researcher since they must find a coherent means of examining complex data, all of which may be compiled in vastly different formats and yet, at the same time, are all interrelated in the learning process. The data may also have been collected at different times and in diverse spatial orientations (in-class, online, screenshots of blended learning environments, etc.). In other words, the researcher must find a means of cogently discussing and analyzing a complex data corpus made up of different media and possibly diverse output. For instance, the corpus may consist of audio and video interactions of learners who are physically present in the classroom while they are interacting (through audio and video) with other learners who are not physically present (captured through a screencast and an in-class camera), thus triplicating or even quadruplicating the data collection. These data may then be combined with other data mediums (handouts completed during an online negotiation of a task, for instance) to contribute to an even more complex corpus.

Of course, multimodality is and always has been part of meaning making, as humans have always used more than written or spoken words to communicate. However, within Western society, especially in the context of education, there has been a "dominance of writing as the means of communication and representation" (Kress, 1998, p. 58), at least until recently. This has been changing over the past decades, especially as the use of computers and the Internet has gained ground. In a large part, the shift from books to screens has contributed to this development, moving us "from print to post-print text cultures" (Lankshear, 1997, p. 1), thus shepherding in what has been called the 'new communicative order' (Kress & van Leeuwen, 1996; Lankshear, 1997). Likewise, in the world of education, language professionals are now beginning to integrate the concept of the 'new communicative order' into their teaching, recognizing that words, images, sound, touch and other salient features of communication are all part of a wide spectrum of communicative practices and competences. Teachers now recognize that their learners must not only be knowledgeable of these practices, they must master them in order to be able to engage in the so-called 'knowledge society'.

Along these lines, this chapter summarizes an investigation into multimodal communicative competences in an online telecollaborative environment in which student-teachers (pupils studying to become foreign language teachers) interacted through diverse social media. The study was first published in Dooly and Sadler (2013) and permission has been granted to reprint sections for this handbook. In this case the student-teachers are plurilingual speakers. Their interaction is carried out through English, which is not the primary language of all the users. They are what Canagarajah (2007) has termed users of Lingua Franca English (LFE) and their use of LFE is intersubjectively and mutually negotiated in their communities.

> "Both LFE speakers and [native speakers] have competence in their respective varieties, though there is no limit to the development of their proficiency through experience and time. The competence of LFE speakers is of course distinct. This competence for cross-language contact and hybrid codes derives from their plurilingual life.

> Because of the diversity at the heart of this communicative medium, LFE is intersubjectively constructed in each specific context of interaction. The form of this English is negotiated by each set of speakers for their purposes" (Canagarajah, 2007, p. 925).

The study approach into the way in which the LFE is co-constructed and negotiated in their online interaction is based on Mediated Discourse Analysis (MDA), a research methodology that stems from Nexus Analysis (Scollon & Scollon, 2004, 2007). The use of MDA allowed the researcher to include different data resources (online text-based resources such as wikis or forums which may be seen as more static products stemming from a process) with diverse interactional data in order to trace the social actions that link online and offline learning processes.

2. Mediated discourse analysis

MDA (R. Scollon, 2001; S. Scollon, 2005) is based on the premise that actors are socialized in diverse forms and to varying extent through the discourse systems in which they participate and that each system is differentiated from the other by its embedded practices (Scollon & Scollon, 2004). This type of analysis offers a strategy for combining ethnography, conversation analysis (see Masats, this volume; Nussbaum, this volume) and discourse analysis (see Antoniadou & Dooly, this volume) and provides a theoretical account of how participants, context, discourses and objects (artifacts) facilitate action and social change reciprocally. MDA (as mentioned previously, it is sometimes called Nexus Analysis, Scollon & Scollon, 2004; Wohlwend, 2013) offers a means of exploring how multiple aspects of complex social action interrelate through varying discursive interactions instead of focusing analysis on only one discourse component in isolation.

MDA employs 'methodological interdiscursivity' (Scollon, 2000); that is it integrates multiple approaches for data gathering and data analysis (linguistic landscaping, multimodal analysis, discourse analysis, ethnographic observations,

sociolinguistics interviews, etc.) in order to strengthen any potential weaknesses of the methodologies in use. The MDA approach highlights the way in which individual actions are afforded and made intelligible through participants' context, including individual histories, along with the sociohistorical discourses, and interactional organizations in which the action takes place. As part of the approach, 'nexus' can be understood as a 'site of engagement' where social action is facilitated by a set of social processes, such as discourses in place (discourses that participants will be familiar with), observable historical actions (personal and collective experiences that can be documented, e.g. previous class content), and interaction order (social practices of interaction such as teacher-pupil configurations). This is reflected in Figure 1. In other words, MDA allows the researcher to weave together an informed analysis of a particular site of engagement that takes into consideration background social processes that are relevant to the interaction (e.g. online text chat) or product (e.g. wiki) that is being analyzed.

Figure 1.   Site of engagement (social action), based on Scollon and Scollon (2004)
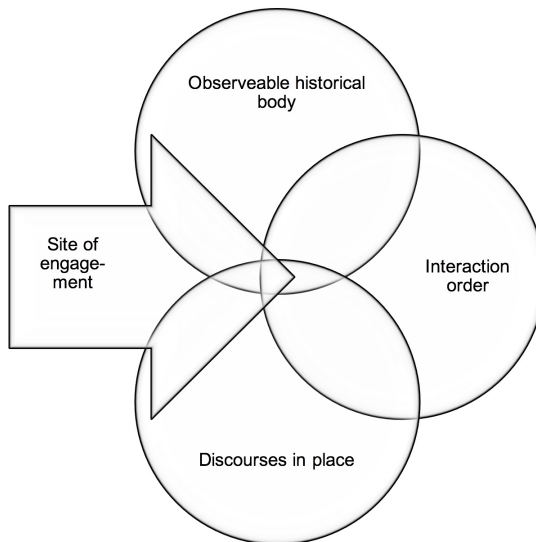
This analytical sequencing of activities over an extended period of time allows researchers to identify significant mediated action against a background of discourses that are germane to the study (cycles of discourse: dominant discourses which may be overt or backgrounded, or internalized as practice, etc.). It also allows insight into interactional moments where participants' historical trajectories 'coincide' in an instance of social action and whose historical trajectories are altered by this social action.

MDA (also called Nexus Analysis) is attributed principally to two American linguistic ethnographers: Ron and Suzie Scollon. These two academics began examining the semiotic cycles of people, objects and discourse while carrying out research in Alaska in the early 1980's; looking at emergent use of the Internet for educational purposes as early as 1981. According to Jones and Norris (2005), the approach investigates the role texts (oral or written) may play in actions undertaken by social actors on the one hand and how these same texts arise as the outcomes of social interactive processes of production on the other hand. The approach is based on Ron Scollon's personal observations of the influence news media had on individuals around him (in particular, concerning escalating violence in the Vietnam War), followed by the two academics' interest in the intersections of different discursive practices on individual trajectories.

This approach allows for the tracing of discourses across disparate discursive genres in order to have a better understanding of the interrelationship of language(s) and other social semiotic data. As it has developed over time, researchers have incorporated various frameworks. Examples can be found that use interactional sociolinguistics, conversation analysis, anthropological linguistics or the ethnography of communication, critical discourse analysis, mediated action and activity theory, social semiotics, multimodal discourse analysis, and the New Literacy Studies. The flexibility of the approach is based on the notion that dealing with complex, longitudinal social issues (such as effective language teaching) calls for equally complex approaches; a simple one-dimensional approach will not suffice to illuminate the nexus between actor and social practices.

3. The study: developing teacher repertoires in sites of engagement

3.1. Data collection

Beginning from an educational ethnographic perspective, data sets were compiled in order to explore teacher development during a year-long telecollaborative exchange between student-teachers located in Catalonia and in the U.S. (see chapter by Antoniadou & Dooly, this volume for similar multimodal research). The same activities were repeated twice over a period of two years. In both years, in the first semester, student-teachers worked in small online groups to provide feedback and constructive criticism to group members' individual Teaching Sequence (TS) for implementation in their practicum schools; each collaborative group of three to four students included members from both universities. The activities in the first semester included:

- An ice breaking activity that consisted of a short personal introduction through the online presentation platform Voicethread, which was then commented on by the other students.

- Brainstorming of ideas (in an online forum) for their teaching sequences in order to form smaller online groups based on common interests and/ or contexts from the brainstorming activities.

- Posting of first drafts of teaching sequences in a wiki (Zoho was used).

- Online discussions in small groups for feedback and suggestions on the TSs.

- Subsequent meetings and feedback for similar discussions, resulting in drafts 2, 3 and final draft.

- Posting of reflections of changes to the TS design and rationale for changes.

For the online meetings, the modality – text or audio chat – and timetable were left up to each group to decide since one of the implicit goals was to get the students to practice with as many technological tools as possible. Therefore, the student-teachers were introduced, in face-to-face (f2f) workshops, to a number of Computer Mediated Communication (CMC) platforms (e.g. Skype, Google Hangouts), but the students themselves decided which best suited their needs. Student-teachers were asked to keep records of their meetings (text transcripts or audio files) which eventually became a component of their final teacher reflection portfolio (and part of the data corpus).

In the second semester, the student-teachers were asked to work together to design and develop podcasts and accompanying teaching activities. Working in groups, the student-teachers were provided with virtual spaces and tools for meetings, this time in a virtual world (Second Life). The groups worked together to create a podcast and related teaching (pre-, during and post-) activities, although there were different leaders for the varying tasks, depending on individual expertise (technological, pedagogical, etc.). The activities in the second semester included:

- A 'scavenger hunt' in Second Life virtual world to help student-teachers become familiar with the environment (the scavenger hunt also served as a way for the new groups to get to know each other).

- Introduction to the Second Life 'meeting rooms' where the members were encouraged to gather to work on their podcasts (not compulsory).

- Prescreening of podcast drafts in Second Life 'outdoor' cinema (drop-by schedule, individuals left observations in Second Life post box).

- Presentations of the final podcasts in Second Life cinema (whole group session).

- Implementation of podcast teaching activities (Catalan students only).

- Discussion and reflection on podcast development and implementation in Second Life group arena (followed by 'farewell party' in Second Life).

Data sets were comprised of online products (wikis used as a digital reflection report, screenshots from virtual world group interactions, and forum posts: shared documents of student-teachers' planned teaching sequences) and interactional data (recordings and transcripts of f2f classes, email exchanges between partnered students, recorded and transcribed text and audio chats between partnered students and groups in Second Life) along with complementary products of students' personal learning objectives (scanned from handouts), self-evaluation sheets (scanned), and class programs from both teachers and observers' field notes.

The data corpora includes different transcript formats due to the different communication media available to the participants. For instance, audio/ video chats may have only been recorded as audio (the students decided how they documented their interactions), in which case a transcription of the audio recording was made by the researcher. The choice of narrow or broad transcription depended upon the research objective. In the case of text chats, the transcriptions were not altered beyond adding turn numbers (if the transcript did not provide them as was the case in Second Life text chat) and changing the names of the participants. The rendering of transcripts is described in more detail for each fragment below.

3.2.   Summary of approach

In this study the social action consisted of practices designed to promote novice teachers' process of professionalization through technology-enhanced education courses. This social action interrelates with discourses and procedures that may either limit or facilitate action. Note that the study focused only on the discourse relevant to teacher professionalization and that which was made relevant and observable by the participants, such as specific referencing of teacher resources, teacher know-how or the use of what could be called 'teacher repertoire'. The

'sites of engagement' which were studied are also interconnected to interactional order (how the participants organize themselves in an online chat, for instance). In this way, the analysis could include the way in which the persons involved organized the social event (for instance, taking on the role of 'expert' in the chat).

Analysis of the social interaction that takes place in a 'site of engagement' (Figure 2) allowed the researcher to find traces of what Scollon and Scollon (2004) call 'historical bodies' (personal and collective discursive experiences that the participants make relevant in the social interaction such as classroom discussions) as well as 'discourses in place' (that is, discursive practices that will be familiar to them such as 'teacher talk'), along with the interactional order that the participants organize amongst themselves (e.g. taking on the role of collaborator or teacher).

Figure 2.   Visualization of sites of engagement
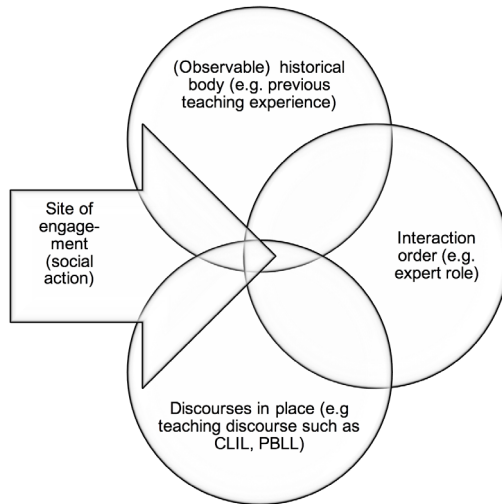
The research examined how discourse practices create 'teacher discourse' within teachers' Communities of Practice (CoP, Wenger, 1998) and how the student-teachers remediate this discourse in their knowledge construction during the

process of becoming full-fledged members of this professional community. Because the order of interaction in the online products was not immediately observable (e.g. the actual performance of typing and posting in a forum), MDA allowed these actions to be considered as traces or artifacts (e.g. the forum threads of topic initiation and replies) which are left, thus showing traces of "communication and community through permalinked posts, comments, and references" (Efimova, Hendrick, & Anjewierden, 2005, p. 24).

3.3.   Interaction order and discourses in place: talking like a teacher

The design of the activities fomented intensive, online discussion about individual teaching sequences, as seen in the transcript below where Clara (from Catalonia) is giving feedback to her partner Lynn (in the U.S.). The students used the Voice Over Internet Protocol (VOIP) program called Skype during which they recorded their exchanges.

In the following transcript (reproduced here with explicit written permission by the participants) it is possible to see how the student-teachers made the discourses they had been exposed to during their courses on language teaching methodology relevant in their social interaction. In other words, they ventriloquate the many different voices that can be found in the multiple, plurilingual communities of which they are members (Blackledge et al., 2013), including the 'professional teacher' community. The 'historical body' of previous teacher-learning experiences forms a nexus with the 'discourses in place' (teacher repertoire of specific language teaching approaches) within the 'site of engagement' of the VOIP feedback session: the discourse is part of the mediated discourse for the participants' feedback.

In particular, Clara brings up concepts of competences and Content Language and Integrated Learning (CLIL); she points out the need to provide clearly defined objectives and finally, the idea of project-based online interaction as a final output is proposed. All of these notions (competence-based learning, derivatives of communicative language teaching such as CLIL and project-based language

learning, the importance of clear objectives for continuous, competence-based assessment) were key topics that had been extensively discussed and developed throughout the year in the f2f courses while the exchange was taking place online (NB: observation based on class programs and field notes).

The students were asked to record their online meetings but were given an option to erase any of the data they were not comfortable with (e.g. personal conversations that they preferred not to deliver to the researchers). Due to software limitations at the time, no visual recording of their interaction was possible; only audio (MP3 format) data were available for analysis. All raw data were anonymized before beginning the analysis. Different from other discourse approaches in this volume, the transcription uses only a few conventions of conversation analysis protocols (see Appendix for transcription key). A generally broad transcription was used in order to give information primarily on the words spoken, the transitional quality of the turn-taking and noticeable pauses (Sawyer, 2006; see also Moore & Llompart, this volume).

Fragment 1

1.	Clara:	ok [1] ok great (.) so i wrote that i thought about give you some feedback about your draft and i had three main ideas that i would like to comment with you
2.	Lynn:	ah that's XXX
3.	Clara:	it's that you can pras- practice reading comprehension and at the same time to: to work with certain learning i mean to learn something else (.) i mean to connect here in spain we've got uhm curriculum competences [2] yes here in spain we are working with competences and (.) and we can connect the english language with another subject for instance science
4.	Clara:	[and]
5.	Lynn:	[Ah I see]
6.	Clara:	it's i i thought that you could work the reading comprehension related with another subject (.) for instance history (.) and so on (.) to be more connected with them
7.	Lynn:	mmmm
8.	Lynn:	yeah yeah i see
(…)		
25.	Clara:	ok nice

26.	Lynn:	yeah that's a great idea thank you
27.	Clara:	(laughs) you're welcome (.) another thing that i thought that you could explain them what they are going to learn during these sequences because in your draft in the in the interaction i didn't see that you you wrote about how to to explain what the students will be able to do or what they are going to do during these teaching sequences so i thought that it could be a good idea for them to explain what they are going to achieve during these session (.) or not?
(…)		
35.	Clara:	the objectives (.) i mean do you have you seen my dropbox
36.	Lynn:	yeah i i saw yours
37.	Clara:	ah you tell me to think about your objectives no (1)
38.	Lynn:	ahm ahm i mean do you have any suggestion for my draft as for objectives?
39.	Clara:	objectives i mean so students will be able to (.) to umpreh comprehend different reading texts
40.	Lynn:	ah: i see ok yeah that would be great
41.	Clara:	Students will be able to (.) i don't know
42.	Lynn:	((laughs)) ok that sounds yeah oh good fine
43.	Clara:	((laughs)) what else what else you could prepare this ah also in your final i don't know session i thought that it could be a good a great idea if you could prepare a unit to collaborate on a project with another school from for example spain (.) and these schools would have to deal a reading text about a topic they could do it in pairs and then each pair will have a a a peer assigned for the other i don't know how to (.) i'm reading i mean in this sess- the last session i mean all your teaching sequences will be focused like to building a project with another school and to share information
44.	Lynn:	i know what you mean when you say another school another school abroad
45.	Clara:	yeah
46.	Lynn:	ah i see: (.) just like us
Online Chat: Online Partner Feedback on Teaching Sequences		

In this fragment, as in the next one (Fragment 2; text chat), MDA underscores the participants' remediation of the 'discourses in place'. For instance, the 'SWBAT' term can be traced through several of the 'sites of engagement'. SWBAT is an acronym that stands for 'Students Will Be Able To' and was first introduced into nexus discourse by the U.S. teacher in f2f sessions at the beginning of the year. His student-teachers appropriated the term and then taught the term to the Catalan student-teachers in their online exchange (evidence of this was found in

several of the online transcripts but for the sake of brevity are not included here). In the above fragment, in turn 39, Clara (the student-teacher from Catalonia) makes use of the term SWBAT to point out that her peer has not clearly described the TS learning objectives, "objectives I mean so students will be able to (.) to umpreh comprehend different reading texts". She returns to the term in turn 41.

In the next fragment, as in the oral chat, the students were responsible for saving the transcripts from their text chats and sending the text documents to the teachers as evidence of their online activities. The students' preferred means of doing so was to copy the entire chat session and paste it in a word document. In this fragment, Jazz (from the U.S.) and Sara (from Catalonia) are also discussing objectives, although in this case they are looking at the planning for their podcast they are collaborating on together and the term SWBAT comes up in turn 20 (Fragment 2). The two students are in Second Life but Sara was having problems with her audio chat so they had switched to text chat (also available in Second Life). In the fragment analyzed below, Sara elaborates further on the connection between the SWBAT and the different sections of the activity in turn 24, and finally, in turn 26 she indicates the direct connection between objectives and the post-activities they are designing for the podcast.

MDA also highlights the way in which the participants (in this case Jazz and Sara) organize themselves for social interaction during their podcast planning in Second Life. Both participants clearly identify themselves with the simulated 'activity groups' (they are aligned with the task), and both interactants call into play 'teacher talk' (e.g. objectives, topic, pre-activity, intro and related activities, age-related activities, etc.); all of which is very similar to the previous excerpt of the TS feedback session. In the case of the text chat transcripts, the researcher did not make any modifications except to add turn numbers and to change the chat usernames.

Fragment 2

1.	[12:10] Jazz:	We can use the pod cast as a pre activity
2.	[12:10] Sara:	yes yes

3.	[12:10] Jazz:	I mean we can do it for children. If we are going to use English
4.	[12:11] Sara:	I think the podcast should be like an intro and then we can do activities related to it
5.	[12:11] Jazz:	I can find native speakers of english easily
6.	[12:11] Janet:	yes
7.	[12:11] Sara:	yes children but what age???
8.	[12:12] Jazz:	Yes, I was thinking that it could be use for introduce vocabulary.
9.	[12:12] Jazz:	The age that works for use.
10.	(…)	
11.	[12:20] Jazz:	We can introduce some words with pictures. Put them voice and text.
12.	[12:20] Sara:	ok
13.	[12:20] Jazz:	Then do a short conversation example of using those words
14.	[12:20] Sara:	and the teacher goals are...
15.	[12:21] Sara:	Are the teacher goals and the objectives the same?
16.	[12:21] Jazz:	Prepared the students with the vocabulary necessary in order to complete the classroom activities.
17.	[12:21] Janet:	u mean the objectives?
18.	[12:21] Janet:	ok
19.	[12:22] Jazz:	With this vocabulary you can teach past tense, present tense or future.
20.	[12:22] Sara:	goals refers to what the T expects? and objectives is related to the SWBAT's?
21.	(…)	
22.	[12:42] Sara:	then the objectives (what we expect children to do by watching and listening to the podcast) could be the following
23.	[12:42] Jazz:	About the second one, is going to depend of how we design the posd cast
24.	[12:43] Sara:	SWBAT: 1)comprehension; 2) repdroduction (imitation) and finally 3) production
25.	[12:43] Jazz:	Thank you Sara
26.	[12:43] Sara:	the objectives go according to the postactivities
Brainstorming the podcast topic and content in a text chat in Second Life		

The participants' mediated discourse included a shared teacher culture (or 'cycles of discourse') as demonstrated by similar jargon, topics, etc. which are made relevant by the participants during their virtual world interaction. The traits that are made relevant by the student-teachers in their online discourse

are based on commonalities that they seem to attribute to the whole group, for instance, 'teacher-identity'. This 'shared' identity of 'teacher' in the virtual community allowed them to form a cohesion that was more important than other possible identities (for instance, exchange student, Korean, mother, wife, sister, etc.). This is clear in the way in which the majority of their online discourse aligns with 'teacher-talk', including their appropriation of SWBAT as part of the 'discourses in place'. This seems to indicate a gradual internalization of nexus of practice as the participants aligned themselves with the community of teaching practitioners (Wenger, 1998).

In the following Fragment 3, the term is made particularly relevant by the participants as they apply meta-reflection to not only extract its definition (in linguistic terms) but to also co-construct a fuller understanding of its meaning as it applies to their teacher knowledge. As in Fragment 2, the researcher changed the chat usernames. The timeframe is part of the original text chat transcript.

Fragment 3

[8:03] Lan@! dice:	and what will you assess while they're doing their presentation? will you do the posters in a cardboard format or it's better to use ICT (powerpoint presentation, for example)?
[8:03] Evelyn dice:	Lana, I really like your SWBAT as a list of activities, but the idea behind SWBAT is more to talk about what students will be able to do linguistically and this is how you can assess them
[8:04] Chu dice:	you can make assessing standard for exmaple, content, how clear…
[8:04] Lan@! dice:	that's another interesting point I've borrowed from you (SWABTS)
[8:04] Imogene dice:	you're welcome
[8:04] Lan@! dice:	so poster format?
[8:04] Evelyn dice:	But SWBAT is more like, "students will be able to use key english phrases in presenting a poster about their favorite sport." the language use is the key part of SWBAT
[8:05] Lan@! dice:	Thanks for the clarification! is good to have USA peers
Lan@!, Evelyn and Chu (participants) give TS feedback in text chat	

Following from the previous 'sites of engagement', the next 'artifact' (part of a students' self-evaluation of competences gained through the online experience) demonstrates an especially intriguing example of gradual internalization of discourse pertaining to the nexus of practice and the way in which the 'virtual' community of practice contributed to socially distributed cognition of the new participants (Figure 3). The term SWBAT is explicitly listed as one of the competences which was assimilated through the supportive environment of the telecollaborative exchange.

Figure 3.   Student-teacher evaluation of assimilated competences
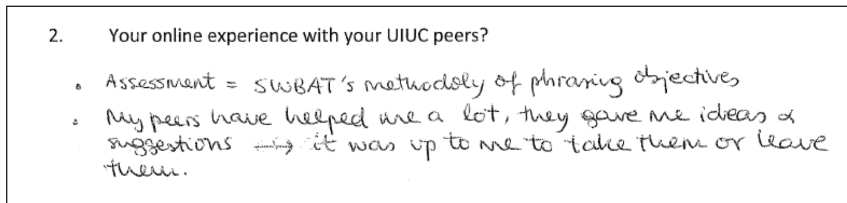
Figure 4.   Tracing discourse across disparate genres
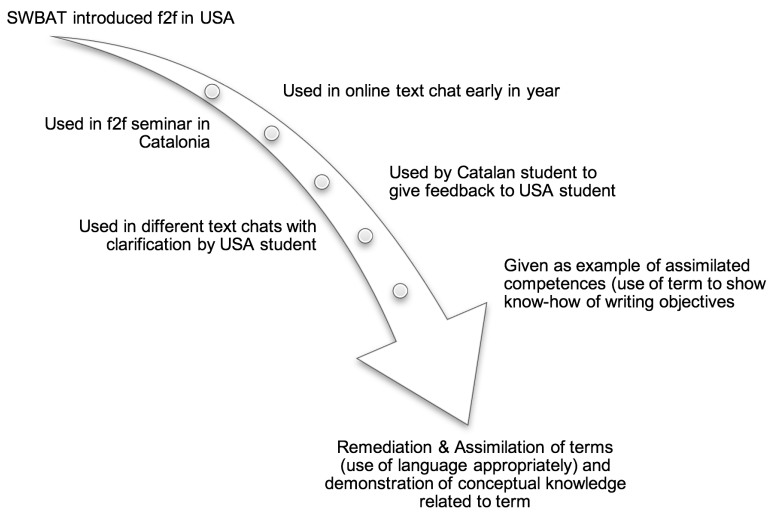
This brief case study exemplifies how MDA can be applied to multimodal data sets through a focus on the nexus of practice not only of discourses and people, but also of concepts and artifacts. This allows the researcher to trace discourses across disparate genres in order to have a better understanding of the interrelationship of language(s) and other social semiotic data; as in this case wherein teachers become 'socialized' into the profession through different 'discourses in place' (Figure 4). We can see how the student-teachers are exposed to and participate in 'discourses in place' (in this case, specific educational jargon linked to conceptual knowledge necessary for language teachers to plan and design effective teaching sequences). Applying MDA afforded the opportunity of exploiting the linkages across events in multiple sites of engagement rather than simply looking at disparate data sets as disparate and isolated events.

4.   Concluding words

MDA provides a useful approach for tracking the complexity of multiple literacies in overlapping contexts, including blended learning and online environments, while providing a fruitful means of analyzing a range of embodied discourses as they converge in sites of engagement. The approach can serve as a means of 'teasing out' traces of embedded discourses that intersect with participants in moments of the learning process in order to better identify specific instances of literacy acquisition that occur across diverse modalities.

The use of MDA highlights an understanding of literacy as a social practice (Barton & Hamilton, 2000; Street, 2000) as well as allowing for the intricate tension between the nexus of learner (agent) and discourse practices as mediational means (Wertsch, 1991, 1998) by taking into consideration the relationship between language and action: MDA sees language use as an action (not just a product) which is related to other forms of human action and other discursive practices. Thus, the researcher can see how related chains of mediated actions and interactional events across contexts are related to social practices within a wider nexus of practice.

When working with data from the Internet (e.g. looking at CoPs created through forums, wikis, text and audio chats, etc.), MDA proposes that it is as important to look at the social actions that are behind the production of Internet output, and not just to analyse the products. Analysing the 'sites of engagement', once transferred out of their 'environment' (e.g. screenshots of blog posts) inevitably renders the data much more 'static' than its original format. This can lead the researcher to focus on less dynamic aspects of the data rather than on the process of its production and the way in which different semiotic resources came into play in that process. MDA conceives of the Internet as "a cyberspace" that consists of "a collection of multiple overlapping spaces, virtual, geographical and physical, which accommodate multiple 'forms of life' and communicative possibilities" (Jones, 2008, p. 436). It is important that the researcher be aware that they are not simply looking at diverse visible spaces on users' screens; they are, in fact, linked social practices in both physical and virtual worlds.

Due to the complexity of multimodal data and its analysis, the researcher should strive to make their analysis 'trail' as detailed and auditable as possible. When considering the best way to collect and present data, researchers should bear in mind that sampling does not necessarily need to be sequential – it can be random. However, a clear rationale for the choice of inclusion must be provided, along with an explanation of choice of data collection and a minimum effort to be representative of as many linked sites as possible is preferable. Transparency of data collection and management are also vital: how were data stored and then used for analysis? For example, which data were transcribed and why? Which modalities were captured? (see chapters by Antoniadou, this volume, and Moore & Llompart, this volume). The research should be clearly contextualized and all the relevant information which might affect the results obtained should be put forth. As the complexity of learning environments is becoming a more acknowledged aspect of research, MDA can help provide the researcher with a framework that attempts "to explain how discourse (with a small d), along with meditational means, reproduces and transforms *Discourses*; and how *Discourses* create, reproduce and transform the actions that individual social actors (or groups) can take at any given moment" (Jones & Norris, 2005, p. 10).

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Appendix

Adapted from CA conventions (see Moore & Llompart, this volume):

(.) short pause

[1] approximately 1 second pause

[2] approximately 2 second pause

: elongation of sound

- cut-off word

WOrd emphasize on syllable or word

[word]

[word] overlapping

XXX unintelligible

(…) part of transcript left out

((WORD)) transcriber notes

Qualitative approaches to research on plurilingual education (English)
Enfocaments qualitatius per a la recerca en educació plurilingüe (Catalan)
Enfoques cualitativos para la investigación en educación plurilingüe (Spanish)

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