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Argumentación y educación: apuntes para un debate / Argumentation and Education: Notes for a DiscussionDebate Notes

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Resumen

El artículo que se presenta tiene un doble objetivo. Por un lado, pretende analizar cuáles son las relaciones entre argumentación y educación, poniendo énfasis en las dificultades para definir en qué consisten las competencias argumentativas y en los debates que esta indefinición ocasiona. Estas dificultades se relacionan con los modelos normativos de pensamiento que subyacen más o menos explícitamente a los modelos de argumentación y, al mismo tiempo, se reflejan en los modelos educativos que quieren formar a los estudiantes en las competencias argumentativas o que analizan las habilidades de estos estudiantes. Por otro lado, en este artículo se presentan y comentan los aspectos comunes y diferenciadores de los artículos seleccionados en la convocatoria "Argumentación y Educación" y que constituyen este número de la revista.

Palabras clave: competencia argumentativa, modelos de análisis de la argumentación, teorías sobre argumentación

Abstract

The objective of the present article is twofold. On the one hand, it aims to analyze the relationship between argumentation and education with a special emphasis on the difficulties that occur when defining and assessing argumentative skills. These difficulties are related to the thinking patterns underlying the argumentation models and at the same time, are reflected in the educational models used to train and to assess students' argumentative skills. On the other hand, this article presents and discusses common and distinctive aspects of the papers selected for this monograph.

Keywords: argumentative competence, argumentation models of analysis, argumentation theories

Concern over how we argue and the role of education in the development of argumentative skills has an undoubtedly long history. These skills have classically been considered to be very complex (Bloom, 1965; Krathwohl, 2002) and are in close relation to critical thinking (Erduran & Garcia-Mila, 2015; Walton, 2000). Nevertheless, interest in this subject has increased in recent years due to a set of factors encompassing the needs brought about by a knowledge society, as well as by international assessments on the performance of students from different educational levels, and the development of psychological and educational theories regarding argumentation. Many of the analyses revealed the difficulties that students of different ages and educational levels had when arguing in accordance with criteria evaluated by experts, which in turn led to greater emphasis on teaching these competencies (European Union, 2006).

This concern influenced the development of a large amount of studies that evaluated students' abilities to argue, in addition to testing different teaching methods aimed at improving argumentation. An example of this can be found in this very issue, in which all the empirical articles address one of these two aspects or a combination of the two. Nevertheless, despite the effort made, there does not seem to be a clear and unified definition over what skills and knowledge are involved in argumentation, or over what the criteria are for deciding what it means to argue well or in an adequate manner. Expressed in other words, within the educational setting there is no clear criterion regarding the meaning of "argumentative competence" (Rapanta, Garcia-Mila, & Gilabert, 2013; Trapp, Yingling, & Wanner, 1987), which influences the lack of consensus over what should be evaluated in the students' arguments, how what they have learned can be analyzed, or how argumentation should be taught.

According to different authors (e.g., Hornikx & Hahn, 2012; Rapanta, et al., 2013; Uhn & Oaksford, 2012), this lack of consensus may be determined by the fact that

extremely diverse theoretical disciplines converge in the analysis of argumentation. These disciplines include scientific thought, law, linguistics, philosophy, psychology, education, and recently, artificial intelligence. Each one of these has contributed its own criteria and rules for judging argumentative quality. Without entering going into a discussion over the proposals provided by each one of these disciplines, which would undoubtedly be very interesting but would clearly exceed the scope of our study, the presence of different criteria implies two aspects that color a large portion of the studies concerning argumentation. The first aspect is related to discussion over the origin and scope of this competence, or in other words, whether or not it is a general competence. The second aspect references the existence of a set of norms or rules, related to the disciplines, which allows us to discern between what constitutes a good and a bad argumentation. Argumentation quality is therefore evaluated according to the presence or absence of certain formal characteristics. In the following pages we will analyze some of these normative models, focusing on those that have had the most influence on education.

Arguing, thinking, and reasoning

Argumentation is fundamentally a rational judgment in that it reveals, typically verbally and in social contexts, the reasons leading to the acceptance or rejection of a viewpoint, a set of ideas, or an interpretation (Rapanta, et al., 2013; Uhn & Oaksford, 2012; van Eemeren & Grootendorst, 2004). As Mercier and Sperber (2011) affirmedclaimed, it is the human brain's most specific product and best represents our reasoning capacity, understanding this as the conscious processes through which we arrive at conclusions and support or reject others' conclusions. Reasoning is, according to these authors, the competence that allows the human species to go beyond mere

perception or instinct. Its principal function is argumentative since it serves to justify our ideas and conclusions to ourselves and to others. It would also, out of necessity, have a metarepresentational nature.

Paradoxically, until very recently (yet still not widespread), argumentation had not been included among the regular topics in manuals or journals specializing in psychology of thought. Nevertheless, according to Hornikx and Hahn (2012), the term argumentation can be understood within the psychology of thought in three different ways. A classic perspective, stemming from philosophy, considers arguments as a reason for any statement that is normally expressed through structured units that have premises and a conclusion. The evaluation of arguments is performed from rules of logic in the case of tasks with a deductive structure or from probability rules in the case of tasks with more inductive structures. Most of the tasks that have been used for analyzing reasoning could be thought of as arguments within this perspective, even though they have normally been addressed from interests that are far removed from the analysis of arguments and closer to the study of the implicit rules of reasoning (Mercier & Sperber, 2011). From a second perspective, following the classic study from Toulmin (1958), argumentative competence can be understood as the ability to integrate different information evidence within a structure that enables the justification of a claim, taking into account whether the information is backed-up by principles or more general claims, as well as possible limitations and their possible way of counterargumentsing .these limitations . Therefore, a good argument relies on a statement, the presence of evidence that justifies it, the explicitation of data that limits objects it, and of other data that enables those limitations objections to be overcome. This approach has a more dialectical character than the previous one in that it not only studies the validity of the connections among premises, but also their function. The studies presented by Garcia-

Mila, Pérez-Echeverría, Postigo, Martí, Villarroel and Gabucio (2016), and Malpique and Veiga-Simao (2016), and part of the proposal from Rapanta and Walton (2016), in this issue, as well as many of the analyses on scientific argumentation in educational contexts could be included within this approach.

These two ways of understanding argumentation therefore emphasize the structure of the arguments, either from the viewpoint of coherence among the different pieces of information and the conclusion (the approaches closest to formal logic) or else from the perspective of the dialectical use of this information. They also give rise to normative theoretical models that are used to describe and evaluate the quality of the argumentations. Research included within the Pragma-dialectical approach additionally seeks the creation of an ideal normative model that serves to analyze the quality of the arguments. Nonetheless, this ideal model is mainly based on the dialogical rules that influence an argument's relevance (Van Eemeren & Grootendorst, 2004). PreciselyIn fact, the third meaning of argumentation proposed by Hornickx and Hahn (2012) alludes to it being a dialogical activity that is produced in social exchange situations. The analyses on the influencing factors in persuasion are also found within this tradition (for example, see Chinn & Anderson, 1988), and consequently, have evaluated aspects such as confidence or plausibility of arguments, etc. On the other hand, Walton (1996) proposed paraschemas as the instrument for describing everyday reasoning patterns found in critical discussions. The studies presented by Kuhn, Hemberger, and Kait (2016) in the Prospectivas section, as well as the study from González-Lamas, [n1]Cuevas, and Mateos (2016) and from Cano and Castelló (2016) in this issue all fall within this perspective, along with some of the aspects from Rapanta and Walton's (2016) article.

According to Mercier (2013) these three traditions have mainly been dedicatedfocussed onto evaluation, omitting the study of the processes through which an argument is constructed or modified in order to make it more or less convincing or more or less relevant (Gabucio, 2002). In our opinion, this supposed "omission" exists because the two first positions described by Hornickx and Hahns (2012), closest to logic and reasoning, assumed the Aristotelian presupposition assumption that man is a rational animal who is characterized by the presence of a set of logical competences that serve both to describe or explain our way of arguing and to evaluate it. Therefore, our capacity to produce or evaluate arguments would be based on the application of these rules to different contents, contexts, and situations. From this point of view, argumentative competences would have a general and universal character, inasmuch as they are unique to the human species and they also apply to any type of situation, although there could be performance factors that influence the quality of the results. This point of view contrasts with results found in educational contexts where clear difficulties are shown in the teaching and learning of argumentation, as well as in the analysis of reasoning. We will not enter get into the discussions concerning logicism within the field of psychology at this time (for example, see Cohen, 1981). We only wish to stress that the experimental results indicated that the biases, fallacies, and limitations in the form of producing, understanding, or resolving problems with logical structures were more common than the usetilization of the norms. Similar results were produced in probability tasks that also cast doubt on the so-called "Bayesian reasoning" (Gigerenzer, Hertwig, & Pachur, 2011; Oaksford & Chater, 2007) and attempted to explain argumentation as an application of Bayes' theorem (e.g., Chater & Oaksford, 2012).

In order to explain these results some authors adopted the idea of "Informal Logic" (Johnson & Blair, 1977), which in addition to deductive or inductive reasoning, includes plausible or abductive arguments (Peirce, 1931/1935; Walton, 1987; 1989). Abductive reasoning has been identified with reasoning and everyday argumentation, which requires different rules than academic or scientific argumentation. This approach, therefore, differentiates between forms of reasoning and arguing and additionally contemplates the possibility of learning to argue in a complex way. Furthermore, it casts doubt on the universality of the rules of logic and reasoning, as well as the equivalence among these norms and mental rules employed for resolving tasks. Nevertheless, the quality, and even the validity of informal logic, continues to be debated in many forums since they depend on criteria that are not always agreed upon.

Thus, the general logic approach precludes explaining some of the difficulties in resolving argumentative tasks, which may possibly be better justified from the dialogical perspective described by Hornickx and Hahns (2012). Understanding argumentation and its origin as the result of dialogical situations produced in communicative environments helps to differentiate between different contexts, with diverse demands and meanings, without the need to appeal to logical thought structures. Argumentation would therefore have its origin in the communicative exchanges that are produced in different more or less formal situations (see, among many other authors, Kuhn 1991; 1992; Mercier & Sperber, 2011; Sperber, 2000). These type of theories would be closer to to the position sustained by Johnson-Laird’s position (1994) who, in line with Bartlett's schema theory (1958), claimed that thought consisted of a set of skills that unfolded as comprehension of discourse developed and therefore, differentiated between types of discourse, as well as the role that context and content played in these. Everyday contexts are different than academic or scientific contexts

both in the discursive models used and the subjects that are discussed, or the need to justify the statements expressed. In short, formal academic or scientific argumentation requires structures that are closer to the norms proposed by the approaches more closely relatedcloser to logic or to the dialectics that we described above. However, those norms are typically used in everyday discursive situations and contexts in which argumentation methods would be initially learned (Mercier & Sperber, 2011).

These positions additionally explain why in some situations, but not in others logical and probabilistic arguments are used that are not used in others. For example, Mercier and Sperber (2011) stated that a large portion of failure in logical and probabilistic arguments was due to the tasks used for the evaluation being decontextualized problems in which the argumentative situation was not clear, their objective did not make sense to the arguer, and their content was irrelevant. In other words, neither the argumentative context nor the communicative objectives were clear. Changing this situation in such a way that the logical relationships or the rules of probability are relevant for constructing or evaluating an argument, causes the number of errors committed (from the viewpoint of probabilistic or logical norms) to normally decrease, which shows that the rules are subject to the task's contextual meaning. A second aspect that, to our understanding, is related to this point concerns content. When we construct or evaluate an argument we are availing ourselves of a set of claims, ideas, or beliefs that are frequently constructed with little or no reflection over the workings of theon how the world works (see Pozo, 2014). It is not enough that the argument responds to certain norms or that it hasve a certain structure. It must also be relevant and meaningful to these beliefs or at the very least, it must relate to them in such a way that it may be used for questioning them. It is only in this way that we are able to conceive argumentation as simultaneously being a result of learning and as able to promote

changes or lessons when it is used to this end in educational contexts (Jiménez-Aleixandre, Bugallo-Rodriguez, & Duschl, 2000).

The analyses and judgments over students' argumentative competences generally reveal more of what the students are lacking than their skills. Nevertheless, several studies have shown that very young children are capable of arguing, especially when they wish to fulfill their desires or hungers (e.g., Stein & Miller, 2003). Most of us are also capable of passionately arguing our ideas regarding municipal elections, the political changes in Europe after the economic crisis, or characteristics that make our soccer team so desirable. However, neither these skills nor this passion seems to be enough for arguing in academic contexts, especially from secondary education on, when the contents of different programs become more complex, or removed, or even oppose, our implicit claims (Chinn & Brewer, 2001). The impression is given that just as comprehension understanding of the academic claims and concepts requires a conceptual change, the ways to argue these claims require an important change aimed at analyzing, evaluating, refutingcounterarguing, or confirming our positions in a manner that is more in line with academic discourse.

Learning to argue and arguing to learn

According to von Aufschnaiter, Erduran, Osborne, and Simon (2008), there are two broad lines that relate argumentation and learning. The first line is relatedrefers to "learning to argue" and departs from (as we are about to see) the idea that argumentative skill developed in everyday contexts not beingis not sufficient for successfully dealing with academic tasks. Therefore, it would seem necessary to teach arguing so that argumentation could be used as a learning tool (e.g., Kelly, Drucker, & Chen, 1998;

Osborne, Erduran, & Simon, 2004) and could contribute to the development of academic reasoning and critical thinking (Erduran & Garcia-Mila, 2015; Kuhn, 1999, 2005; Kuhn & Crowell, 2011).

The second line, "argue to learn", departs from the socio-constructivist principal principle (Vygotsky, 1978) of Socratic argumentative dialogue providing an ideal context for knowledge construction. This principle has been confirmed on numerous occasions in studies in the area of science educationlearning in the science fields (e.g., Bell & Linn, 2000; Felton, Garcia-Mila & Gilabert, 2009; Jiménez-Aleixandre & Pereiro-Muñoz, 2002; Kuhn & Usell, 2007; Nussbaum& Sinatra, 2003; Osborne &Patterson, 2011; Zohar & Nemet, 2002), epistemic writing (Cano & Castelló, 2011), and in the studies of CSCL (Computer supported Collaborative Learning the area of collaborative work mediated by a computer (Andriessen, Baker & Suthers, 2003).

In the following pages we will especially focus on how to teach arguing given that thea large number portion of the articles comprising this issue have been dedicateddevoted to this perspective (Cano & Castello, 2016; González-Lamas, et al.2016; Kuhn et al., 2016).

Analysis and evaluation of argumentation

One of the difficulties in studying the students' argumentation forms or in developing programs to teach students to argue is that, as we mentioned previously, it is not at all clear what argumentative competences in education consist of. The definition of these competences seem to depends on the perspectives assumed (Van Eemeren, Grootendorst & Snoeck Henkemans, 2002), and some of these which are imported from contexts that are different from those of argumentation itself (Leitao, 2001). The impression given is that most of the analyses depart from a previous definition based on

disciplinary criteria (e.g., scientific thought) or of another type (e.g., formal criteria concerning good argumentation structure) whose presence or absence determines the competence evaluation (Johnson, 2000). Erduran, Ozdem, and Park (2015) performed a Thus, the meta-analysis performed by Erduran, Ozdem, and Park (2015) on content from journals specialized in the teaching and learning of sciences from the years 1994-2014. They , showed that most of the empirical research on argumentation and education used Toulmin's (1958) the analytical schema from Toulmin (1958) or else Walton's (1996) or Van Eemeren and Grootendorst's (2004)the dialogical perspective. from studies contributed by Walton (1996) or Van Eemeren and Grootendorst (2004).

On the other hand, based on the study from Kuhn (1999), the review performed by Rapanta, et al. (2013) proposed three different dimensions of these formal criteria for evaluating argumentative competence in the educational environment. The first, *metacognitive*, has an impact on the knowledge necessary for constructing quality arguments. It differentiates between knowledge regarding the construction of arguments (the connections between premises and the information that supports them), knowledge on the relevance of content that determines conceptual quality and over argumentative schemas (Walton, 1996), or the rigor of the evidence (Kuhn, 1991) that influences epistemic quality. The studies presented in this issue by Malpique and Veiga (2016) or by González-Lamas, Cuevas, and Mateos (2016) will be insertedbelong to within this tradition dimension since the first analyzes the relationship between knowledge on the necessary structure of an argument and the production of written arguments and the second studies how instruction over these structures influences written production.

The second dimension, *meta-strategic,* refers to what the most appropriate strategy is for argumentative objectives. Along this line, some studies have analyzed the presence of specific discursive elements such as those proposed by Toulmin (1958)

(statements, supporting data, rebuttals, etc.), whereas others have looked at whether the dialogical aspects proposed by Walton (1989) were taken into account to achieve the support of others regarding the argument raised and, therefore, diminishing the strength of others' arguments (see, for example, the studies from Felton, Garcia-Mila, Villarroel, & Gilabert, 2015; Felton & Kuhn, 2001). The study presented by Cano and Castelló (2016) in this issue is in line with this second dimension, given that it analyzes how the task's demand favors a meta-strategic use of resources.

Finally, the third dimension, *epistemological*, draws on the analysis of criteria concerning argument relevance, adequacy of information for the discussion, and acceptability of the premises for the critical community participating in the argument. The review from Rapanta, et al. (2013) indicated that this dimension was utilized the least used in studies on argumentation and education.

According to Rapanta, et al. (2013), relationships between the type of schema used for analyzing the argument and the evaluation criteria have been observed. For example, the analytical schema chosen dependeding on the proposed task's format of the task (oral or written), one analytical schema or another would be used. However, Toulmin's schema (1958) predominated in tasks where an argumentative textask was requested, with the focus placed on the form of the argument, whereas in dialogical tasks with such as group debates, Felton and Kuhn's (2001)the analytical schema on discourse strategy from Felton and Kuhn over discursive strategy predominated. When the task combined both formats, most of the studies used criteria that included the analysis of the argument's structure, oral and written dialogical schemas, and discursive acts in oral dialogue.–In a similar mannerSimilarly, William (2010) claimed that a relationship did exist between items that served to evaluate a certain academic competence and the author's conception of it that came from the item's author..

None of the approaches that we described centered around the study of specific knowledge on the subject that was being argued. Even though positions were found on these effects (Kuhn, 1991, Perkins, Faraday, & Bushey, 1991; Sadler & Fowler, 2006), very few studies included these factors, despite the fact that research on thinking,ought, learning strategies, or learning to learn seemed to demonstrate the importance of this knowledge in the selection of information, decisions over its relevance, or in the construction of explanations (see Pozo, 2014). Most of the studies on teaching argumentation seemed to depart from the presupposition assumption that it is a general competence skill that is transferred from one set of contents to another, without being conscious of it. This conception is clearly similar tobuilt on the ideas onconception that thought that understand argumentationing ias a general and universal competenceskill (Kuhn, 1991; Perkins, et al., 1991).

In summary, as we have stated several timesmentioned above, there is little consensus various positions on the definition of argumentative comppetence exist. However, there seems to be a greater consensus regarding how arguing is typically commonly performed, at least in thidentifying the e case of structural errors and the misconceptions fallacies present in the arguments in which they occur (see the review from Mercier & Sperber, 2011). Apparently, differences of opinionthe lack of consensus is are not found in the analysis of how we argueargumentation in everyday contexts, but in the changes that academic argumentation requires and the way of teaching them. As we pointed out in the beginning, the different disciplines place emphasis on diverse aspects ofin the evaluation of argumentative quality. Along with numerous studies on the effects of expertise in distinct fields (for example, see studies from Ericsson, Charners, Feltovich & Hoffman, 2006), oOne possible cause for this resides in the assumption that arguing in the fields of chemistry, history, or biology may require both

specific knowledge and specific argumentative structures., which would be in keeping with numerous studies on the effects of expertise in distinct fields (for example, see studies from Ericsson, Charners, Feltovich & Hoffman, 2006). In this respect, it is possible that the different analysis criteria for argumentative quality and the programs for learning argumentation reflect different discourses, typical specific of each discipline. Nevertheless, for this hypothesisto to be validate this hypothesisd, it would be necessary to contrast the presence of differences in argumentation from experts in distinct contents or from the same person over contents in which he/she is an expert and in which he/she is not.

Argumentation and education: Presentation of the articles

This issue of the *Revista Infancia y Aprendizaje / Journal for the Study of Education and Development* dedicated to Argumentation and Education, presents five empirical articles in addition to the article included in the *Prospectuivas* section in which Kuhn, et al. (2016) share their view regarding the teaching of argumentation. In our opinion, these five articles may be included in any of the traditions of studies regarding argumentation and education that we have discussed above and they therefore share their virtues and limitations.

All of the articles in this issue participate more or less explicitly in this double twofold idea, mentioned previously, of the use of argumentation favoring learning and the development of thinking skills, but also the need of learning teaching argumentation or training as necessary for argumentation so that this use may be possible. These aspects are very clear in the study presented by Kuhn, et al. (2016) in the Prospectuivas section that describes a program for teaching how to argue over the course of several

secondary education school years, as in the article from González-Lamas, et al. (2016) that compares two styles of teaching, one of them more explicit and declarative, and the other based on self-regulation strategies. This duality is also perceived in the research from Cano and Castelló's research (2016) that analyzes the effect produced in argumentation when students were given a grid of arguments and counterarguments as a model for defending their claim in a well-founded manner. The presentation of this grid came before an oral debate, which in turn preceded an argumentative writing task. For their part, the participants in the study from Rapanta and Walton (2016) attended a seminar on the basic skills of argumentation and also had the aid of an argumentative "map" before performing the task. The other two articles focus more on the relationship between conditions and learning results. The study from Malpique and Vega-Seimao (2016) analyzes the relationship between the students' knowledge of argumentation and their argumentative skills, whereas Garcia-Mila, et al. (2016) study the consequences of students' academic training in argumentative competence.

The participants in all of the studies were students inside ofin formal academic teaching settings. The studies presented in this issue as well as the remaining studies received in the call for papers (minus except for one) analyzed argumentative skills or the effects of instruction on junior and senior secondary education, high school, and university students. As we discussed previously, this selection of participants was related to the fact that academic arguing difficulties reveal themselves beginning in secondary education in which there is a qualitative and quantitative leap in the conceptual complexity of content and, therefore, students needs more complex strategies for addressing this content. Expressed in other words, the skills implicitly learned through participation in more or less informal dialogical contexts is not enough to account for the activities that formal education requires ion these levels. In addition,

other aspects related to the participants were analyzed in these studies, such as the influence of the country of origin's culture (Rapanta & Walton, 2016), or the degree of general training and academic specialization of their studiesmajor in relation to the argumentation's content (Garcia-Mila, et al., 2016).

Another characteristic common to most of the studies is that the tasks require writing as a means of externalizing the argumentation. Even though other argumentative forms are studied such as oral discussion or "chats" (Cano & Castelló, 2016; Kuhn, et al., 2016), these formats are employed as a means of activatingto activate prior knowledge or knowledge of positions that are alternative to one's own, not as the fundamental aim of the intervention or the analysis. Both articles also include group activities. Although argumentation has a dialogical source and a clearly communicative aim in both its origin and its development, most of the academic evaluation activities, especially in the stages studied in these articles, are carried out individually and in writing, as reflected in the majority of these articles. It should also be taken into account that the characteristics themselves of written argumentation themselves enable better evaluation of the metacognitive aspects of planning and work task regulation, even though other variables (adapting to the audience, etc.) are left out.

These written works task represent different academic activities that are more or less commonplace in classrooms. Thus, for example, González-Lamas, et al. (2016) asked their participants to draft argumentative syntheses after reading two texts, Cano and Castelló (2016) requested that they express and defend their position on controversial issues related to their future position, after watching videos that presented different stances, and Garcia-Mila, et al. (2016) required the elaboration of argumentative texts from information data provided in tables or graphs. The student was given information in these three articles that enabled him/her to justify different

opinions, since this information presented problematic aspects in which different viewpoints were reflected or information that was not in itself conclusive. In most cases, tThe content over what was asked for in the argumentation was not related in most cases with the academic activity itself (Kuhn, et al., 2016; González-Lamas, et al. 2016; Malpique & Vega-Simao, 2016; Rapanta & Walton, 2016.). The research from Cano and Castelló (2016) is an exception. In this case the argumentations wasere centered on decisions related to the participants' training or other specific aspects of their domain of knowledge. This decoupling of content from the academic activity itself seems to support the idea that argumentation is a general competence of general characterskill, as well as that the training in this competence can be easily transferred from one content to another, as we remarked earlier.

The manner of evaluating the quality of the arguments clearly varied according to each article's aims. The study from González-Lamas, et al. (2016) presents the analysis of the impact from two types of training programs concerning the argumentative synthesis of two texts, additionally taking into account the students' beliefs regarding textual quality. These changes are evaluated from an analysis of the textual structure, the relevance of the information gathered, and the presence of the information in the two texts. For its part, the study from by Cano and Castelló (2016), related to the training of Special Education and Speech Therapy teachers, inquires into how the students select the information and the relevance of such, in addition to how they create arguments and integrate them into the general structure of the text. The other three empirical articles in this issue study the structure of argumentation from Walton's (1996) paraschema theory (Rapanta & Walton, 2016), Toulmin's (1958) theory, and the forms of information use of evidence (Garcia-Mila, et al., 2016), or the clarity of the language (Malpique & Vega-Simao, 2016). In summary, we can state that theis research

in the present issue contributes provides material for reflection onover the subject of argumentation, which is of great importance in the field of education. Our desire is that this reflection may begin to materialize in the design of educational policies that can incorporate ultimately change improvements into the curricular designs for educating 21st century citizens.

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