

Patterns of peer interaction in multimodal L2 digital social reading

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Abstract

Although L2 reading is traditionally framed as an individual enterprise, digital annotation tools (DATs) have recently been developed allowing groups of readers to collaborate and provide mutual scaffolding through collective annotation of texts (Blyth, 2014; Thoms, Sung, & Poole, 2017). These tools reframe L2 reading as an interactive process where meaning is socially constructed. Digital social reading supports a multiliteracies approach to teaching L2 pragmatics. This study investigates interactional patterns in social reading across multiple groups of learners. In total, 215 students enrolled in 11 sections of a beginning university French course used the DAT eComma to annotate six L2 songs over three months. We performed a mixed-methods analysis of the annotations. Social engagement, as measured by the frequency of questions and replies as well as word count, decreased over time, and the use of linguistic affordances increased in later songs. However, these patterns were highly variable across the sections. Language choice, social engagement and register, among other factors, were influenced by the shared practices of members of each section. Through their interactions, participants co-constructed meaning about the texts themselves as well as broader cultural and pragmatic questions. Instructors reported that engagement in class discussion corresponded to that of the online discussion.

Keywords: *Digital Social Reading, Multiliteracies, Instructional Pragmatics, L2 Reading*

Language(s) Learned in This Study: *French*

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Introduction

In the multiliteracies movement, the development of L2 literacy and pragmatic awareness are intimately linked. Moving away from the traditional definition of literacy as the ability to decode and encode texts, a multiliteracies-based pedagogy (Cope & Kalantzis, 2009) aims to help learners become adept at “negotiating a multiplicity of discourses” (The New London Group, 1996, p. 60) including cultural, pragmatic, and technological literacies. The notion of multiliteracies is tied to sociocultural theory (Vygotsky, 1978), which reframes learning as social practice rather than individual knowledge transfer. In the multiliteracies view, languages and texts cannot be divorced from their sociocultural context, and learners must engage with them collaboratively and dynamically (Walther, 2007). While instruction linking linguistic forms to pragmatic functions is crucial (Rose, 2000; Cohen, 2008; Abrams, 2013; Bardovi-Harlig, 2013; Halenko, 2017), Jung (2002) insists that cultural knowledge is also essential for pragmatic development. Learners must also consider their own multi-layered identities in building L2 pragmatics (The New London Group, 1996), incorporating their own L1 sociopragmatic norms as well as native and non-native L2 norms (Cohen, 2008). Without explicit guidelines for learning L2 pragmatics, learners must draw inferences from figurative language use by making conscious comparisons between

their own output and target language input (Carrell, 1984; Schmidt, 1993; Jung, 2002; Schmidt, 2010). Fostering rich engagement with L2 texts situated in their sociocultural context is therefore central to helping learners negotiate new discourses and develop L2 pragmatic awareness and competence in an instructional setting.

Literature Review

Many have recently proposed technological tools that can enhance co-constructed meaning making, pragmalinguistic and sociopragmatic awareness and competence in instructional contexts (Mroz, 2012; Mroz, 2015; Abrams, 2013; Halenko, 2017). Digital annotation tools (DATs) allow groups of readers to collaborate and provide mutual scaffolding through collective annotation of texts (Blyth, 2014; Thoms, Sung, & Poole, 2017). Using these tools, learners can annotate a text with comments and other notations in a shared digital space. The availability of these tools presents a possible reframing of L2 reading as an interactive process where comprehension is socially constructed. Such a reframing supports a multiliteracies approach, which aims to “recruit, rather than attempt to ignore and erase, the different *subjectivities*—interests, intentions, commitments, and purposes—students bring to learning” (The New London Group, 1996, p. 72). According to sociocultural theory, this co-construction of meaning through social interactions develops higher knowledge (Vygotsky, 1978).

Thoms and Poole (2018) point out that most studies on DATs have focused on their use in L1 settings. These studies have shown that reading with DATs enhances reading levels and critical thinking (Mendenhall & Johnson, 2010; Yang, Yu & Sun, 2013) and that the students who tend to produce more annotations are those with higher learning achievement (Lu & Deng, 2013; Zarzour & Sellami, 2017). However, some limited studies have also shown the promise of these tools for foreign language instruction.

Blyth (2014) reported that when using a DAT called eComma, students from a first-year French course were able to co-construct meaning, a strategy that they could not exploit in regular asynchronous reading tasks. Furthermore, students reported an enhanced appreciation of foreign texts through social reading.

In Thoms, Sung, and Poole (2017), the authors investigated how using eComma influenced students' comprehension in a second-semester Chinese language course. Students primarily used the tool to consult with their peers regarding vocabulary items and Chinese characters. As in Blyth's (2014) results, the authors found that social reading encouraged student scaffolding and co-construction of meaning outside the classroom.

Thoms and Poole (2017) examined affordances in student interactions in a college-level Spanish class using the DAT HyLighter. The notion of affordances is borrowed from ecological theory in psychology (Gibson, 1979) and in an SLA context refers to a relationship established by a learner with something in his or her environment which promotes learning (Van Lier, 2000). Thoms and Poole operationalized affordances exploited in annotations using a three-part typology: linguistic, literary, and social. Linguistic affordances are used in annotations addressing grammatical or lexical information in the text, whereas literary affordances relate to the poetic and rhetorical dimensions of the text. Finally, social affordances relate to topics other than the text itself, especially participant interactions.

In a subsequent study using HyLighter in a Hispanic literature course, Thoms and Poole (2018) observed that text difficulty influenced the types of affordances that appeared in learners' annotations. Increased lexical diversity resulted in lower rates of literary affordances, while higher lexical difficulty produced higher rates of linguistic affordances. Furthermore, the use of social and literary affordances increased over time.

An acknowledged limitation of previous studies with DATs has been the small number of participants (11-15 participants each in Thoms & Poole, 2017; Thoms, Sung, & Poole, 2017; Thoms & Poole, 2018). There have also been calls for further research on the relationship between DAT discussions, which take place outside of class, and subsequent in-class discussions of the same texts (Thoms, Sung, & Poole, 2017; Thoms

& Poole, 2018). To address these gaps in the research, we conducted a study of DAT use across multiple sections of the same course with different instructors. The purpose of this study was to investigate how DAT use varied not just over time and across different texts, but also across different groups of learners. Like Thoms, Sung, and Poole (2017) and Thoms and Poole (2018), we considered the use of affordances in annotations, and we also considered the speech acts used in comments to explore the pragmatic dimension of these online interactions in more detail. Unlike in previous studies, learners in our study annotated multimedia texts (written French song lyrics accompanied by music and in some cases by a music video) to assess the applicability of DATs to digital literacy beyond the written word, in accordance with multiliteracies pedagogy. Using a mixed-methods approach, we analyzed how communities of practice (Lave & Wenger, 1991) involving specific patterns and levels of participation in annotation emerged in different sections and how these contributed to the co-creation of meaning around these L2 multimedia texts.

Participants and data

This study makes use of the DAT [eComma \(eComma, 2020\)](#), developed by the [Center for Open Educational Resources and Language Learning](#). eComma allows users to annotate selected passages of a text with either a tag or a comment. Tags are labels which can be applied to multiple points in the text. Users can also reply to existing comments.

The participants were 216 students enrolled in 11 sections (taught by 10 instructors) of an introductory French course at a Southwestern university in the United States. As a requirement for the course, students completed six homework assignments at specific points over three months in which they read and annotated the lyrics of a French song corresponding to the theme and level of the chapter being studied in class. Prior to reading and annotating the lyrics, students listened to the song and completed an online pre-reading activity involving background information about the artist. The first song also included a music video, and the third and sixth songs included a video recording of a performance by the artist. Prior to annotating the first song, students watched an instructional video explaining how to use eComma and providing examples of appropriate comments and tags. The examples from the video involved a mix of affordances and speech acts and included both French and English. Students were required to provide at least five annotations per song but were otherwise free to annotate the text in any way they chose and received completion grades. In addition to the 216 participants, some students completed the assignment but declined to provide their annotations for the study.

The purpose of these assignments within the curriculum was to expose learners to cultural artifacts from across the French speaking world while encouraging metalinguistic reflection on lexical and grammatical features previously studied in class and present in the text. Allowing learners a choice of code in their annotations was intentional. Several scholars (Blyth, 1995; Kramsch, 1997; Cook, 2001; Liebscher & Dailey-O'Cain, 2005; Levine, 2011) have argued against using an idealized monolingual native speaker as the target in language classrooms, as code choice and code switching constitute a normal part of multilingual communication. They propose that a multilingual approach to the L2 classroom in which L1 use is accepted is not detrimental to L2 learning. Levine (2011) posited that L1 use could even contribute to L2 learning, providing affordances for meaning making and identity enactment. Zhang (2018) showed that student collaboration in L1 Chinese led to higher syntactic complexity in L2 English essays without affecting fluency, accuracy, or overall textual quality. Swain and Lapkin (2000) propose that judicious L1 use could serve essential cognitive functions (negotiating meaning, reflecting on syntactic and lexical forms) as well as social functions (negotiating the quality, the nature of the collaboration).

The song texts were chosen primarily for their thematic content, but also roughly increased in linguistic complexity over the semester¹. The first, “Sénégal Fast Food,” an African pop song about globalization, is filled with easily decoded cognates and anglicisms and stays mostly in the present tense. The second text, “Ma Louisiane,” belongs to the zydeco genre, marked by simple narrative lyrics recounting Louisiana Creole folklore (Shepherd, 2012, p. 539). While it does contain some verb tenses unfamiliar to learners, its

vocabulary (the seasons, weather, kinship terms) is largely familiar. The third text, “Comme d’habitude,” is a classic of the French *chanson* marked by a higher register and the use of literary archetypes and lyrics (Haworth, 2018). Readers encounter the future tense and reflexive verbs, making it a moderately complex text for participants. The fourth, “Les cornichons,” belongs to the yé-yé rock genre (Shepherd, 2012, p. 536) and features simple vocabulary, notably long lists of food items, but also includes narration in the past making it somewhat more complex. The fifth song, another *chanson* classic, “Sous le ciel de Paris,” features a variety of verb tenses as well as abundant metaphors that can confuse beginning readers. The final song, “Le bal masqué,” belongs to the zouk genre, which is distinguished by its rapid tempo and dance feel (Prato & Horn, 2017, p. 174). It is longer than the other songs, and begins with repetitions of *décalécatan*, an invented word of uncertain meaning and origin², which can confuse readers from the very first word. However, it is also fairly repetitive and stays in the present tense.

After the course, the annotations were downloaded. Comments by students who declined to participate in the study were removed, and all participant names were replaced with random pseudonyms. In addition, instructors from seven of the sections completed a follow-up survey to describe their experience using eComma.

The comments were compiled in Excel and underwent two rounds of manual tagging by the three researchers. In the first round, two of the researchers tagged each comment for speech act and affordance, as well as language (English, French, or Mixed). Affordances were classified according to Thoms & Poole’s (2017) typology as literary, linguistic, or social. Comments with literary affordances were any regarding rhetorical devices and interpretations, or “an expansion of someone’s idea(s) or interpretation(s).” (Thoms & Poole, 2017, p. 156) Comments with linguistic affordances were any regarding “grammar” or “vocabulary/lexical issues.” Comments with social affordances were those that expressed likes, dislikes, opinions, personal references, agreement, disagreement, compliments, or off-topic comments (Thoms & Poole, 2017, p. 156). Social comments were especially found among replies, which frequently involved expressions of agreement or other comments focused on the interaction itself.

Speech Acts were categorized according to Searle’s (1979) framework as either assertive, directive, expressive, commissive, or declarative. Assertives are propositional statements. Directives, such as questions, attempt to get the addressee to do something. Expressives, such as thanking or congratulating, express a psychological state. Commissives, such as promising, commit the speaker to a future action, and declarations are performatives, which effect an institutional change.

For these variables, comments were assigned a value based on the most dominant speech act or affordance according to the raters’ judgment. For instance, a comment containing both a statement and a question would be tagged as a directive if the rater felt that the comment’s main focus was on asking a question. The raters in the first round noted any comments for which either variable was unclear. The three researchers then met to discuss these cases as well as those where the first two researchers disagreed in their initial tagging. We clarified our tagging criteria as necessary. Then, in a second round of tagging, the third researcher made a final decision for each comment with conflicting or unclear tags. There were no disagreements on the language tags.

The raters in the first round agreed on 4,719 tokens (93.1%), including 33 tokens marked as unclear. They disagreed on 348 tokens, including 260 disagreements on affordance, 72 disagreements on speech act, and 16 disagreements on both variables. The 376 tokens with a disagreement or an unclear marking from round 1 were reviewed in round 2 by the third rater. All of these were resolved with the exception of two comments without meaningful text which were removed from further consideration. Quantitative analysis of the remaining 5,065 tokens was performed in R 3.5.0 (R Core Team, 2018).

Quantitative analysis

In addition to affordance, speech act, and language, we also considered the comment depth and word count of each comment. Comment depth is a measure of the use of the reply feature when commenting in

eComma. Comments with a depth of 0 are “top-level” comments that are not a reply to any other comment. Replies to these have a depth of 1, replies to replies have a depth of 2, and so on. 95.7% of comments in the data had a depth of 0, with 3.9% at depth 1 and less than 1% for depths 2, 3, and 4. Certain sections contained more replies than others. One of the 11 sections contained no replies at all, and five others had a maximum comment depth of 1. Comment depth varied over the course of the semester and the six songs, but there were no clear patterns of change that held across all sections. Overall, comment depth was highest for the first song, with a mean of 0.12, before dropping for the subsequent songs, with a low point in the third song (mean of 0.02). However, in Section 5 there were no replies in the first two songs; beginning in the third song the comment depth began to rise, demonstrating that the use of replies was idiosyncratic across the sections.

Word count also declined over the course of the semester, with a mean of 15.1 words per comment on the first song which gradually dropped to 9.9 words per comment on the final song. This too was highly variable across the sections, ranging from a mean of 19.9 words per comment in Section 4 to a mean of 7.2 words per comment in Section 9. A Mixed Analysis of Variance including Song and Section indicates that both are significant predictors of word count ($F_{15, 5,049} = 54.41, p < .001$). However, it does not appear to be the case that comment length was more similar within the same section than across sections. When Author is included as a factor, Type II tests indicate that Section is not a significant predictor of word count ($F_1 = 0.049, p = .82, \eta_p^2 = .00001$), while Song ($F_5 = 45.6, p < .001, \eta_p^2 = .04$) and Author ($F_{189}, p < .001, \eta_p^2 = .29$) both are. Word count was a function of individual practice, not group practice.

Regarding affordances, a majority of the comments drew on literary affordances (44.72%), followed closely by linguistic affordances (41.44%). Social affordances were the least frequent annotations at only 13.84% of the tokens. Over the course of the study, linguistic affordances became more frequent, representing about 34% of tokens in the first two songs and 42–49% in subsequent songs. Meanwhile, literary affordances dropped from 52.2% in the first song to 39.7% in the final song. The amount of comments based on social affordances was more variable by song, but in general increased over the course of the semester (see Figure 1).

As for speech acts, the most frequent by far were assertives (87.19%), followed by directives (12.50%) and expressives (0.32%). No commissives or declarations were found in the data. Unsurprisingly, 9.32% of directives elicited at least one reply compared to only 2.31% of assertives. The distribution of speech acts was fairly consistent over time. The highest level of directives was in the first song, with 18.1% of all comments for that song, and the lowest was in the third song, with 6.8%.

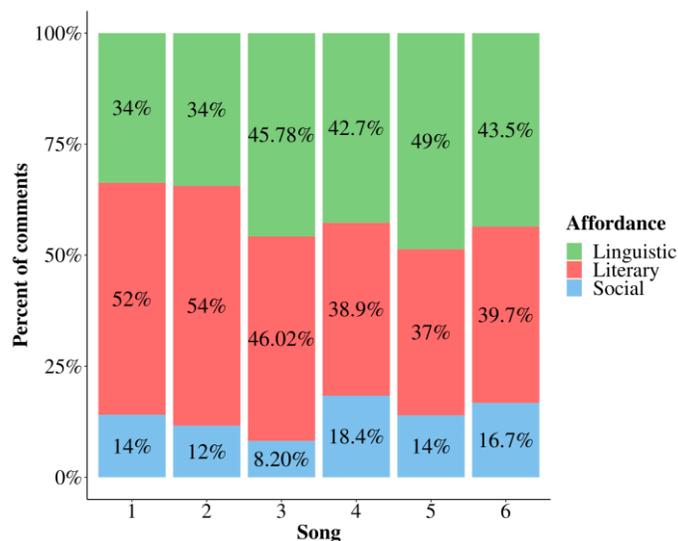


Figure 1. The percentage of each affordance type in the comments for each song.

When examining the interaction of affordance and speech act, we find a similar distribution of speech acts across all three affordance types. Directives were somewhat more frequent among comments with linguistic affordances (16.9%) than among literary (9.2%) or social comments (10.1%). When the participants were discussing grammar and vocabulary, they asked more questions than when discussing other topics (see Figure 2).

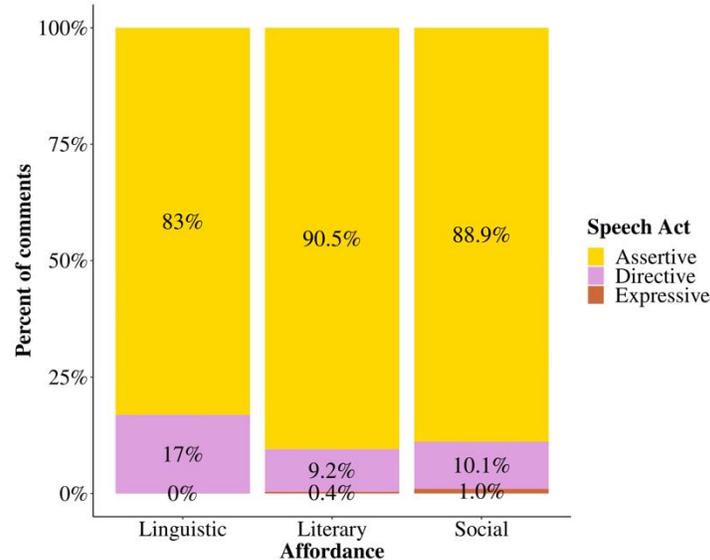


Figure 2. The distribution of speech act categories found in the comments of each affordance type.

In total, 98% of comments were written entirely in English, with 70 comments in French and 15 in mixed English and French. The majority of French comments used the phrase *je ne comprends pas*, “I don’t understand,” which was included as a suggested tag in the eComma tutorial video watched by participants. The use of French was concentrated in two sections in particular. Most sections had between 0 and 6 comments in French and 0–2 comments using code-switching, but Section 6 had 14 French and 3 Mixed comments, and Section 9 had 26 French and 6 Mixed comments. The use of French was not, however, limited to a few students in those sections. In Section 9, 12 of the 15 participants wrote comments in French, so language choice appears to have been a part of the communities of practice developed in different sections.

In addition to comments, participants had the option of annotating texts with tags. In general, the use of tags declined over the course of the study as participants focused more on writing comments. A total of 325 tag annotations were made in the first song, and this number slowly dropped to 133 tag annotations by the last song.

Qualitative analysis

Two sections of the course were selected for a qualitative analysis. Section 3 was selected because it had the highest mean (0.2) and max (4) comment depth, indicating that participants in this section responded to each other and engaged with the social dimension of the tool to a greater extent than those in other sections. Section 5 was selected because it is representative of the typical level of social engagement found in most sections (max comment depth = 1, mean = 0.05). By analyzing these two sections more closely, we aim to determine what may have contributed to the greater level of social engagement in Section 3 and describe patterns of social interaction used in these sections.

We first consider the use of speech acts. While in both sections, directives (generally questions) predictably

prompted the highest number of responses, the response rate to assertives differed. In Section 3, 439 comments (83%) were top-level comments, including 69 directives and 370 assertives. 13% of these directives and 7% of these assertives received at least one reply. In Section 5, out of 50 top-level directives, 12% received a reply, and out of 350 top-level assertives, only 3% received a reply. Participants in Section 5 primarily replied to another comment only to answer a question, whereas participants in Section 3 also fairly often replied to comments that did not explicitly seek a response.

This led us to question what sort of assertives in Section 3 received replies and what the substance of those replies was. The following exchanges illustrate the interactions found in this section that began with an assertive. The exchange in [Excerpt 1](#) is found in the comments for the first song, “Sénégal Fast Food.”

Excerpt 1

Chad: I don't think this song has anything to do with fast-food.

Sophia: Maybe it is not "Fast food" but possibly these places have a fast life feel to them. Maybe the video can better help contextualize this as it keeps showing clocks and talking about time.

Jason: You have a great point here. There is a lot of hustling featured throughout this video. It shows the amount struggle people have to go through to make ends meet in this particular area of the world. But yet there are still smiling faces. Maybe there can be a connection made between life, time, and finding happiness in every destination.

Paul: I think it's also trying to point out the struggles that people go through in order to live in "fast" or more modern parts of the world and when you make it you have to work so hard to maintain it but it's worth it.

In this exchange, four participants discuss the relationship between the title of the song, the lyrics, and the accompanying music video. The top-level comment by Chad actually prompted multiple replies besides the one by Sophia shown here. This may be because although it is not worded as a question, it raises a point of confusion about the text allowing others the opportunity to address it. Sophia's response proposes an interpretation linking the text (which mentions a series of places around the world) with the title in an unconventional way, and also draws a connection to the music video. Note the double use of the qualifiers *maybe* and *possibly*, which invite further discussion rather than settling the topic. Jason's response builds on Sophia's, mentioning more details from the music video which might connect to the lyrics and title, and again uses the qualifier *maybe*. Paul offers another interpretation of the title based on Jason's observations about the video. At each stage of the thread, the comments encourage replies by suggesting a new avenue of discussion without fully exploring it.

In the thread shown in [Excerpt 2](#), an assertive comment prompts a reply which is a directive.

Excerpt 2

Mark: A lot of excitement at this part of the song!

Jennifer: This part mean's 'don't forget' right?

Mark comments on the general tone of the lyrics (and possibly the music) in one part of the song. Jennifer then draws attention to the particular phrase linked to Mark's comment and asks for confirmation of its linguistic meaning. Given the stark change of topic, Jennifer's question could easily work as its own top-level comment. A possible reason for its inclusion in a reply is the hope of prompting an answer from Mark, as a top-level question could be ignored in the crowd of other comments. Unlike top-level directives which are directed to the whole group or any member of it, Jennifer's question appears to be directed only or primarily at Mark. Jennifer's question did not in fact receive a reply, so if this was the motivation then the attempt was unsuccessful. It should be noted that eComma does not send a notification to users whose comments receive a reply, so Mark may never have seen Jennifer's question.

In [Excerpt 3](#), a reply shifts the topic from the text to a meta-commentary on the interaction.

Excerpt 3

Bryce: Je suis d'accord parce que (*I agree because ...*) without Louisiana there wouldn't be Cajun food which would be a tragedy.

Ryan: hahahaha i love this comment

First, it should be noted that Bryce's comment is one of the few examples of code-switching found in the data. *Je suis d'accord* 'I agree' was included in the eComma tutorial video as an example comment, as was the phrase *je ne comprends pas* 'I don't understand' as mentioned earlier. All of the French comments in sections 3 and 5 consisted of or included one of these two phrases. Although students generally chose to write their comments in English, they often used French to express agreement and lack of understanding, likely due to influence from the tutorial.

Ryan's reply in [Excerpt 3](#) comments not on the text but on Bryce's comment itself. Ryan uses all lowercase letters and indicates laughter with "hahahaha." This informal webspeak style is typical in comments by Ryan, which are often written in lowercase and include acronyms and phrases such as 'lol' and 'mannnn this sucks'. However, there are other comments by Ryan written with standard capitalization and punctuation. Bryce's code-switching, as well as the light-hearted reference to Cajun food, might have been associated by Ryan with informality and orality, contributing to his use of this style in his reply.

A common type of interaction found in threads from both sections involves simple expressions of agreement in the reply, as illustrated in [Excerpt 4](#), which comes from Section 5.

Excerpt 4

Danielle: The form of this word makes me think of "paraguas" in spanish.

Michael: That's what I think of as well.

Michael's reply expresses alignment with Danielle's experience. Most replies to assertives in Section 5, and many in Section 3, are of this type, consisting mostly of an expression of agreement in English, or sometimes the phrase *je suis d'accord* 'I agree'. Although these replies are often simple and do not always add new thoughts or information, they contribute to the co-construction of meaning by supporting other ideas and show that participants extracted meaning not just from the text but from one another.

Section 3 featured not just a greater quantity of replies to assertive comments, but also a greater variety, including explanations and elaborations as in [Excerpt 1](#), follow-up questions as in [Excerpt 2](#), and meta-commentary as in [Excerpt 3](#), as well as agreements, disagreements, corrections, and personal connections. Both sections also included replies to directives, which were mostly questions about linguistic meaning (e.g. "What does this mean?") but also occasionally questions about literary or cultural meaning (e.g. "what is the historical context of Ile Saint Louis"). Responses to these were mostly straightforward answers (e.g. "It means to show"), sometimes with epistemic mitigation (e.g. "I think it's a contraction for 'petits'?"), although in one case the reply expressed only alignment with the question ("I was wondering that same thing").

The majority of comments received no replies, leading to the question of what separates those which received a reply from those that did not. One obvious factor to consider is the time of posting. In general, students were expected to post comments within the 24-hour period before each song assignment was due. Comments posted earlier within that period would be seen by more of the class as each individual logged on to complete the assignment and therefore be more likely to receive a reply. In Section 3, top-level comments that received replies were posted on average 4.5 hours before the mean posting time of top-level comments without any replies. In Section 5, excluding comments by one individual posted weeks after the due date, top-level comments that received replies were posted 2 hours and 38 minutes ahead of other top-level comments. However, the earliest comments were not necessarily the most likely to receive a reply. Notably among directives, early questions were sometimes ignored while questions posted in the middle of the assignment's active time period received answers. The other primary factor appears to be the complexity

of the question. Simple, direct questions about the meaning of linguistic forms (e.g. “What does this mean?”) posted well before the deadline were the most likely to be answered. Questions about literary elements (e.g. “Why is this mention so much on the song” [sic]) or more complex linguistic questions (e.g. “is having the o and e touch like this how we should be writing ‘eggs’ in our own writing?”) often did not receive replies even if they were the first comment posted to the song. More complex questions might have been intentionally left for the instructor to respond to in class. Naturally, questions posted shortly before the deadline rarely received replies, as most other students would have already completed the assignment.

Developments in interaction over time

The two sections took very different paths in the development of social interactions over time. The majority of Section 3 (15 out of 18 participants) wrote at least one reply in the first song. However, in subsequent songs, the use of eComma as a social tool was largely limited to a cohort of 4-6 members of the section. These participants continued to write replies throughout the semester, particularly although not exclusively to each other’s comments. In top-level comments, these participants tended to ask questions more consistently than others. After the first two songs, most other members of Section 3 became less engaged in the social element of eComma, generally writing only top-level comments and asking fewer questions. The average word count per comment from the four most consistent repliers—Paul, Jess, Sophia, and Cody—was also nearly double that of the other members of the section: 18 words to 9.7 words. While others in the section made the greatest use of linguistic affordances in their comments, these four used more literary (see [Excerpt 5](#)) and social (see [Excerpt 6](#)) affordances in their comments.

Excerpt 5

Sophia: It seems like he feels betrayed by his lover and the concept of love.

Excerpt 6

Cody: The lighthearted nature of this song reminds me of our first eComma song

Cody in particular drew on social affordances for the majority of his comments, even when discussing linguistic forms, as seen in [Excerpt 7](#).

Excerpt 7

Cody: I hope we will learn the future tense this semester

Outside of these four highly social participants, a particular practice developed in Section 3 involving linguistic affordances. For the first song, among comments focused on linguistic forms, there was a roughly even split between questions about meaning (e.g. “Does this mean the same thing that it does in English?”), of translations (e.g. “What time is it in Paradise?,” which is the translation of the lyric *Quelle heure est-il au Paradis?* from Amadou & Mariam’s “Sénégal Fast Food”) and linguistic observations (e.g. “This is a false cognate!,” “Confidence is spelt so weirdly in French.”). In later songs, questions about the meaning of words and phrases became less common. In turn, comments providing a translation of a word or phrase became more widespread. It seems that fewer students asked for translations since they were already being provided. By the final song, there were 33 comments with unprompted translations of words or phrases from the text and only two questions asking directly about word meaning. Questions in the later songs were primarily about literary meaning rather than linguistic meaning.

Unlike Section 3, Section 5 had low social engagement in the early songs, with no replies for the first two songs, although many participants asked questions in the first song. In the second song, only two comments were directives, one of which was an indirect question (“I wonder...”). By the third song, three participants wrote replies, but not to answer questions, just to express agreement or elaborate on a point. After this, the number of questions recovered and there was a steady level of replies in the remaining songs. In total, only six of the 15 participants in Section 5 wrote replies. Like in Section 3, there were comments from Section 5 providing unsolicited translations of words and phrases from the text. However, these never became the dominant comment type as they did in Section 3.

Instructor comments

When surveyed, the instructors of these sections reported patterns of classroom interaction that reflect these patterns of online interaction in eComma. In Section 3, the first song prompted the highest level of social interaction in the DAT. The instructor reported a similar level of engagement with the subsequent in-class discussion: “The first song about Senegal inspired an in-depth conversation, especially because one of the students is Nigerian and knew a lot about the exodus of Senegalais in the early 2000s.”

In Section 5, which had lower overall social engagement in eComma, especially for the first few songs, the instructor reported that generating in-class discussion of the songs was difficult: “[T]he students’ engagement was pretty consistently low all through the semester, despite the fact that I tried changing my approach (directing questions, brainstorming, additional documents to trigger conversations and remarks, debates,...).” The instructor attributed this to a lack of incentives for participation in the in-class discussion: “[T]hey were required to do it in eComma, but tended to see in-class participation as optional.” While the instructor of Section 5 apparently tried several different activities to generate in-class discussion of songs, the instructor of Section 3 used a very simple, informal method for leading the discussion: “I would scroll through their annotations and mention some that seemed to address relevant or interesting vocab, grammar and cultural points.” As Section 3’s greatest level of social engagement in eComma was with the first song, before any such in-class discussion had taken place, it seems likely that the social use of the DAT arose from the students themselves, rather than any particular method employed by the instructor. The fact that online social engagement in Section 3 was led primarily by four particular students supports this assessment.

Interaction outside of replies

Co-construction of meaning in DATs is not limited to questions and replies. There are comments which despite not technically replying to another comment seem to respond to ideas from previously posted annotations. We can see an example of such collaboration around a single idea in both sections’ attempts to decipher the meaning of a particular lyric from the final song, *Le bal masqué* by La Compagnie Créole. The lyric is *Devinez, devinez, devinez qui je suis/Derrière' mon loup,/Je fais ce qui me plaît, me plaît* ‘Guess, guess, guess who I am/Behind my domino mask,/I do what I want, I want.’ In a later verse, the line is repeated, but *Je fais ce qui me plaît* ‘I do what I want’ is replaced by *J’embrasse qui je veux* ‘I kiss who I want.’ The difficulty lies with the word *loup*, which is polysemic. Its most frequent meaning is ‘wolf’, but in the context of this song, which describes a masquerade party, it means ‘domino mask.’ Commenters in both sections struggled to interpret these lines, and their attempts across multiple participants and comments are revealing as to the nature of meaning co-construction in a DAT context.

All comments from Section 3 on the *loup* lyric are collected in [Excerpt 8](#) in order of posting. With the exception of the final two comments by Jason and Cody, these are all formally unrelated top-level comments, not a thread of comments and replies.

Excerpt 8

[11/28 1:07 pm] David: Behind my wolf I do what I like.

[11/28 3:16 pm] Paul: What does he mean by "behind my wolf?"

[11/28 3:43 pm] Chad: Behind my wolf

[11/28 3:47 pm] Chad: Does this mean guess who he is behind the mask that he might have on?

[11/28 9:10 pm] Jess: i feel like he's referring to his costume

[11/28 9:26 pm] Jennifer: "Behind my wolf" - what does this mean?

Maybe the singer is wearing a wolf mask, has a wolf on their float, or they have a dog? Maybe they're referring to someone they know as a wolf? Maybe it's a cute thing to call a lover in French, like how we call girlfriends/boyfriends nicknames like 'honey' or 'cutie-pie.'

But also, why are they kissing people behind the wolf?

[11/29 6:46 am] Nicole: Behind my wolf,

[11/29 9:49 am] (Reply to Paul) Jason: Maybe behind their wolf costume they can kiss who they want

[11/29 11:24 am] (Reply to Paul) Cody: Or maybe when wearing a costume you can act like a different person

Paul's comment, the only one to receive replies, is the first question about the lyric and does not propose a guess. Although Cody's comment is formally a reply only to Paul's question, not to Jason's reply, the use of "Or maybe" mirrors the "maybe" in Jason's reply, suggesting that Cody's comment is a follow-up to Jason's. Both Chad and Jennifer ask what the lyric refers to while also offering guesses. Chad comes closest to the correct interpretation by suggesting the lyric refers to a mask, but it is unclear whether he understands that a *loup* is a standard type of mask or believes it refers to a wolf disguise as other commenters do. Chad is also the only participant to comment on this lyric twice, first offering simply a direct (although incorrect) translation, and then four minutes later, likely after encountering the lyric again in the following verse, questioning the meaning.

Certain comments suggest that the commenter did not read the others on the topic. For example, Nicole provides the same translation already provided by David and Chad. However, there are indications that some participants were influenced by the other comments even if they did not reply to anyone directly. Although the lyrics do not specify the speaker's gender, Paul genders the speaker in his question, "What does he mean...." In the accompanying video, the lyric in question is sung both times by a woman, and the camera focuses on the woman as she sings and gestures with a domino mask. However, Chad and Jess carry on Paul's gendering of the speaker as male in their comments. Afterwards, Jennifer breaks the trend and refers to the speaker as "the singer" and uses the gender-neutral pronouns *their* and *they*. Later on, Jason follows Jennifer in using gender-neutral pronouns even though he is replying to Paul, who used a masculine pronoun. These comments show a subtle structuring and restructuring of meaning around the gender identity of the speaker (not necessarily equated with the performers in the video) taking place across multiple participants.

The comments on the same lyric in Section 5 are presented together in [Excerpt 9](#). Again, these are all formally unassociated comments except for Erica's reply as indicated.

Excerpt 9

[11/28 10:17 am] Dylan: This translates to "behind my wolf". I'm not sure what the significance is about that line. Any thoughts?

[11/28 4:37 pm] Amanda: are they behind a wolf mask or something like that?

[11/29 9:00 am] Danielle: What do they mean by behind my wolf?

[11/29 9:49 am] (Reply to Dylan) Erica: the sentence before it translates to guess who, guess who I am. So behind my wolf probably refers to the costume the person is wearing.

[11/29 9:50 am] Sarah: Apparently, "un loup" is the term for a type of mask.

[11/29 11:27 am] Megan: i didn't know this meant wolf

Like in Section 3, the first question is the one which ultimately receives a response. Unlike in Section 3, there is a comment by Sarah which correctly identifies the meaning of the word *loup*. Although Sarah's comment is not a reply, it was posted one minute after Erica's comment and addresses the same topic; Sarah's comment was likely prompted by Erica's, as well as by the previous questions. Prior to Sarah's identification of the meaning, Erica points out contextual evidence to support the interpretation of *loup* as referring to a wolf costume. Amanda suggested the same interpretation, although without supporting evidence, so it is possible that Erica borrowed this idea and expanded on it.

Discussion

The appeal of using DATs for L2 reading lies in the possibility for learners to engage collaboratively in analyzing texts. While post-reading class discussions can provide a sharing of ideas that enriches understanding, time for this is often limited, and some learners may be less inclined to engage in that setting. As one instructor noted, “Some shy students seemed to be bolder in eComma.” Rather than replacing in-class interaction, online collaborations can begin a discussion which continues in class, leading to a richer understanding of texts in the end (Thoms & Poole 2017, p. 150).

In our study, certain sections came closer to this ideal standard of rich, interactive discussion online and in class than others. Students appeared to attend to the annotation behavior of their peers in the same section as a model for their own annotations. Annotation patterns were self-reinforcing within each group, whether these were desirable behaviors such as asking and answering questions and using the L2 in annotations or undesirable behaviors such as short, repetitive comments. This highlights the need for instructors to provide positive models and clear instructions in order to encourage a positive community of practice within each class.

It merits noting that even apparently minimal engagement with the social affordances of a DAT may offer some benefits over solitary reading. An example of minimally social engagement is the practice adopted in Section 3 of translating much of each text line-by-line across many annotations. There can be a concern that some readers rely on translations provided by others rather than on their own analytical and language skills in order to understand a text. However, translation comments in Section 3 came not from a single overachiever but from many different participants, each filling in the gaps left by others. Also, as seen in the case study of the word *loup* ‘domino mask’, decoding a text can sometimes require collaboration, with multiple individuals offering suggestions, correcting each other, asking questions, and expanding on each other’s ideas. Although collaboration may make it easier for some readers to gain a superficial understanding of a text, it also invites them to seek a more complex and thorough understanding and provides a way to do so.

It does appear that in our study, many participants engaged minimally with the social aspect of eComma. Statements were much more common in comments than questions, and the majority of questions received no reply. Although we initially expected that use of the tool might become more socially interactive over time as students built relationships with each other and became more accustomed to the tool, this did not generally occur. In fact, the greatest level of social engagement was found in the first song, not the last. As was also reported by Thoms, Sung, and Poole (2018, p. 48), a lack of depth in the DAT interaction posed difficulties for some instructors in generating in-class discussion. Nevertheless, the collaborative benefits of DATs are not limited to questions, answers and replies. As pointed out by a participant in the study by Thoms & Poole (2017), comments by others can influence one’s reading of a text simply by their visibility (p. 150). Evidence of this influence is found in [Excerpt 8](#) and [Excerpt 9](#). There were also factors which contributed to an increased level of social engagement in some cases. The topic of the song may have played a role, as instructors reported that some texts, such as “Les cornichons” which tells the story of a picnic using very simple lyrics, inspired less discussion both in class and on eComma. For most of the songs, participants either listened to audio of the song only or watched a video performance by the artist, but for the first song they watched a music video that presents the story of an African immigrant to Europe. Several comments referenced the video, and its narrative may have helped to inspire the heightened level of interactive discussion seen for that song. The music itself may have also contributed to student enthusiasm in discussions, as one instructor pointed out: “Les cornichons and Le bal masqué were a big hit!... Rhythm was the main factor.” As suggested by The New London Group (1996), the integration of alternate media enhanced discussion of the text, rather than distracting from it.

Some adjustments to the tool and how it is presented may encourage greater social engagement in the future. Currently, eComma includes no system to notify users when one of their comments receives a reply, and notifications could encourage users to return to the tool to follow up on earlier discussions. Glosses for

some unfamiliar vocabulary were provided with the texts used in our study. However, given the apparent willingness of students to deduce or research the meaning of unfamiliar words and share their own glosses in the DAT, it may be more useful for texts to be provided without any glosses provided by the instructor. This would empower the collectivity of students to collaborate further in making meaning. Explicit direction from instructors, such as an encouragement or requirement to reply to a certain number of comments from peers, could also impact the dynamics of DAT interactions.

Even without being prompted to do so, participants engaged in discussions that went beyond the text itself and explored pragmatic questions to co-construct understanding of the target language and culture. For example, a comment previously shown in [Excerpt 8](#) hypothesized about French terms of endearment: “Maybe they're referring to someone they know as a wolf? Maybe it's a cute thing to call a lover in French, like how we call girlfriends/boyfriends nicknames like ‘honey’ or ‘cutie-pie.’” Although this incorrect interpretation would require correction in class, it illustrates the inductive reasoning many instructors seek to develop through L2 reading. Instructors reported that the introduction of eComma was an overall positive development over the previous model for teaching these songs and fostered higher-quality discussions.

Conclusion

In the transition in language education from “mere literacy” to multiliteracies (The New London Group 1996, p. 64), DATs are a valuable resource to engage learners as a community rather than individually. In this and other previously cited studies, it is clear that shared annotation of texts can provide learners with a diversity of perspectives leading to deeper analysis and understanding. Annotations in our data were at times rich and diverse, and some instructors reported thoughtful in-class discussions facilitated by the annotations. We have also seen, however, that engagement with DATs is highly variable. In each of the class sections in our study, levels and patterns of interaction were different, and social engagement with eComma did not generally increase over time. The type of positive collaboration that can foster deep learning and development of multiliteracies is dependent on the community of learners who co-create a set of shared practices. The sections with the most success were those including some highly engaged students who invested in the DAT’s social affordances and other students who responded to that level of engagement.

As teachers incorporate DATs into their reading curriculum, they should be mindful of the importance of developing a culture of cooperation and investment among their students and intervene as necessary to encourage positive collaboration. Our results indicate that text selection can play a large role in annotation quality. Instructors can revise text selection where low annotation quality indicates a failure to engage student interest. Assignment timing is another factor instructors can control. Even in our study, where annotations for each text were written within a 24-hour period, timing presented an issue where questions posed later were less likely to be seen and receive a response. Instructors using social reading may opt to require students to annotate in stages, explicitly asking them to return after a period of time and respond to their peers’ comments before class discussion. Instructors should also be mindful of the tradeoffs related to code choice. Left with the option, students are likely to write annotations almost entirely in their L1. Some teachers may prefer that annotations be written in the target language, but a strict L2 requirement might hamper discussion in introductory courses.

Research on digital annotation is still in its infancy. An important question to be investigated further regards the influence teachers can have on student annotations. In our study, teachers were given no specific instructions on how to discuss the songs and annotations in the classroom, although some suggestions were provided in training, and they report having used a variety of approaches. As a central goal of at-home annotation of texts is to improve in-class discussion, the relationship between these two pedagogical environments merits continued inquiry.

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Notes

1. Links to all lyrics can be found in the [Appendix](#)
2. One possible origin is the phrase *décadence catalane décalée* ‘quirky Catalan decadence’ proposed on the podcast *Bide et Musique*’s forum by user “kalaghan” (<https://www.bide-et-musique.com/song/942.html>, see also discussion by user “Dr Flex” at <http://cqfd-corp.org/actu-222-analyse-d-une-chanson.html>, accessed 9/17/2019).

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Appendix. Readings used in the study

Text 1: “Sénégal Fast Food” by Amadou and Mariam

<https://genius.com/Amadou-and-mariam-senegal-fast-food-lyrics>

Text 2: “Ma Louisiane” by Zachary Richard

<https://genius.com/Zachary-richard-ma-louisianne-lyrics>

Text 3: “Comme D’habitude” by Claude François

<https://genius.com/Claude-francois-comme-dhabitude-lyrics>

Text 4: “Les Cornichons” by Nino Ferrer

<https://genius.com/Nino-ferrer-les-cornichons-lyrics>

Text 5: “Sous le Ciel de Paris” by Yves Montand

<https://genius.com/Yves-montand-sous-le-ciel-de-paris-lyrics>

Text 6: “Le Bal Masqué” by La Compagnie Créole

<https://genius.com/La-compagnie-creole-au-bal-masque-lyrics>

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