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Emotional positioning as a cognitive resource for arguing

Lessons from the study of Mexican students debating about drinking water management

Claire Polo, Christian Plantin, Kristine Lund
and Gerald Peter Niccolai

ICAR Laboratory, Université de Lyon

This paper consists of a detailed analysis of how the participants in a debate build their emotional position during the interaction and how such a position is strongly related to the conclusion they defend. In this case study, teenage Mexican students, arguing about access to drinking water, display extensive discursive work on the emotional tonality given to the issue. Plantin's (2011) methodological tools are adopted to follow two alternative emotional framings produced by disagreeing students, starting from a common, highly negative, thymic tonality. Through the analysis of four parameters (distance to the problem; causality/agentivity; possibility of control and conformity to the norms) we describe how the emotional dimension of *schematization* (Grize 1997) is argumentatively relevant. In authentic discourse, it is impossible to separate emotion from reason. The conclusion section discusses the implications for the design of argumentation-based pedagogical activities.

Keywords: argumentation, *schematization*, norms, values, socio-scientific issues, emotional framing, group cognition

1. Introduction

Emotions have long been considered as introducing bias, and therefore associated with potentially fallacious argumentation practices, especially in critical argumentation studies (Hamblin 1970; Walton 1992). Recent studies based on authentic discourse rehabilitated emotions as an object for argumentation studies (e.g. Plantin, Doury & Traverso 2000; Micheli 2010; Plantin 2011). The literature on research in education also provides contrasting views on how emotions relate to

argumentation, most authors focusing on the emotions associated with the process of arguing itself (e.g. Andriessen, Pardijs & Baker 2013; Baker, Andriessen & Lund 2009). Still, we maintain that argumentation cannot be studied as a formal practice without considering the substantial objects under discussion. In science education, some specific issues, characterized as ‘socio-scientific’, are considered as emblematic topics generating opinions based on emotions, values and daily knowledge together with school-institutionalized knowledge. Many authors and educational policy makers agree that such controversies involving multiple scientific, technical, social, political, ethical and moral aspects should be tackled in the classroom, both as part of the science curriculum and as contributing to citizenship education (see Albe 2006; Fowler, Zeidler & Sadler 2009; Kacem & Simonneaux 2009). Blurring the boundaries between natural and social sciences, subjectivity and objectivity, knowledge and opinion, debates about such issues offer a great opportunity to study the argumentative use of emotions.

In this paper, we present a case study of Mexican students debating about access to drinking water: a typical socio-scientific issue. We show how their defense of a given argumentative claim is intrinsically attached to their emotional positioning. We claim that such framing arises from the emotional dimension of the cognitive process of *schematization* of discourse objects (Grize 1997), which is constitutive of the argumentative *orientation* of the discourse (Anscombe & Ducrot 1997 [1981]). We describe the students’ emotional framing through the analysis of a diversity of discursive markers, including an interpretation of some implicit elements, using tools developed by Plantin (2011).

In Section 2, we specify our theoretical background, referring to how emotions are considered as relating to argumentation in two different research fields: education and argumentation studies. We give an extended review of conceptual tools, based on the empirical approaches to argumentation which we later on use for our study. In Section 3, we detail the data and the social context investigated. Our methodology is presented in this analytical section, together with the corresponding results. Finally, implications of considering the role of emotional framing in argumentation are discussed in Section 4, both for the analysis of argumentative interactions and in the context of educational design. In Section 5, we summarize our conclusions.

2. Theoretical background

In this section, we first present different views on the place of emotions in argumentation across two fields: education research and argumentation studies. We

then focus on a recent research tradition of the latter: the empirical approach to argumentation studies.

2.1 Emotions in educational argumentation

Educational practices of argumentation correspond to two distinct pedagogical orientations that both leave a space for emotions. Research on collaborative learning generally considers argumentative activities as tools to produce socio-cognitive conflict (Roschelle & Teasley 1995). In this perspective, some specific feelings have been studied for their impact on learning. Some emotional tensions related to real socio-cognitive conflicts are considered positive (Andriessen, Pardijs & Baker 2013; Baker, Quignard, Lund & van Amelsvoort 2002; Sins & Karlgren 2013), whereas the regulation of emotion is promoted as a means of avoiding negative tensions that could be detrimental to learning (e.g. Järvenoja & Järvelä 2013).

In science education, emotions have been studied less as related to the activity of arguing in itself, but rather in association with specific objects of debate. More specifically, some didactical objects recently introduced in the curricula tend to provoke appeals to emotions: the ‘socio-scientific issues’ (Albe 2006; Fowler, Zeidler & Sadler 2009; Kacem & Simonneaux 2009). The latter consist of dilemmas including significant scientific or technological underpinnings and dealing with broad questions of the future of society. Here, the correct use of basic knowledge might lead to a diversity of responses, divergent opinions being chiefly defined through values and interests, bringing together a diversity of emotional attitudes.

2.2 The discursive construction of emotions as part of authentic argumentation practices

In linguistics, the use of emotions in argumentation has been given different status over time and along divergent research traditions. While rhetorics from Antiquity clearly included the argumentative functions of emotions, the institutionalization of argumentative studies as an autonomous field of research was associated with discrediting emotions as legitimate objects of study. For example, Toulmin’s (1958) seminal work barely mentions emotions. Even Perelman and Olbrechts-Tyteca’s (1958) project, which explicitly aims at conciliating subjectivity with rationality, does not provide tools for the analysis of emotions, but rather focuses on ‘values’.

Later on, in the critical theory of argumentation, emotions are reintroduced, but only as indicators of fallacious (Hamblin 1970) or potentially fallacious (Walton 1992) arguments.

By contrast, recent empirical studies based on authentic discourse describe the use of emotions in argumentation, leading to a more complex analysis of their argumentative functions (e.g. Plantin, Doury & Traverso 2000; Micheli 2010; Plantin 2011). In a descriptive perspective, this line of research aims neither at judging the validity of arguments, nor at describing people's emotional state:¹ the idea is rather to understand how the expression of emotions is used in arguing.

The present paper adopts this latter view on emotions. Such an analysis is complex, as emotions can be semiotized in discourse through a diversity of forms, including implicit ones. Plantin (2011) suggests various indicators for studying the discursive expression of emotions, ranking from deep lexical analysis to emotional inferences based on cultural stereotypes.

The analysis of not explicitly thematized emotions includes a continuum of more or less implicit inferences. Micheli distinguishes 'shown' emotions from 'scaffolded' emotions (Micheli 2013), depending on the nature of the inferred component. The 'shown' emotion is inferred through cultural stereotypes concerning the way emotion is expressed, also called 'downstream' emotional signals. Such signals correspond to the usual symptoms associated with a given feeling, as, for instance, 'a red face' standing for anger or shame. On the other hand, the 'scaffolded' emotion relies on 'upstream' signals, involving stereotypes about the type of situations that are likely to produce a given emotion (metaphorically associated to emotion-triggering, and therefore earlier, events). For example, in Western culture, a burial is expected to be sad.

The analysis of the role of emotions in argumentative discourse does not necessarily imply their precise labeling. The argumentative value of a given emotion consists in its placement along the two axes of valency (the more or less pleasant or unpleasant emotion) and intensity (referring to the strength of the emotion; see e.g. Plantin 2011; Cahour 2013). In the case of implicit emotions, the inferential mechanisms are also structured along these two axes. Plantin (2011) identifies several parameters involved in the discursive construction of emotion intensity: (1) framing a situation as more or less distant to the participants; (2) presenting it as possible or impossible to control; (3) describing the problem as a fatality or a result of a causal event, or as caused by a particular agent. On the valency axis,

1. Caffi & Janney (1994) distinguish between 'emotional' and 'emotive', the first adjective referring to emotions actually felt by the speaker, and the second corresponding to the emotions that are semiotized in the communicative situation. In this paper, we focus on 'emotive' positioning, but we feel more at ease with using the word 'emotional'. Moreover, in practice, distinguishing between the two meanings is often difficult. Some researchers even analyze students' emotional feeling through discursive clues. Specific of the empirical approach of argumentation studies is its focus on how argumentative discourse works, with little interest in people's actual emotions.

two main spectra contribute to the discursive construction of emotion: (4) the life-death continuum, consisting of a positive perception of what is associated with life, in opposition to what is linked with death, which is negatively evaluated (this aspect can be directly identified in the lexicon and by topics, or be analogically alluded to); and (5) conformity with shared norms, including a positive appraisal of elements presented as conforming with the norms and a negative appraisal of non-conformity.

In the present paper, students' emotional framing of the question and the competing responses are characterized using the aforementioned parameters; also, the resulting argumentative *orientation* of discourse toward the claim that they are defending is derived. In terms of argumentative orientation of discourse, we study, more precisely, what Grize calls the 'schematization' of discourse objects: "a schematization casts light on specific aspects of a discourse object" (Grize 1997: 73 [1990]), and tries to "modify the diverse representations [the interlocutor] might have, by emphasizing some aspects of things, hiding others, suggesting new ones" (ibid.: 40).

3. Data and social context investigated

In this section, we first present the pedagogical situation leading to the debate studied and we then specify the type of data on which our analysis is based.

3.1 Pedagogical situation

The junior 'scientific *café*' pedagogical situation can be described as a semi-formal educational setting. The activity is held at school, but outside of the curriculum, and is not specified as part of a given disciplinary lesson. Teachers, when they are present, are only observing the debates, which are led by two students aged 15–16, for an audience of students aged 13–14. The pedagogical macro-script was co-designed by the ICAR research laboratory and a French non-profit institution specialized in informal science education. It was implemented and videotaped in Mexico, the US and France (Polo 2014: 83–106). This particular case study is based on a *café* held in a Mexican private upper class secondary school in November 2011, in Tehuacán (Puebla State).

The participating students are seated by fours around tables arranged across the room. The 110-minute-long activity is organized following a multiple-choice questionnaire, and themed around a main question about what would determine access to drinking water in the future (Figure 1). The students are first asked to answer the main question individually and anonymously. Then, three topics are explored,

providing the students with basic information on the available water resources, the uses of water and how water is currently managed. Each topic ends with a socio-scientific question, referred to as an ‘opinion question’ (a multiple-choice type question; see Figure 1). The students follow four explicit steps: first, they discuss the question at their table and collectively choose one of the six answers by picking a letter (A, B, C, D, E or F). Then, they are asked to show their answer by holding up the letter corresponding to the answer. The third step consists of a debate session at class level (5 to 15 minutes). Finally, each student selects an individual and anonymous answer to the question, which can differ (or not) from the group table answer.

After the students have thematically explored the three topics, the main question which had been asked, but not discussed initially, appears again, this time treated following the same four steps (group debate, group vote, class-debate, individual vote).

The data analyzed in this paper correspond to the debate about the main question in this last phase, at class level. In the case studied here, the students display great engagement and motivation to argue, including occasional direct interaction between themselves, without any prompting from the moderator.

EN DEBATE !

17. A tu parecer, el acceso al agua potable para una persona, en el futuro, dependerá sobre todo de:

- a) De su ingreso económico.
- b) De su resistencia física a vivir con agua de menor calidad.
- c) De los esfuerzos hechos ahora mismo para ahorrar agua y preservarla.
- d) De su lugar de origen en el planeta.
- e) De la capacidad de la naturaleza a adaptarse a nuestras necesidades de consumo de agua.
- f) De los avances científicos.

Figure 1. The multiple-choice question²

2. English version of the question: “In your opinion, in the future, whether a person has access to drinking water will first of all depend on: (a) how rich the person is; (b) how physically able the person is to live with lower water quality; (c) efforts made, starting now, to save water by using less and to protect water resources; (d) where on the globe the person is born; (e) nature’s capacity to adapt to our needs for water; (f) scientific advances.”

3.2 Recording and treatment of the data

Complex videographic recording of the debate allowed us to do an accurate multi-level analysis. The following video documents were made available: a global view from the rear of the classroom, a frontal view of each table group, and a screen capture of the projected diaporama, displaying the multiple choice questionnaire and the information slides. We also obtained stills of the whiteboard notes taken by the moderator on the opinion questions during the debates. Moreover, students' individual anonymous votes were gathered for each opinion question, as well as for the main question. The last phase of the activity was fully transcribed, using the ICOR conventions.³ Relevant utterances for this study are reproduced in Tables 1–6. Ad hoc, literal English translations follow the original Spanish structures, in order to help the reader understand the original utterances.

4. Students' strategic emotional positioning in argumentative discourse

In this section, we present our case study, explaining our analyses and results, so that the reader can follow our methodological approach 'in action'. We first present the general emotional framing of the debate, serving as a basis for the construction of competing arguments. We will call the emotional tonality that is part of the scene 'thymic'. We then specify the diverging emotional positions constructed by the students as they argue to defend different options. The emotional variations that depend on the argumentative orientation of the contributions to the debate will be called 'phasic'. The thymic/phasic distinction has its origin in the literature on the psychology of emotions, and has been fruitfully adapted to linguistics to describe emotional trajectories in argumentative discourse (Plantin 2011: 121–125). In psychology, *thymic* emotion constitutes a stable framework for dealing with emotional *phasic* events, often of higher intensity and shorter duration. It corresponds to the initial 'state of composure', a basic mood affected by phasic emotional variations. Methodologically, for our concerns, this opposition was adapted to help us distinguish between the generally accepted tonality of the debate and the variations corresponding to the use of emotional framing strategies to defend the competing options.

3. Fully described at: http://icar.univ-lyon2.fr/projets/corinte/documents/2013_Conv_ICOR_250313.pdf.

4.1 Thymic characterization of the debate: “A matter of life or death”

The basic emotional tone, never questioned by the participants, is rather grave. The debate is emotionally framed as intense and negative through the use of the cultural stereotype embodying our preference of life over death (Plantin 2011). The students build such thymic state using two different tools: lexical markers and causal reasoning based on the idea of ‘lacking’.

4.1.1 *Use of lexical markers*

The grave thymic tonality is not just objectively attached to the issue at stake per se (access to drinking water). It is also actively created by the students’ discursive work, presenting the issue as a matter of life or death. For instance, Alejandro,⁴ choosing option B, claims that people would end up fighting for water, and that only the strongest would survive:

8 ALE la desesperación de la demás gente que no tiene agua la gente pobre yo creo que se van a estar peleando por el como por conseguirla (the despair of the other people who don’t have water the poor people i believe that they would be fighting for the [water] as a way to get it)

Defending another option, answer A, Gaspar also takes part in the construction of this grave tonality through lexical markers, using the verbs ‘to live’ and ‘to die’:

25 GAS el dinero en comprar el agua para vivir (...) mucha gente puede morir por la falta la falta de agua (the money to buy the water to live (...) a lot of people can die because of a la- a lack of water)

Emilia, also pro-A, even uses the analogy of starvation:

64 EMI igual que: por decir los niños que están muriendo de hambre en áfrica\ (similar to: let’s say the children who are dying of hunger in Africa\)

Moreover, the use of the verb *agotar(se)* (‘to (be) exhaust(ed)’), introduced by Gaspar in his first contribution to the discussion, and reused twice, is emblematic of this framing of the debate:

4. All names are pseudonyms.

2 GAS se va a empezar a agotar bueno ya se está agotando el agua (it's going to finish well the water's already dwindling)
 21 EMI ya lo estamos agotando (we're already depleting it)
 60 EDU [lo que ahorramos] se va a agotar ([what we save] is going to be totally spent)

The definitions of *agotar* ('to deplete') from the Real Academia of Spanish Language Dictionary (2001) confirm that this term is strongly oriented toward death:

1. *Extraer todo el líquido que hay en una capacidad cualquiera.* ('To extract all the liquid which is in a given container').
2. *Gastar del todo, consumir. Agotar el caudal, las provisiones (...).* ('To totally spend, consume. Exhaust the capital, the stock'.)
3. *Cansar extremadamente.* ('To tire extremely').

Actually, meanings 2 and 3 refer to the extreme consumption of resources, directly associated with death. Meaning 1 is rather metaphorical, symbolically signifying the depletion of one's strength, water, blood. The image of drought is generally associated with sterility and absence of life, both at the level of an ecosystem and at the level of an organism.

4.1.2 'Necessity': Death-orientated causal reasoning based on 'upstream' signals

Such a thymic characterization of the issue is not questioned during the debate. Still, many students do not directly use a lexicon associated with death, but rather insist on the lack of water, either as a current or as a potential situation. This leitmotiv of the lack of water appeals to inferencing: the need for water is at the beginning of a causal chain ending in a serious risk of death. Some students present the lack of water as a matter concerning specific categories of people, for instance poor people:

62 OAN los ricos tendrán el agua que quieran y los pobres no\ (the rich people will have as much water as they want and the poor people won't)
 76 MAR ni va a poder tomarla\ ([this person] will not even be able to drink some)

But most of the utterances are more radical, describing the lack of water as having no water at all or not knowing how to get any. Radical lack of water can still be associated with some types of people, always perceived as 'others', sometimes specified as belonging to a lower social class:

8 ALE la demás gente que no tiene agua (the other people who do not have water)
 51 ART tú no vas a tener (you won't have any)
 64 EMI la gente que no tiene dinero se va a quedar sin agua tal vez a lo mejor en esos
 lugares donde se van a quedar sin agua (the people who do not have money they
 will find themselves without water maybe possibly in these places where they are
 going to find themselves without water)
 66 ADR cómo van a tener agua después/ (how are they going to have water afterwards/)

Eduardo is even more radical, including everybody as potential victims of a dramatic lack of water:

4 EDU si no hay agua ahorrada cómo van a: este avance científico sin agua/ (if no water is
 saved how are they going to: this scientific advance without water/)

Such a radicalization contributes to the gravity of the thymic basic tension, orientating the debate toward death. The causal reasoning based on necessity is usually implicit in the students' discourse, but it is made explicit through Gaspar and Raúl's contributions:

25 GAS mucha gente puede morir por la falt- por la falta de agua (a lot of people can die
 due to a la- a lack of water)
 68 RAU la gente que la necesita o sea la va es la que en verdad la necesita (the people who
 need it I mean they are going to it is them who really need it)

Raúl here produces an interesting argumentative dissociation: he specifies the impacted people as 'those who really need it', in opposition to those who would not really need water. This reminds us that we all need water. But, on the other hand, this dissociation allows him to insist on the specific situation of people who are in a vital need for water, which is to say, those who are at risk of dying from a lack of water.

The grave thymic tonality associated with the question in the students' discourse has implications for the way they can debate it. A specific 'emotional attitude' is expected, a moral duty to take the question seriously. This fairly intense thymic tonality also makes it easier, and somehow legitimate when arguing, to use emotions throughout the debate.

4.2 Different emotional positions supporting competing argumentative claims

During this discussion, the students tend to polarize the debate by opposing two of the available options: A (access to water will depend on how rich a person is) and C (access to water will depend on efforts made today). The *competing* option⁵ is discredited by an alternative description of the situation that orientates the discourse towards the chosen argumentative conclusion, or claim. Through different *schematizations* (Grize 1997) of the discourse objects under discussion, two argumentatively orientated emotional positions emerge.

These positions differ in three argumentatively relevant aspects: (1) the distance to the issue; (2) the possibility of controlling the unfolding situation and the cause(s) or person(s) responsible for it; and (3) the norms used to present the options as more or less pleasant. These dimensions are detailed in the three next subsections. A fourth subsection then discusses the relation between axiological and emotional conflicts.

4.2.1 *Emotional distance to the issue*

One of the structuring elements in the construction of emotion intensity is, according to Plantin, the distance to the issue (2011: 168–171). In this case, the high thymic tonality relies on a problem defined as ‘close’ to the participants, even if they are in fact members of the upper class, and not directly threatened by a lack of water. The distance to the issue is not only an objective one, contextually given; it is gradually designed through the exchanges, along three dimensions: who is concerned, where, and when.

Table 1⁶ allows us to compare the terms used by students from each side (pro-A and pro-C) to define the people concerned about the problem of access to drinking water.

Oana suggests the criterion of having money or not to define who is concerned. Later on, Miguel and Emilia also use this criterion. The three students defend option A.

The students defending option C counter-argue by reframing the problem as a problem for everyone, with a recurrent use of the first person plural. Raúl offers a different criterion to define people likely to have difficulties to access drinking water: necessity. In this way, the issue becomes a concern of all human beings, even

5. Of course these two claims are not contradictory per se, but are put in competition due to the exercise’s format, in which the students are expected to choose only one answer per group.

6. In each of the following tables, the column “turn” indicates the number of the speech turn and the three first letters of the speaker’s name.

Table 1. Construction of phasic emotions along the intensity axis: Who is concerned

Access to water: Who is concerned		
Turn	Pro-A side (“ <i>de su ingreso económico</i> ”)	Pro-C side (“ <i>de los esfuerzos</i> ”)
6, OAN	si tienes dinero obviamente vas a tener agua (if you have money obviously you gonna have water)	
19, MAR		terminemos (...) para que (...) no lleguemos a eso (we would end up (...) so that (...) we do not reach this)
38, MIG	sólo la gente rica va a tener (only the rich people are going to have)	
42, MAR		lleguemos a estos extremos (...) para que no lleguemos hasta este punto\ (we reach such extremes (...) so that we don't reach this point)
46, ART		y si hay personas que tienen (...) más dinero que tú/ (...) tú no vas a tener\ (and if there are some people who have (...) more money than you do/ (...) you're not gonna have any)
56, GAS	adaptarme a la situación y buscar maneras para conseguir dinero\ (adapt to the situation and find ways to get money)	
62, OAN		los pobres (the poor people)
64, EMI	la gente que no tiene dinero se va a quedar sin agua tal vez (...) no aprovechan bien el agua (the people who do not have money they will find themselves without water maybe (...) they do not exploit the water well)	
66, ADR		los que (...) no tienen dinero (those who (...) don't have money)
68, RAU		la gente que la necesita (...) que en verdad la necesita (the people who need it (...) who really need it)
76, MAR		no vamos a llegar a estos extremos (we're not gonna reach such extremes)

if some may have a more vital need, compared to others'. 'We' here represents an abstract idea of the concerned group, as mankind. Arturo elaborates the 'we' into a more concrete context by referring to the group of participants, and involving Gaspar in a fictive example: "what if he [GAS] were poor?"

To defend himself, Gaspar (who is defending option A) uses another criterion to define the people facing a problem of access to water: their ability to 'adapt' and raise the money to satisfy their needs. (This argument, based on the value of 'merit', is further analyzed in subsection 4.2.3).

The phasic variations of the distance to the problem reflect which option the students are defending, those in favor of answer A presenting the issue as more distant than do those in favor of option C, in terms of who is concerned.

The distance to the issue also varies along the spatio-temporal dimension. Emilia, defending option A, describes the places threatened by a lack of water as being far away from herself:

64 EMI en esos lugares donde se van a quedar sin agua (in those places where they will find themselves without water)

On the contrary, according to Raúl, pro-C, everything starts from 'home', a word both associated with spatial and temporal proximity, related to daily life:

68 RAU todo empieza desde la casa\ todo\ (everything starts at home\ everything\)

This analysis of the discursive construction of the distance to the issue shows that the problem is defined here in two different perspectives, which are not given by the situation nor by the question itself; nor do they randomly emerge in the conversation. Each of the two competing views is emotionally and argumentatively laden. For instance, situating the issue 'at home' is not neutral at all. The way the pro-A students construct the distance to the issue is likely to provoke a feeling of charitable compassion toward the affected people, as long as they prove to deserve it. On the contrary, pro-C students consider themselves as directly concerned by the issue, an attitude that potentially produces solidarity or indignation as a response to the lack of water that other people might experience.

For the temporal aspect, it is the other way around: pro-A students tend to emotionally 'warm up' the debate, claiming that the critical moment has already been reached or is going to occur soon. In fact, option C (access to drinking water would depend on efforts made today) implies the existence of a minimal time period making an action possible (and potentially efficient) before the water resources are totally depleted. Table 2 allows the reader to follow these two competing temporal *schematizations* of the issue.

Table 2. Construction of phasic emotions along the intensity axis:
The temporal dimension

Time before the situation becomes critical	
Turn	Pro-A side (“ <i>de su ingreso económico</i> ”) Pro-C side (“ <i>de los esfuerzos</i> ”)
2, GAS	se va a empezar a agotar bueno se está agotando el agua (it’s gonna start to exhaust well water is exhausting yet)
19, MAR	hasta un momento que (to a moment when)
21, EMI	ya lo estamos agotando (we’re exhausting it yet)
42, MAR	antes de que lleguemos a estos extremos (...) para que no lleguemos hasta este punto\ (before we reach such extremes (...) so that we don’t reach this point)
45, GAS	es la situación ([it] is the situation) después (afterwards)
62, OAN	terminar (...) para no llegar a estos extremos (to end up (...) to avoid reaching such extremes)
66, ADR	no vamos a llegar a estos extremos (we’re not gonna reach such extremes)
68, RAU	lo que pase ahorita (...) se va a ver reflejado en las consecuencias\ (what happens now (...) is going to be reflected in the consequences\)
76, MAR	no vamos a llegar a estos extremos (we’re not gonna reach such extremes)

Gaspar opens the debate by presenting the situation as a naturally occurring phenomenon; he uses a pronominal form without mentioning any human agent responsible for the evolution of water resources. A rhetorical effect is created by the succession of the verbal forms ‘is going to exhaust’ and ‘is exhausting’, giving the feeling that the phenomenon is accelerating. Such proximity between the announcement and the happening of the process implies that there is no space for action. Students defending option A are consistent with this temporal schematization throughout the debate, always considering that the critical point has already been reached or is currently being reached.

For students defending option C, like María or Oana, the discursively built ‘we’ is an actor able to have an impact on the evolution of the situation before ‘we get

there': we need to hurry, but there is still time to act. Raúl renders this construction of the problem explicit by insisting on future consequences of present behavior. This temporal distance to the issue tends to make the thymic tonality 'colder' and offers a space for control over the way things develop.

Yet, the temporal distance to the problem leads us to other dimensions that emotionally and argumentatively orientate students' discourse: the degree of control over the situation and its potential causes or the agents responsible for it.

4.2.2 *Control, causality and agentivity as parameters framing emotional intensity*

These dimensions are also very different in the discursive construction of the issue by students of the competing groups. Here, Pro-A and pro-C students each design a coherent image of the issue, consistent with the respective argumentative claim they are defending.

The contributions to the debate related to the degree of control over the situation are reproduced in Table 3. The students who believe that current efforts can determine access to drinking water in the future elaborate a view of the situation as potentially improving, given a certain effort (option C).

It is exactly here that Oana disagrees when defending the competing option (A). Aligning themselves with her framing, Gaspar and Alejandro, in their argumentation, consider that it is doubtful, or even impossible, to control the situation as it develops.

One could believe that assuming the possibility of a controlled development of the water resources would tend to 'cool off the issue', decreasing its degree of emotional intensity; by contrast, claiming that we cannot control the situation produces a feeling of fatality that, combined with to the initial negative thymic tonality, would present the issue as ever more critical. But again, the distinction is a matter of agentivity. Actually, Oana while questioning proposition C, dissociates her interlocutor, who is willing to make effort to save water, from the people who would not make any such effort. Doing so, she operates a shift from the microsocial to the macrosocial level. Gaspar and Alejandro keep on using this argumentative strategy. But, on the other hand, no student defending option C aligns with this separation of the human kind into 'we', the environmental friendly people, and 'they', the people not willing to make an effort. Instead, Jesús and María reintroduce the global 'we', standing for all of mankind. Interestingly, Raúl introduces a variant of the 'pro-C' position by his insisting on individual responsibility at the microscopic level, as the basis for social change at the macroscopic level. In authentic argumentative discourse, the degree of control over a given problematic situation is closely related to what or who can be considered as a cause or agent responsible for the problem.

Table 3. Construction of phasic emotions along the intensity axis:
Control over the situation

Control over the situation			
Turn	Pro-A side (“ <i>de su ingreso económico</i> ”)	Pro-C side (“ <i>de los esfuerzos</i> ”)	Argumentative function
6, OAN	dices que la ahorras pero y los que no la ahorran que pasa (you say you save some but and those who don’t save any what happens)		Opposition to the C proposition with an appeal to the macrosocial
23, JES		si ahorita la cuidamos la per- la perseveramos (...) no va a tener por qué aumentar (if now we take care of it, we preserve it (...) it won’t increase anyhow)	Repeating C proposition
25, GAS	si logra pasarse ahorramos el agua y sino (if it actually happens we save water and if not)		Questioning C
68, RAU		lo que pase ahorita (...) se va a ver reflejado en las consecuencias\ (what happens now (...) is gonna be reflected in the consequences\)	Repeating C proposition and appealing to the microsocial
74, ALE	aunque la ahorres(...) alguien más se la va a: se la va a desgastar\ (even if you save it (...) someone else is gonna eh: gonna waste it\)		Criticizing C again with an appeal to microsocial
76, MAR		si (...) iniciamos este no vamos a llegar a estos extremos (if (...) we start this [now] we’re not gonna reach such extremes)	Repeating C proposition

Table 4. Construction of phasic emotions along the intensity axis: Causes or agents

Agentivity and causality			
Turn	Pro-A side (“ <i>de su ingreso económico</i> ”)	Turn	Pro-C side (“ <i>de los esfuerzos</i> ”)
2 GAS	se va a empezar a agotar bueno se está agotando el agua (it’s gonna start to exhaust well water is exhausting yet)	23 JES	si ahorita la cuidamos la per- la perseveramos (if right now we take care of it, we save it)
6 OAN	los que no la ahorran (those who don’t save any)		
21 EMI	lo estamos agotando (...) las personas (we’re exhausting it yet (...) the people)	68 RAU	gente que tenga mucho dinero y la tenga pero nada más la va a desperdiciar (people who have a lot of money and have it but the only thing they will do is wasting it)
25 GAS	hay varias gentes que no ahorran (there’s several people who don’t save)		
38 MIG	como cualquier recurso como el petroleo (...) sólo la gente rica va a tener más disponibilidad al agua\ (as any other resource like oil (...) only the rich people are gonna have access to water\)	68 RAU	todo empieza desde la casa\ todo\ (everything starts at home\ everything\)
56 GAS	tendría que buscar (...) o sea no tener que cambiar el punto de vista sino tener que adaptarme a la situación (I would have to search (...) or well not to have to change point of view but rather to have to adapt to the situation)	76 MAR	si (...) iniciamos este no vamos a llegar a estos extremos (if (...) we start well we’re not gonna reach such extremes)
64 EMI	tal vez (...) no aprovechan bien el agua y por eso mismo es que ya: ya es escasa\ (maybe (...) they do not exploit the water well and that’s why it’s already: it’s already scarce\)		

Table 4 presents the elements of the two diverging discourses referring to a cause or agent of the problem, along with their argumentative functions. Mentioning a specific cause or agent is likely to produce a radically different emotion than does claiming that a phenomenon is pure fatality. In the first case, one might expect indignation, for instance; in the other, resignation. One has to have pity on the people struck by a natural disaster, but we don’t feel sorry for people who have created their own problems.

On the pro-A side, fatality framing dominates, as Gaspar's and Miguel's contributions show. Gaspar's passive progressive 'water is being exhausted' focuses on the evolution of the resource itself and creates a feeling of a natural phenomenon that is independent of human action. Miguel uses the oil analogy: here fatality is both attached to a resource's natural depletion and the social organization which always privileges the rich as regards access to scarce resources. Nevertheless, a few students defending option A use the value of merit, mentioning forms of responsibility associated with the limited access to water. To Gaspar, what counts is the responsibility for each individual to adapt and find ways to satisfy one's own needs. Oana, Gaspar and Emilia also mention people who do not use water the right way as being responsible for the diminishing of water resources. In doing so, they describe the people lacking water not as victims, but as people who deserve what is happening to them because they have not been capable of managing their own resources. Such agentivity is not contradictory to the feeling of fatality described earlier: the fatality is in the fact that there will always be people who will not make the needed efforts suggested by the students defending option C.

While the pro-C side supporters thus consider that people who use water poorly are somehow responsible for the current situation, this responsibility is at the same time extended to the macro-social level and made subject to individual action. What counts is everyone's practice, starting from each person's individual behavior. The recurrent use of 'we' by the students defending option C refers at the same time to the whole society and to the people physically present in the classroom.

Reading 'we' as the people responsible for exhausting water supplies (Emilia), versus as the people capable of stopping it (Jesús, María) is not argumentatively neutral. Similarly, a discourse presenting the poor as unable to have a reasoned use of water (Emilia) does not orient toward the same argumentative use of the 'merit' norm as does (Raúl's) reminding us that some rich people waste water. These analyses of causality and agentivity within the two opposed argumentative discourses reveal two different representations of human beings and society – representations that are emotionally marked and axiologically founded.

4.2.3 *The use of principles to define appropriate, more or less pleasant, emotions*

Causality and agentivity construction are key parameters for building emotions along the valency axis. They frame the nature of the appropriate emotional reaction (resignation or revenge). Another essential dimension that contributes to the construction of emotion valency is conformity with shared norms (Ungerer 1997; Plantin 2011: 170).

Pro-A students and pro-C students disagree concerning what should be done in the prevalent grave conditions (cf. Section 4.1). We observed that, in order to defend their response and to counter the competing one, several types of general principles are brought to bear. These are: (1) fundamental norms (f), corresponding to strong values related to a vision of the world; (2) procedural norms (p), concerning the rules of the debate, both about argument validation and the interactional script of the exercise; and (3) general laws (l), principles presented as uncontroversial facts. As regards the internal relations between these principles, fundamental norms are hardly ever rendered explicit as a general principle; they rather tend to be inferred from value judgments about general laws, or from the preferred use of some procedural norms.

Table 5A. Construction of phasic emotions along the valency axis: Option A depicted by supporters as conforming with norms and laws

Supporters presenting option A as conforming to laws and norms			
Turn	Quote	Use of principles	Argumentative effects
6 OAN	obviously if you have money you're gonna have water	l1:money>water	A presented as an obvious cause
21 EMI	there's no other way to reason people	f1':l1=efficient	counter-proposition of a 'neutral' emotional framing for A
45 GAS	it's not looking at the negative side (...) realism (...) what i took into account is the situation	f2':say(l1)=realistic p1: one should argue about what is likely to happen, not about what is desirable	Rejection of the negative framing and its transfer to the proponent, using a double dissociation <i>yo/tú</i> and <i>tomar en cuenta/ver</i>
56 GAS	I would have to search (...) adapt to the situation (...) get money\	p2':generalizable reasoning f3:merit	Counter-argument based on causal reasoning, merit preceding wealth
64 EMI	maybe (...) they do not exploit the water well and that's why it's already: it's already scarce\	f3:merit	Counter-argumentation legitimating social inequality by merit

We can follow the students' discursive work when they co-construct and counter-argue different argumentative uses of norms and laws in order to present the option that they defend as more or less desirable and pleasant (option A in Tables 5A and 5B and option C in Tables 6A and 6B). We begin by identifying the general laws (l1, l2) used by students throughout their discourse. Studying the way that these laws

Table 5B. Construction of phasic emotions along the valency axis: Option A depicted by opponents as not conforming with norms and laws

Opponents presenting option A as not conforming			
Turn	Quote	Use of principles	Argumentative effects
19 MAR	why such a sad view prevails	f1:(l1) = sad	Opposition based on A negative emotional tonality
42 MAR	why always look at the negative side	f2:say(T1) = pessimistic	Reject of the 'neutral' framing of A, transfer of its negative tonality to the person choosing A
46 ART	and if there are some people who have (...) more money than you do/	p2:generalizable reasoning	New opposition to A with an attack on the person: accusation of only being able to reason from one's own status
53 RAU	and you (...) you're gonna see it from another viewpoint		
62 OAN	yes, that could be sad (...) to end up (...) that the rich people will have as much water as they want and the poor people won't (...) yes she's right	f1:l1=sad f3':equality of rights rather than merit; p1'+:what we wish counts, an emotion can used to argue	Opposition to A reasserted, justification of what is "sad" and not desirable: social inequality
66 ADR	those who save it and have no money	f3'':merit	Reversing the argument of merit: socio-economical inequalities are not based on merit
68 RAU	people who have a lot of money and have it for nothing but the only thing they do is wasting it		
76 MAR	a person who's taking care (...) is not gonna have any		

are evaluated by the students allows us to infer the underlying fundamental norms (f1, f2). Other fundamental norms are employed independently from general laws (f3, f4, f5). Procedural norms (p1, p2, p3) are also used. In our notational system, whenever a norm or law is used to counter-argue an argument based on another principle, it is given the same number, followed by ' ; when it figures as a response to a response, the number is followed by ". Similarly, when a speaker defending the same option reuses a principle, we add a +, to make the gradation effect visible.

Table 6A. Construction of phasic emotions along the valency axis: Option C depicted by supporters as conforming with norms and laws

Supporters presenting option C as conforming to laws and norms			
Turn	Quote	Usage of principles	Argumentative effects
19 MAR	why not (...) start to save and so that (...) we do not reach this	f1+:l1=to avoid f4+:we can act to avoid it	Proposition C presented as an alternative to A
42 MAR	why (...) don't we start (...) we must start (...) so that we don't reach this point	f1+:l1=to avoid f4+:we must act to avoid it	Proposition C reformulated as a duty to avoid getting to situation A
62 OAN	yes she's right we must save water to avoid reaching such extremes	f1+:r1=to avoid f4+:we must act to avoid it	Reiterate C as a duty to avoid A
68 RAU	people who need it (...) who really need it	f5:universal right to have vital needs satisfied	Justification for C: respect of vital needs, associated rights

Table 6B. Construction of phasic emotions along the valency axis: Option C depicted by opponents as not conforming with norms and laws

Opponents presenting option C as not conforming			
Turn	Quote	Use of principles	Argumentative effects
45 GAS	what I took into account is the situation	f2':say(l1)=realistic f4':we cannot change how things go p1:we must argue about what is likely to happen, not what is desirable	Oppose A to C as a current fact
74 ALE	even if you save some for instance you'd have to keep it somewhere wouldn't you	l2:keep<stock p3:concrete aspects count	Opposition to C based on a technical limitation, refusal to adopt a moral position

When a proposition is judged as not conforming with a principle, the students may counter-argue and reject the associated negative emotional effect, using four strategies. They can (1) agree on the general principle, but reverse its argumentative function, showing that, in fact, the proposition is conforming; (2) agree on the principle, but discuss its local relevancy (whether or not it actually applies in this case); (3) disagree with the principle and criticize its validity; (4) reject the principle

by using another principle considered of higher value. Strategies 2 and 4 imply a metadiscursive perspective.

In this debate, some principles used by students from one side are not shared by the students belonging to the other side, who are using other, competing principles. Thus, pro-C students, defending the idea that access to water will depend on efforts made today, tend to introduce fundamental norms (f4, f5 in both Tables 5B and 6A), while pro-A students, defending that access to water would depend on how rich a person is, rather discuss concrete aspects of the issue. For instance, Oana presents option A as a general law, an uncontroversial fact, even if the students are explicitly dealing with an ‘opinion question’, to which no right-or-wrong answer is expected. By contrast, Alejandro does not only defend a competing option: in addition, after other students have introduced the fundamental norms of duty to intervene on the world (f4) and of the right to the satisfaction of vital needs (f5), he refuses to align, at the metadiscursive level, with this moral argumentation. Instead, he counter-argues against option C on a purely technical level, emphasizing the difficulty of preserving saved water (l2). Gaspar’s contribution to the debate, at turn 45 below, is emblematic of a disagreement between the two sides about an essential procedural norm; the disagreement is extended throughout the conversation: can we argue about how things should be or only about how things are likely to be (p1)? When María, at turn 42, gives a negative emotional tonality to option A and its defenders, Gaspar counter-attacks with a distinction between *tomar en cuenta* (‘take into account’) and *ver* (‘see’). This typically exemplifies such opposition between how things should be and how they are likely to be:

45 GAS lo que yo tomé en cuenta es la situación (what I took into account is the situation)

Alejandro maintains that he is taking into account a fact, and has no choice to see things from a different perspective. Obviously, the disagreement about this procedural norm (p1) is not just a formal conflict. It is strongly related to a disagreement on a fundamental norm: whether or not it is possible to have an impact on how things will evolve (f4), which is related to the degree of control analyzed in Section 4.2.2. Here, the conflicting views of the f4 norm not only correspond to specific judgments about some objects under discussion; the difference also influences how the parties argue, either by using fundamental norms or preferring to appeal to general laws.

Even so, all of the students do agree on a few key principles, which makes it possible for them to carry on a debate together. When one of these principles is used to reject a proposition, the counter-argumentation tends to focus on strategy 1, above, by reframing the proposition to show that it actually conforms with the principle.

For instance, everybody accepts the procedural norm that a form of reasoning is valid only if it can be generalized, not being limited to the case of the person who produces it (p2). This norm emerges through a co-construction involving Arturo and Raúl. Gaspar then tries to demonstrate that he is actually respecting this principle.

At the same turn, Gaspar introduces another fundamental norm, that of merit (f3). Then his adversaries use two different strategies to counter-argue and defend option C. Oana, at turn 62, produces a pivotal move when she explicitly changes her mind, shifting from answer A to answer C. She then opposes to the norm of merit (f3), using another fundamental norm supposed to be of higher value, namely a type-4 strategy: the equal right of all humans to have their vital needs satisfied (f5). Emilia reacts by supporting Gaspar's argument and establishes a relation between those who use water correctly and those who have easy access to water, basing her acceptance of unequal access depending on merit. Adriana, Raúl and María then use a type-1 strategy to counter-argue, accepting the norm of merit (f3), but reversing its argumentative *orientation*: they present option A as not conforming with f3. Finally, at turn 68, Raúl recapitulates the two strategies: he recalls that merit is not necessarily related to how rich a person is, but he also insists on how important it is to consider vital needs (f5).

4.2.4 *The 'argument of sadness': From normative to emotional conflict*

In this subsection, we would like to pay special attention to a particular procedural norm that seems to be shared by all students: emotions can be used to argue. Option A is explicitly and several times qualified as 'sad', from turn 17 and onwards, by pro-C students. What is especially interesting is that, when Oana changes her mind and publicly passes from the pro-A side to the pro-C side, she reintroduces this 'argument of sadness':

62 OAN sí podría ser triste (...) los ricos tendrán el agua que quieran y los pobres no\ si tiene razón hay que ahorrar agua para no llegar a estos extremos (yes, that could be sad (...) that the rich people will have as much water as they want and the poor people won't (...) yes she's right we must save water to avoid reaching such extremes)

Even if this procedural norm remains implicit, pro-A students never really question it. They rather react doing extensive discursive work to suggest another *schematization* of their option, free of negative tonality. Their attempt to present option A as realistic rather than pessimistic does not only reflect a normative conflict, but results from an underlying emotional conflict.

5. Conclusions

During this debate, the students frame the issue in a way that constrains potential solutions. *Emotionally schematizing* discourse objects, they build and defend an argumentative claim. A large part of this framing is based on the discursive construction of emotions related to the situation and to the competing alternatives under discussion. The students' emotional positioning then works as a resource to steer the debate toward a given argumentative conclusion.

A very high thymic tonality characterizes the whole interaction, presenting the problem as a matter of life or death. The students also produce local emotional variations attached to the competing answers to the main question (Figure 1), in order to present them as more or less pleasant and acceptable. Comparing the emotional positioning of students defending different options, we can specify each side's emotional framing of the issue along several 'emotioning parameters'. For instance, the use of 'we' by pro-C students both suggests a certain identification with the affected people, the existence of an entity able to exercise control over the situation, and the introduction of a causal agent responsible for its development. By contrast, pro-A students show less identification with the people concerned, and rather tend to present the problem as independent from human action, considering it as a natural phenomenon that nobody can control.

Still, the focus on *emotional schematization* must not be considered separately from the overall *schematization*. The emotional positioning takes part in the global cognitive process of defining discourse objects, and should be understood in relation with the argumentative conclusion being defended. Whereas in common conversation, "building an argumentative conclusion is building an emotional position" (Plantin 2011: 5), the present study shows that, in the actual setting, building an emotional position is opting for an argumentative conclusion.

At the methodological level, following the discursive construction of emotions has proved useful for a more profound understanding of the debate. Moreover, this case study provides an emblematic example of the impossibility, in authentic discourse, to separate emotion from reason. The use of emotions contributes to the coherent argumentative framing of the issue and is based on norms, knowledge, and skills, either explicitly justified or culturally shared and considered 'reasonable'.

In terms of pedagogical design, such results constitute key lessons and open up a set of questions. First, the results show that, when arguing, the students adapt and respond to the rival side's emotional framing. But, how do they understand such an implicit process of arguing emotions? Can they use it consciously to design their own strategy? To what extent are the students aware of their own activity of emotional framing?

Second, emotions must be considered as resources for the cognitive process of argumentation, not as external factors influencing this process. Taken by themselves, they cannot be said to be either beneficial or detrimental to the argumentation activity. This perspective questions approaches to emotional regulation that state that conscious emotional balance fosters collaborative learning activities (e.g. Järvenoja & Järvelä 2013). Actually, a large part of the spontaneous argumentative use of emotions is implicit. Such use may respond to other key interactional needs, such as respecting the rituals that are necessary for continuing the interaction (Goffman 1967).

The present case study shows that even when participants in a debate may claim to adopt a realistic and ‘neutral’ emotional tonality, such ‘framing’, in fact, results from active discursive work and does constitute an emotional positioning per se. This observation warns us to be cautious with regard to certain interventions in emotion regulation. How could the analyst, the teacher, the facilitator (or even a computer) draw the students’ attention to the emotional aspects of arguments without taking sides? Can such information be brought to play from an external perspective, or does this type of attempt inevitably end up by arguing in favor of a specific claim?

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Transcript

1. KEL a ver (.) bueno aquí vemos que <((designándole)) gaspar> tiene la A y su equipo tiene la C\ por qué/
 2. GAS bueno porque cómo va ahorita bueno mi punto de vista fue el ingreso económico que en adelante el precio del agua va a empezar a incrementarse porque se va a empezar a agotar bueno se está agotando el agua y creo que y creo que actualmente se está aumentando el precio del agua yo ya\ <((mano como si fuera tapando algo)) es todo\>
 3. KEL bueno eduardo ahí también tiene u:na respuesta diferente\ <((designándole)) por qué/>
 4. EDU sí: porque yo pienso que la C por el ahorro del agua\ ellas dicen que la F por el avance científico pero si no hay agua ahorrada cómo van a: este avance científico sin agua/
 5. KEL a ver ella también <((designando OAN)) tiene la A>
 6. OAN ah bueno yo digo que la A porque en cierto punto dices que la ahorras pero <((gesto para insistir)) y los que no la ahorran qué pasa> yo digo que la A porque en ciert- la A porque <((alterna su mirada entre la pantalla y KEL)) este depende el ingreso económico que tengas> si tienes dinero obviamente vas a tener agua [si no
 7. KEL [y ahí <((designando a T4)) por qué hay dos/
 8. ALE yo\ yo digo que la B porque puede depender de su ingreso económico pero también si la F: y la desesperación de la demás gente que no tiene agua la gente pobre yo creo que se van a estar peleando por el como por conseguirla o por tratar de robarsela a: otras personas no/
 9. KEL a ver raúl
 10. RAU pero bueno si tú dices que: robar no que se adapten a a la al agua de menor calidad o sea cómo/
 (.)
 11. ALE no\
 (.)
 12. KEL bueno a ver maría
 13. MAR pu[es
 14. ALE [no yo digo de su resisten[cia
 15. KEL [a ver (.) a ver

16. ALE de su resistencia física
17. KEL aha\ aha\
18. KEL ((designa a MAR))
19. MAR <((mirando hacia T2)) por qué la A/> por qué siempre verle un punto de vista así <((mirando a la pantalla)) muy triste/ que terminemos hasta un momento> que lo único que importa es <((manos dando vueltas)) el dinero para poderla comprar [por qué no desde ahorita ya empezarla a ahorrar y para que ya no llegemos a eso\
 20. KEL a ver emilia
21. EMI lo que pasa es que a lo mejor sí: sí tienes razón en eso de que por qué a fuerza tiene que ser un ingreso económico pero si ya lo estamos agotando y no hay otra forma de de hacer que razonen las personas y: al otro pues esa misma que esta va a llevar a a tener que ocuparlo (como algo) económico\
 22. KEL a ver jesús
23. JES <((designándose)) yo/> es que pues yo digo que es la C porque si ahorita la cuidamos la per- la perseveramos y toda la cosa <((golpes en la mesa)) no va no va no va a tener por qué aumentar> el ingreso de:l agua para pagar más a lo mejor es lo mismo
24. KEL a ver gaspar
25. GAS o: lo que dice maría de: bueno o lo de jesús también es que si si podemos ahorrar el agua o sea si logra pasarse ahorramos el agua y sino ten- el precio económico es lo que va a importar\ y con en estas situaciones hay g- hay varias gentes que no ahorran no hay ni av- avances para ahorrar el agua no hay\ lo que va a importar va a ser el dinero dinero en comprar el agua para vivir\ lo de adaptarse no tiene [casi mucho sentido tiene algo de sentido pero no\ mucha gente puede morir por la falt- por la falta de agua\ °es lo q-°
26. KEL <((designando a NAT y LUD)) bueno a ver ustedes por qué esco- es- escogieron F verdad/>
27. NAT °sí\°
28. LUD °sí\°
29. KEL por qué/
30. NAT porque si: (.) este <((mirando a LUD)) °tú°>
31. LUD a porque si primero como dice lalo este: podemos hacerlo del inciso C de: este: cuál era/
32. EDU °ahorrar el agua°=
33. LUD =ahorrar el agua\ de ahí también podemos nosotros poner lo de los avances científicos no/ de ahí también podemos desarrollar ir par- un poco lo del agua\ ya que hayamos este ahorrado y: (.) <((mirando a KEL)) ya/ hmm por eso\ >
34. MAN a ver por qué <((designando a T4)) ustedes no piensan que la F> (.) tú myriam
35. MYR porque en sí si pensamos si si la ciencia no encuentra algo para: para poder: conservar el agua pues lo único que nos quedaría sería <((gesto como para algo obvio)) el dinero\>
36. KEL cómo se llama él que está al lado de myriam/ (.) tú a ver por qué por qué dices que la A/ [ángel/
37. ALE MIGUel
38. MIG MIGUel (.) pues porque en realidad hoy en día sólo la gente rica es la que más tiene disponibilidad a más cosas y el agua en un punto ya se valdría como cualquier recurso como el petróleo que está subiendo igual el agua\ sólo la gente rica va a tener más disponibilidad al agua\

39. KEL a ver quien tiene algo que <((designando a GAS)) a ver>
40. GAS yo bueno los avances científicos\ tiene que pasar mucho tiempo para que lo estos avances científicos tengan su efecto (.) para lo del agua (.) tiene que pasar mucho tiempo\ y se tiene que gastar dinero para hacer cualquier experimento [y cualquier tipo de °cosas [que se necesitan°
41. KEL <((designando a MAR)) a ver>
42. MAR pues sí pero por qué antes de que lleguemos a estos extremos desde ahora no iniciamos <((manos «dibujando» un paisaje)) por qué o sea por qué siempre ver del lado negativo hay que iniciar> desde ahorita para que no lleguemos hasta este punto\
43. KEL a ver arturo
44. ART a lo que estoy refiriendo es que por el el uso económico <((gestos de la mano hacia GAS)) o sea que la gente que no tienen nada que ponerse ni nada> se van a fregar y no van a tomar agua no no van a tener agua potable eso es a lo que estás refiriendo
45. GAS bueno a eso sí me refiero pero como dice maría y si y si no por qué ver el lado negativo no es ver el lado negativo sino que yo me estoy viendo lo que es el realismo yo estoy toman- lo que yo tomé en cuenta es la situación=
46. ART =y si hay personas que tienen por ejemplo vamos a ponerlo más dinero que tú/
47. GAS a bueno esto es un ejemplo\=
48. ART =a.ha [xxx
49. GAS [ellos van a comprar el agua
50. KEL sch:t
51. ART ellos van a pagar y ellos son los que van a tener el agua y tú no vas a tener\
52. GAS <((sí con la cabeza)) claro\ >
53. RAU <((a GAS)) y tú vas a ver otro punto de vi- vas a verlo desde otro punto de vista [y vas a exigir>
54. KEL [bueno\
55. GAS [pero también se tiene que busca-
56. GAS tendría que buscar una solución alterna no/ tendría que buscar diferentes maneras o sea no tener que cambiar el punto de vista sino tener que adaptarme a la situación y buscar maneras para conseguir [dinero\
57. KEL [a ver ed-
58. GAS [°verlo así°
59. KEL [eduardo
60. EDU o sea: ahorrar el agua para el futuro\ obviamente: lo que ahorramos se va a agotar\ pero con el avance científico podemos invertir dinero pero: para tener más agua (.) potable
61. KEL <((designando a OAN)) a ver>
62. OAN ah bueno yo diría que si podría ser triste a la vez que terminar comprand- bueno ya (se tiene comprando) sino que ya (cuidándonos) y los ricos tendrán el agua que quieran y los pobres no\ yo digo que: desde ahorita si tiene razón hay que ahorrar agua para no llegar a estos extremos de: que por el ingreso económico tengamos que tener el agua\ EMI, RAU ((manos alzadas))
63. KEL a ver emilia
64. EMI este: bueno voy a lo que decía arturo de que que por decir que pues la gente que no tiene dinero se va a quedar sin agua tal vez a lo mejor en esos lugares donde se van a quedar sin agua no aprovechan bien el agua y por eso mismo es que ya: ya es escasa\ o

- o: a final de cuentas lo tendríamos ya que ver como algo económico igual que: por decir los niños que están muriendo de hambre en áfrica\ o sea no es no es el problema pero sino que terminaremos a lo mejor contribuyendo con: las personas que están económicamente bien (.) y que tienen esa agua (.) no sé podría haber personas que tengan un:a mente abierta o o: o que en verdad quieran donar y tal vez lle- o sea pueden hacer llegar haciendo donaciones de agua no/ ya después de haberla comprado para ponerle un límite\
65. KEL adriana por qué tú no estás de acuerdo con lo que dice emilia/
66. ADR porque los que sí ahorraron el agua y no tienen dinero cómo van a tener agua después/ <((mirando a KEL y MAR)) si ellos sí cuidaron el agua>
67. KEL <((designando a RAU)) a ver>
68. RAU además (.) los que tienen mucho dinero er: puede haber er: depende la gente/ sencilla en sí ya puede ser una gente con una persona con mucho dinero pero humilde entonces ahorra el a:agua la cuida\ pero puede haber gente que tenga mucho dinero y la tenga pero nada más la va a desperdiciar entonces no se van a dar cuenta que ellos nada más la compran pero para desperdiciarla y la gente que la necesita pues o sea la va es la que en verdad la necesita y hay gente que no\ además también todo va d- todo empieza desde la casa\ todo\ para qué se tiene que ver ahorita no por lo que va a pasar\ porque lo que pase ahorita son en le futuro van a se va a ver reflejado en las consecuencias\
69. KEL alguien tiene al[go que
70. MAN [xxx alejandro (.) tú que opinas/ (.)
71. ALE <((dando vuelta hacia MAN)) que: (.)>
72. KEL bueno por qué no estás de acuerdo con lo que dice [ella
73. MAN [aha porque no:/
74. ALE porque yo digo que aunque la ahorres por ejemplo tendrías que (guardar)la tú en algún lugar no/ porque si tú la: (ya que es agua que no desperdicias o sea que trates de no desperdiciar) alguien más se la va a: se la va a desgastar\
75. KEL <((designando a MAR)) a ver>
76. MAR pues si pero si desde este momento ya iniciamos este no vamos a llegar a estos extremos o sea porque uno supone una persona (humilde) como decía raúl <((designándole y volteándose hacia él)) una persona que sí le está cuidando> sí le está haciendo tiene que terminar ahorrando a ella misma que está haciéndolo que ya ni ella ni va a poder tomarla\
77. KEL <((a NAT y LUD)) bueno a ver ustedes dos que pusieron F por qué no están de acuerdo que la: C>
(.)
78. LUD <((mirando a KEL)) bueno\ > (.) °tú tú les expliques\
79. NAT °tú\
80. LUD o: bueno es que este pues sí sí es cierto lo que están diciendo todos no/ que primero hay que empezar por cuidar el agua y como dice raúl hay muchas personas que sí tienen dinero y por una parte son humildes pero por otras pues no\ pero también hay que tomar en cuenta que del lado científico podemos sacar el agua no/ y: y sí está bien el inciso C\ (.) [como dicen todos\
81. KEL [bueno\

About the authors

Claire Polo is an Associate Researcher in the ICAR laboratory and a high school social sciences teacher. She holds a master degree in political sciences, a PhD in Educational Sciences, and the ‘qualifications’ to teach educational sciences and linguistics in the French university system. From an interdisciplinary and multimodal perspective, she works on educational debates about social issues. Her approach integrates the cognitive and socio-affective dimensions of argumentation and her contributions ranges from theoretical developments to action research and pedagogical design.

Christian Plantin is Professor Emeritus of Language Sciences at Lyon University, France. His research interests are language studies, language in interactions, argumentation, emotion. He has recently published “Emotion and Affect” (Tracy, Karen & al. (eds.) *The International Encyclopedia of Language and Social Interaction*. Wiley 2015). His books include *Les Bonnes Raisons des Émotions* [The Good Reasons of Emotions] (2011); he coedited *Les Émotions dans les Interactions* [Emotions in Interactions] (2000); *Dictionnaire de l’Argumentation – Une Introduction aux Études d’Argumentation* [Dictionary of Argumentation Terms – An Introduction to Argumentation Studies] (2016).

Kristine Lund is a CNRS Senior Research Engineer in the ICAR language sciences laboratory at the University of Lyon, where she leads an interdisciplinary research team in the study of human interaction and cognition. She holds a master’s degree in Artificial Intelligence, a PhD in Cognitive Science and a French habilitation in Educational Science. Her recent work focuses on connecting systems of different orders (linguistic, cognitive, interactional, social) in order to better understand collaborative knowledge construction. She is an elected member of the Board of Directors of the Society of the Learning Sciences and Chief Scientific Officer and co-founder of www.Cognik.net.

Gerald P. Nicolai is a member of the ICAR laboratory (French acronym for Interactions, Corpora, Learning, Representations) where he is a member of the COAST (Knowledge and Learning in Science and Technology) research team. His research has developed along two axes: (1) discourse and debate in argumentative or informal learning situations, and (2) the interactions between scientists and non scientists (adults or children) in various situations.

Authors’ addresses

Claire Polo
ICAR Laboratory, 15, Parvis Descartes
69007 Lyon
France
claire.polo@ens-lyon.fr

Christian Plantin
ICAR Laboratory, 15, Parvis Descartes
69007 Lyon
France
christian.plantin@univ-lyon2.fr

Kristine Lund
ICAR Laboratory, 15, Parvis Descartes
69007 Lyon
France
kristine.lund@univ-lyon2.fr

Gerald Peter Niccolai
ICAR Laboratory, 15, Parvis Descartes
69007 Lyon
France
gerald.niccolai@ens-lyon.fr