Muller Mirza, N.; Perret-Clermont, A.-N.; Tartas, V. & Iannaccone, A. (2009). Psychosocial processes in argumentation. In N. Müller Mirza & A.-N. Perret-Clermont (Eds). *Argumentation and education: theoretical foundations and practices* (pp. 67-90). Dordrecht, Heidelberg, London, New York: Springer
source qui doit être utilisée pour toute référence à ce travail

Psychosocial processes in argumentation[1]

N. Muller Mirza, A.-N. Perret-Clermont, V. Tartas and A. Iannaccone

Abstract

This chapter examines argumentation as a psychosocial practice, embedded in institutional, historical and cultural contexts. Even though they are in reality interwoven, several dimensions (cognitive, interactive and cultural) will be distinguished . At the cognitive and individual level, the questions comprise the following ones: what are the cognitive prerequisites for engaging into an argumentative interaction? How is the development of argumentative skills taking place in children? But focusing only on the individual level would not take into consideration other dimensions that are important such as the relational and dialogical aspects of argumentation, the status of the partners and characteristic of the "audience". The specific demands of the cultural context in which argumentation takes place are also examined.

[1] We are grateful to Peppa Standford for her work with most of the translation.

1 Introduction: a psychosocial approach to argumentation

In daily life, everyone has to face situations of uncertainty in which decisions have to be taken. In such contexts reasoning is not based on demonstrations, proofs, deductions, etc. Trying to take the best decision, carry out the right action or find a solution to a problem involves processes related to argumentation, such as formulating a position, or producing justifications and refutations. Argumentation – whether with another person, an audience or with oneself – is a discursive practice which forms part of everyday experience: "To argue is a form of discursive move in which we do not limit ourselves to expressing or communicating ideas, opinions, proposals, wishes, projects, etc., but we want to justify them, prove them by reasoning. In other words, we commit ourselves to maintaining a critical attitude towards ourselves and the others" (Rigotti and Greco 2004).

Argumentation is a complex subject which has been studied for a very long time by researchers from many disciplines such as philosophy, logic, linguistics, argumentation theory and others. The ubiquity of argumentation and its importance in both the working and development of thought, and in learning, have made it a subject of research within the field of psychology. Areas that have been studied within this field include the skills required for arguing, and how they develop; whether people can learn to argue, and if so, how; whether argumentation has a role in cognitive development; whether adults and children, girls and boys argue in the same way; whether people argue in the same way with a peer as they do with someone with a different hierarchical status; whether people can argue about any subject; or whether culturally shared values and rules affect argumentation.

Linguists, philosophers of language, psycholinguists, theorisers of argumentation have tried to model this particular type of communication, notably by examining the rules of argumentative discourse and how it is linguistically performed. Their attention is usually focused on the specific, normative properties of argumentation. Our focus is this chapter is different. We are interested in understanding how children and adult develop argumentative abilities, why and with whom. Sophisticated argumentations are rare in everyday or professional life – or even do not occur at all. Our psychological approach invites us to consider individuals when they think, feel, recall, project themselves and act in social situations involving confrontations and justifications of their points of view. So we will be examining argumentation from the particular perspective of social and cultural psychology, and in so doing we will consider argumentation as a practice that is situated in and performed in certain everyday activities by individuals.

Argumentation is a very suitable subject for examination from a psychosocial perspective. It involves an individual (the proposer), an interlocutor (or opponent) and an object (subject of the discussion) about which there is a divergence of points of view. To the three sides of this "psychosocial triangle" (Moscovici, 1984) we will add a fourth: the mediation tools. For indeed in any communication situation it is important to consider the tools (technical and symbolic) by means of which the actors conduct the interactions.

Argumentation involves cognitive, interactive and dialogical processes of meaning-making. It does not take place in a social vacuum, but in an institutional and cultural context. So dimensions that have to be taken into account include the individuals with their own cognitive and communicational capacities, the interlocutors with their status and intentions, the topic under discussion, the mediation tools used, and the sociocultural context. We will try to describe how these different and interdependent dimensions work in everyday practices, by focusing on:

- the intrapersonal dimension of the argumentation. What are the thinking tools which are required at the individual level in order to enter into this cognitively and emotionally complex practice? We will try to understand the cognitive prerequisites which enable an individual to take into consideration the dialogical dimension of the argumentation, we will examine the affective

aspects of it, and the individual's relationship with the subject of discussion and with the mediation tools;

- the dialogical and interpersonal dimension. If we take into consideration only the individuals involved in the argumentation, we cannot understand the dialogical complexity of the activity. So we have to consider the interaction between the individual and the interlocutor and study how argumentation, as a particular type of dialogue, contributes to the entry of individuals into a field of specific activities, in a culture and in learning. This will also lead us to a closer study of the characteristics of the interlocutor. The dynamics of the interaction and argumentation are affected by whether the argumentation takes place with a peer, an adult or a superior in the hierarchy;
- the content (topic) around which the argumentation is taking place is undoubtedly more than just the pretext for the argumentation. We will study how its specific properties may constrain or enhance the argumentative processes involved;
- mediation tools are also an important dimension as their form, the uses they crystallise and the operations that they make possible are all inherent to argumentation;
- the sociocultural dimension. Argumentative dynamics occur in specific sociocultural contexts, which orient, constrain and contribute to the form that they will take. In this light, argumentation is always "situated". So we will consider how in a given place and at a specific time, argumentation practices take place within other activities and how cultural usage and traditions contribute to the forms which the argumentation takes.

2 Intrapersonal dimension of argumentation

Although argumentation is clearly understood here in its dimension of interaction, it also involves skills that the individual must be able to actualize to engage in argumentation.

2.1 The cognitive prerequisites needed to enter into argumentation

Some authors see traces of the beginning of argumentation in very small children, while others emphasise the complexity of argumentative discourse. Such discourse does involve different cognitive and linguistic operations, processes such as supporting, planning, coherence and continuity of subject; so it is thought not to be really mastered under the age of 16 or 17 (Dorval and Eckerman 1984; Dorval and Gundy 1990; O'Keefe and Benoist 1982).

Very early, at about 2 or 3 years old, children show themselves to be capable of argumentation in the context of their daily life, in the sense of trying to convince someone else while taking their interlocutor's interests into account (promises, repetition of the same argument; insisting, etc.). Their discourse bears traces of the operations of justification and/or negotiation, but these operations are still very undeveloped. It is only older children who use organised argumentative discourse, involving specific, articulated operations, consisting of arguments and counter-arguments (Golder 1996).

At the psychological level, argumentation involves specific processes such as:

- The ability to decentrate: the individual must be capable of decentration. This process is described by Piaget as the ability to consider the point of view of another person rather than just the child's own point of view as the centre of any representation of the world. The child cannot acquire the faculty of arguing until he or she has emerged from egocentrism, as "so long as the child supposes that every one necessarily thinks like himself, he will not spontaneously seek to convince others, nor to accept common truths, nor, above all, to prove or test his opinions" (Piaget 2007, p. 33). According to Piaget, the child only develops its argumentative ability at about 7 or 8 years of age, either at same time as decentration which is when the child becomes aware of the distinction between the self and the world. Argumentation requires individuals to distance

themselves from their own discourse and envisage it as one among other possibilities. So children could not argue in a developed manner until they had reached the threshold of the stage of formal operations. Only children of 12-13 years would be capable of simultaneously defending their point of view and taking into account that of their opponent. In another research field, studies have been carried out in contexts more meaningful for children and have shown that the child acquires at an earlier stage, at between 3 and 5 years of age, the decentration which allows it to take account of another person's point of view (Astington 1994). In this paradigm, it is the acquisition of a theory of mind that takes the place of decentration and permits the child to take another person's position into account (i.e. the ability of attributing mental states to the other person and taking them into account in order to predict and interpret their behaviour). So a theory of mind makes it possible to develop argumentation abilities at an earlier age than that given by Piaget.

- Relating one's point of view to that of others: psychologists observe the ability to relate another person's argument to their own only relatively late in development. Younger children make their contributions in turn, in a sort of "collective monologue" that Piaget describes as the expression of the egocentrism of the young child. Argumentation requires an individual to take into account not only the interlocutors in an argumentative discourse, but also their beliefs and arguments, which is particularly difficult for a child. In effect, it means using "acceptable" arguments, i.e. those based on common values or on collective standards (Miller 1987).
- Providing justification and evidence. It seems that at first the child believes all hypotheses and does not feel any need at all for evidence. In particular, Piaget explains this by referring both to the fact that the child is not aware of his or her own train of thought, and also to the fact that the child only reasons about particular cases and is not capable of generalizing. Piaget distinguishes the appearance of logical justification or evidence (at the age of about 7 or 8) from justification or causal explanation, which occurs earlier. From Piaget's point of view, it is the time when the child experiences "the shock" of "our thought coming into contact with that of others, which produces doubt and the desire to prove (…). The social need to share the thought of others and to communicate our own with success is at the root of our need for verification. Proof is the outcome of argument (…). Argument is, therefore, the backbone of verification. Logical reasoning is an argument which we have with ourselves, and which reproduces internally the features of a real argument" (Piaget 1969, p. 204). Systematic justification is only seen at about 13-14 years of age (Golder and Coirier 1994).

However, in studying the competences and processes involved in argumentation, several issues encourage us to examine more than individual, intramental skills. A distinction needs to be made between oral and written argumentation. We also need to acknowledge the importance of the affective dimension, and the role played by the content.

2.2 Oral and written argumentation

Psycholinguists try to trace the acquisition of linguistic tools in argumentation, such as connectors (temporal, logical, of concession, etc.) and certain adverbs (hardly, only, nearly, etc.), as a function of the child's development (Moeschler 1989). Other researchers observe argumentation more in the linking together of propositions in dialogue rather than in the use of certain connectors or adverbs (François 2005).

Argumentation seems to be more difficult to master when a written text has to be produced. From the point of view of development, children first meet situations which require oral communication before they find themselves in situations which involve the written word. Children learn oral argumentation within a family situation (Dunn and Munn 1987; Pontecorvo & Arcidiacono 2007). They argue in order to achieve personally significant aims such as possession of objects (Hay and Ross 1982). Within the family, parent-child conversations involving conflict have been studied. These studies show that by 2 years of age, children are highly familiar with conflict interchanges, and by the

age of 4, they have long been witnesses of and participants in family conflicts (Stein and Albro 2001). They become increasingly skilled, particularly in acquiring more language and cognitive skills and new social knowledge about rules and rights. François (2005) showed that while playing, children manage to justify their point of view and to oppose adversaries' propositions from the age of 4-5 years. 3 years seems to be the key age for producing justifications. Before this age, children use bodily persuasive strategies (aggressive gestures, crying) or verbal strategies (intimidation, threats, blackmail) to convince other people, rather than argumentative strategies. Stein & Miller (1993) suggested to children aged 7–14 years that they should resolve dilemmas in areas with which they were familiar. The results show that children know how to adopt a clear position and defend it from the age of 7. They identify the factors involved in the conflict but do not really offer any response to their opponent. At about 11, they produce both justifications explicitly defending their point of view, and statements referring to their adversary's point of view.

The problems facing children regarding written argumentation clearly arise from the characteristics of literacy itself; the writer has to assume all responsibility examining and comparing ideas, within the same text (Perelman and Olbrecht-Tyteca 1969). They have to consider the diversity of opinions on the same subject and select choose the most relevant. They have to anticipate objections and use coherent linguistic methods to connect the elements together. This diaphonic or even polyphonic dimension of argumentative texts is mastered relatively late in development. In an argumentative dialogue, the presence of two individuals face to face seems to act as a support for the child in understanding the other person's point of view and adapting to it. In written argumentation, more effort is involved in identifying the purpose of the discourse (Dolz 1996).

Some psychologists can see a fairly strict chronological order in the mastering of written argumentation: at around 10-12 years, children are capable of backing up an opinion; around 13-14 years, they begin to modulate their text and take a certain distance with the opinions expressed; at 16 years, they master modulation and consideration of counter-argumentation[2].

However, contrary to this vision of entry into written argumentation centred on individual competences, other researchers have drawn attention to the importance of the practice and teaching of argumentation. Argumentation has only recently been taught in the primary school, in certain countries. In addition, textbooks are rarely written in dialogue form and they very rarely give alternative arguments when explaining a subject, which may also account for the fact that written argumentation skills are mastered late.

This debate about the skills and processes required is important as the conclusions reached will have repercussions, particularly on the types of educational actions envisaged: should the teaching of argumentation in school wait until the skills related to the child's cognitive development have been acquired? Can this development be accelerated by creating stimulating situations? Can argumentation be taught through specific activities from the first years at school (Brassart 1990; Dolz and Schneuwly 1998)? [see on this subject the chapters in this book by Mercer and by Schwarz].

2.3 Affective dimension

The question of emotion, identity and feelings should not be overlooked in argumentative situations (Plantin 2004). When individuals enter into argumentation, they undertake both a commitment and a risk: commitment, because they consider that an issue is sufficiently important to be introduced into the discussion, and risk, because by advancing an argument, they will have to have it examined and they may face attack by the other person, and they also risk loss of face in the sense described by Goffman (1967). According to Stein & Miller (1993), knowledge of the function, form and

[2] With regard to the operations of support or backing up, Coirier and Golder (1991) propose five levels of structural organisation: absence of explicit position taking, adoption of a position not backed up, adoption of a position backed up by one argument only, adoption of a position backed up by two arguments, adoption of a position supported by two arguments connected to each other (Dolz, 1996, p. 230)

content of the argument “emerge out of a desire to ensure that personally meaningful goals are attained” (p. 201). These authors believe there are four components underlying the development of argumentation: 1) a desire to achieve objectives which have meaning for the individual; 2) awareness of the positive and negative consequences of the actions associated with achieving these objectives; 3) awareness of the obstacles hindering the achieving of these objectives, and 4) beliefs concerning the consequences of not achieving the objectives. More generally, Stein and Albro (2001) demonstrate the importance of the personal and social aims of the interlocutors, who fear all along the dispute that it might disrupt the friendship of the relationship. In the field of education, Van der Puil, Andriessen and Kanselaar (2004) examine the fact that organised sequences of argumentation during software-mediated learning activities are often followed by time spent repairing the relationship, as if argumentation itself has a negative effect on the relationship between the participants. The emotional dimension is salient again when the participants in an argumentative discourse are faced with contributions that they judge to be unfair. In relation to this, Mischo and colleagues (Mischo 2003; Christmann et al. 2000) show that in such a situation the participants tend to express themselves either by emotional reactions or verbal confrontation.

2.4 Meaningful objects of argumentation: individuals’relationship with the content

Too often, researchers regard the content, the subject being discussed in the argumentation, as a pretext for the observation of argumentation skills and their development. However, it is by no means certain that argumentation skills belong to an individual, independently of the content. Voss and Van Dyke (2001) have clearly demonstrated the importance of the subject’s relationship with the content in explaining contradictory results between different studies, some of which show that young children are already capable of developing argumentation skills while others observe that these skills have not been acquired by children of the same age: “This apparent disagreement can be resolved by noting the roles of two factors, the tasks and two types of knowledge, of subject matter and of argument-related verbal structures or schema. Young children have experience in conflict situations, and they become personally engaged in them. They have encountered peer and parent-child interpersonal conflict. When they enter into argumentation, their knowledge and experience in social relationships is activated with their related argument structures, even though in many cases the children probably could not verbalize the nature of such structures. However, what could happen if such a child were asked as an individual why people return to prison? (…). Whether or not a person is able to perform reasonably in an argumentative situation depends on context, which includes the argument’s contents” (2001, pp.102-103).

In relation to school, Douaire (2004) also observes that students who had to engage in argumentation during geography lessons had difficulty decentering from their perspectives especially if they were very concerned with the issue. We know how important it is to be familiar with the topic under discussion and interested in it; these aspects affect the development of argumentative strategies. The nature of the subject matter refers back to the individuals’ previous cognitive and affective experience.

Some researchers have also found that it is important for the individual to feel that the subject under discussion is “discussable”. For example, Golder (1996) observed that certain subjects become “discussable” as a function of a child’s age. However, it is also true that the cultural context plays an important role in establishing what is discussable; in some historical and cultural configurations God, His nature, His intentions, the form and place of the Earth within the Universe, the evolution of Humanity, and many other subjects, may be regarded either as a subject for debate or a taboo subject. So before argumentation can take place, the partners have to consider the subject to be discussable; but discussability is perceived differently according to the social or cultural group to which individuals belong.

So in our perspective it is important to see that argumentation cannot be reduced to its developmental and intrapersonal factors: “Whether or not a person is able to perform reasonably in an argumentative situation depends on context, which includes the argument’s contents” (Voss and Van Dyke 2001, pp.102-103).

3 Dialogic and interpersonal dimension of argumentation

The presence of another person is not only a characteristic of argumentation as a special form of communication, it is also key to the processes of thought and learning. Identifying the dialogic dimension of argumentation makes it possible to demonstrate that argumentation always involves an interaction, a type of dialogue (even one in which one person argues with themselves) in which argumentation emerges as a response to doubts or divergences on the part of an audience: arguing involves presenting different views on a single subject. So by its essence argumentation is a relationship with an “other”, who may or may not be physically present, but whose contradictory or sceptical voice contributes to the emergence of argumentation (Van Eemeren and Grootendorst 2004). By addressing their discourse, the speaker anticipates their interlocutor’s response in a process which Bakhtin calls “responsive understanding” (Bakhtin 1981). In this light, all interventions take their meaning from what precedes them and what follows them in a chain of discourse; argumentation is therefore the product not of an isolated thought but of cooperation by the participants.

3.1 Dialogue and thought

Emphasising the dialogic dimension of argumentation leads us to consider the role of verbal interaction, and in particular of dialogue, in the construction of thought. A sociohistorical perspective in psychology draws attention to the fact that development and learning are “co-constructed” in social interactions. In situations where children relate to other people, they are led to modify or construct their representations and understanding of their environment and of themselves. In this sense, development takes place while moving backwards and forwards between the intrapersonal equilibrium of understandings of the world and the interpersonal level; the knowledge and tools developed at this level are then internalised by the child, who appropriates them as personal thinking tools.

In Vygotsky’s theory, often referred to in research into the role of social interaction in learning, language (and oral language in particular) is conceived as having two principal functions: as a ‘communication tool’, it is used to share and develop the knowledge which makes social life possible, while as a ‘psychological tool’, language is transformed into a tool for reflecting on one’s own activity, so making it possible to reason, plan, organise thought and verify one’s own actions: “Children solve practical tasks with the help of their speech, as well as with their eyes and hands” (Vygotsky, 1978, p. 26). But these two functions are inevitably interdependent; children learn to talk in the concrete practices of their life, they learn language by using it in activities in the community into which they were born. Bruner (1990) in particular, and other scholars (Mercer 2000; Mercer and Littleton 2007), have shown how the development of young children is constructed through and by their dialogues with the people around them.

The work of Pontecorvo and her team is interesting in this light. Based mainly on cultural psychology, the team considers that psychological processes (memory, sense of personal and social identity, etc.) can be studied through the manner in which the culture allows for them, organises and speaks of them. So they study the phenomenon of socialisation, which is understood as a reciprocal exchange of adaptation and knowledge between society and its new members, taking a particular interest in language which is considered not only as the instrument, but also the aim and object of socialisation. Pontecorvo and her team use analysis of the everyday activities of children in the context of the family and school to see how what Bruner calls “the mind in the culture” is constructed.

From a detailed analysis of verbal interactions, the authors show that family conversations are one of the important places in which the social and relational function of language develop. The ability to argue is constructed interdependently in the cognitive, language-related and social domains. So the child's experiences in conversation play a very important part in building comprehension of the structure of conversation and of argumentation (Pontecorvo and Arcidiacono, 2007).

Ordinary conversation, particularly dialogue, is the matrix for our reasoning and our learning, and the foundation for the possibility of entering into dialogue: "conversation is the natural arena for exercising intelligibility of cognition and actions" (Trognon 1997, p. 253). Conversation brings out a particular, pragmatic, form of rationality which uses all the social assumptions which govern human entry into the world of language.

On this subject, developmental psychologists have shown not only how young children are induced to enter into argumentative types of dialogue in their everyday activities with their parents or peers, as we saw earlier, but also how argumentation itself may be a factor in learning (argumentation as tool for constructing new knowledge, new relationships with others and with oneself).

3.2 Social interaction, argumentation and development

For understanding argumentation in a learning situation, we were interested in studies which examined the effects of confrontation and of a shared goal beyond that confrontation. In particular, studies of sociocognitive conflicts (Darmon, Butera and Mugny 2008; Perret-Clermont 1996; Perret-Clermont and Schubauer-Leoni 1981) demonstrated the importance of confrontation of points of view within social interactions. However, this confrontation is only a source of learning under certain conditions: the child must be ready from a developmental point of view for this destabilising sociocognitive encounter (Perret-Clermont, 1980), and the search for a common solution to the conflict must be of a cognitive nature, and not of a social or affective nature, such as subordinating oneself or trying to please by blind acquiescence (Buchs et al. 2004).

Other research studies leading on from these earlier ones have focused more on understanding the role played by argumentation in learning. They examine how argumentation develops in social situations involving the processes by which people co-develop new knowledge (Baker 1999, and chapter in this book): "The appearance of the new at the intra-psychological level is viewed here as the outcome of a dialogical process of negotiation in the course of which culturally developed ways of acting, speaking and thinking become part of the learner's internal functioning. Discourse plays a crucial role in such a process as it brings people into a form of social (inter)action that makes it possible for them to negotiate their views on a topic and transform them" (Leitão 2001, p.4). [Schwarz in this work has reviewed the literature on this subject].

3.3 The status of the interlocutor in the interactions

Argumentation practices cannot be understood without also considering the question of the opponent's identity and status. Aristotle himself emphasised the importance of a good knowledge of the intended audience of a discourse, to better convince them. Some modern researchers have shown that the characteristics of an interlocutor affect the capacity of the young child to consider opposing points of view. Golder shows that the familiarity of the audience is one of the determining factors in argumentative forms: "Working out the positions of the interlocutor, and so anticipating their objections, is closely linked to the level of familiarity of the relationship between the speaker and that interlocutor" (Golder 1996, p.141). Based on her study, she established that between the ages of 5 and 14 children argue in a more diversified and developed way against an adult than against a peer, and against someone they do not know rather than one who is familiar to them. So children are better at negotiating their point of view when they have to convince a) an adult close to them rather than a

peer of their own age; b) an adult they do not know well rather than an adult close to them; c) an adult who argues their point of view rather than an adult who does not intervene in the discourse; d) a peer who is a friend rather than a peer who is hostile to them (Coirier et al. 1990).

In terms of comparison of identities, it is also important to consider the dimension of the interlocutor's expertise. Grossen, Liengme Bessire & Perret-Clermont (1997) showed that in a situation where they feel that their expertise is equal to that of their interlocutor: "The induction of a social comparison leading the novices to perceive themselves as being as able as their partner to perform the task had a positive effect on their performance in session 4 (post-test)" (p. 184). By demonstrating that identities can have a modulating effect, these results could also be adapted to interpersonal argumentative dynamics. The question of the type and gender of the interlocutor may also affect the way in which the proposer enters into the argumentative situation (Psaltis and Duveen 2006; Voss and Van Dyke 2001).

Specific characteristics are concealed in an argumentative situation between a child and an adult compared with an interaction between children: a dialogue between adult and child is a discourse of dominance, while discourse between child and child is one of cooperation or conflict (François 2005). Between peers, the way discourse is linked together is as statement-statement, while an adult introduces a question-response structure; the relationship between children is therefore more equal but also more diversified, and freer; a child demonstrates more self-continuity in argumentation with another child than with an adult. In addition, when argumentation takes place between peers it is experienced more as play, so permitting creativity. Finally, one of the specific characteristics of argumentation between peers, and of dialogue between children in general, is the variety of discursive forms; this is due to the trial and error inherent to learning in children, and to the lesser importance accorded to social prohibitions. Fasulo and Pontecorvo (1999) showed that without a teacher's intervention, learners in school can converse more freely, which enriches their mastery of language. In such a situation children do not feel that they are being judged by the teacher according to the rightness or wrongness of what they say, which allows them to express themselves freely.

Hofer (1999) studying interactions between mothers and their adolescent daughters shows how adolescence is a period of many changes and is marked by certain paradoxes in the relationship with parents, characterised by a desire for independence and a still strong attachment. In parent-child interactions, Hofer observes that parents try to convince by explanation, while adolescents demonstrate their own individuality by rejection, criticism and counter-argument. In an analysis of argumentation, it was found that daughters and mothers dominated different aspects of the dispute. The mothers regulated the discourse, while the daughters were more active in generating arguments and counter-arguments.

3.4 Psychosocial processes

In an argumentative situation, individuals are involved in a communication situation. Each individual is also a member of social groups, depositaries of representations and values which are shared to a greater or lesser extent by other people. But above all, each individual is regarded by the others as a member of a group; they represent a majority in power or a minority without the right to speak.

Social psychology has developed many concepts which can help us to understand how argumentation can sometimes be difficult to distinguish from persuasion or from influence. When evaluating the responses we give to the questioning we meet everyday for which there are no objective responses, we generally refer to someone else. We thus perform a social comparison (Festinger 1954). Social comparison is a way of evaluating perceptions, emotions, sentiments, thoughts and actions which consist in relating to another person. For a person who is questioning the value of their point of view it performs two functions: it is a source of information, and it increases their psychological comfort. The individual will have more self-confidence if the response they have chosen is the subject of consensus in the group to which they refer (Trognon and Bromberg 2006).

It is important to consider the effects of conformity with the group (Asch 1956; Milgram 1974) in understanding the psychosocial processes which may inhibit their engaging in argumentation. For example, some authors have identified two major processes to explain the phenomenon of conformity to the group; the first is “normative influence” (people adopt the group’s norms in order to obtain rewards; this type of influence most affects positions taken publicly), and the second is “information influence”: people compare their response with that of others when they are not sure it is correct (personal opinions are more affected by this type of influence). But if the processes of conformity can prevent argumentation from developing, it may be interesting to study “conversion” (changing a private opinion). According to Moscovici and his co-workers (Moscovici 1976) influence exerted by a minority is more likely to lead to conversion than conformity. When people are confronted with the position of a minority, they engage more readily in creative thinking (Mugny 1982; Nemeth 1986).

In educational situations, the role played by the image of the other person in regulating the dynamics of the argumentation is also important. In particular the role of the teacher (and their representation of the learning processes) may profoundly modify the forms that communication takes, and so modify the dynamics of the argumentation. Studies of “communities of learning and practice” (Tusting and Barton 2006) demonstrate the mediation function of the design of the teaching on the forms of learners’ participation, and therefore on the possibility of using arguments. One important feature of many innovative educational studies is to question a reliance on ‘top-down’, teacher-student communication in favour of learners’ collaborative communication as they share and construct knowledge. Arguing becomes a crucial part of class activity (Schwarz’s and Schwarz & Andriessen chapters in this book).

4 The object of the argumentative discourse

We saw earlier how important it is to consider the relationship between the individual and the topic under discussion, insofar as past experiences in terms of knowledge and of familiarity may have an important role in implementing argumentative strategies. The subject itself may also be regarded as imposing a certain degree of constraint on argumentative practices; a mathematical problem, a historical or a physical problem are not discussed in the same way. They have different relationships with concrete facts, and the epistemological obstacles and the discursive traditions for each of these disciplines are different (Brna et al. 2002, Douaire 2004) (see Schwarz’s chapter in this work).

Different traditions guide the actors towards how to argue on different matters and these activities in turn construct the social reality. Amsterdam and Bruner (2000) analyze the argumentative process in the making of legal decisions and the reality that these decisions create. Di Donato (2008) describes the argumentative practices of clients, lawyers and judges in the “making” of a legal case. Zittoun (2007) describes the specific tradition of argumentation when reading the Tora.

5 Mediation tools

Human artefacts are not only used to facilitate processes which would exist without them; they also completely transform them. The specific nature of mediation tools contributes to the expression and form that the argumentation will take. Earlier we referred to the role played by mastery of certain tools such as written or spoken language, and to technical knowledge for the use of technologies to facilitate argumentation. But the characteristics of the tool have a mediating role not only in the way in which an individual implements argumentative practices, but also in their entry into a certain culture.

The use of certain tools is effectively an invitation for an individual to enter a culture. For example, by learning to write, a child no longer lives in the spontaneity and immediateness of the spoken word, but begins to reflect on the discourse produced and becomes capable of going back over its own written product (Olson and Torrance 1996). So the child appropriates an instrument which

will allow it to view its own activity and its knowledge from a distance and gradually, by learning to use it, the child will better control its discourse. So written argumentation means entering into a complex activity; it means simultaneously developing certain internal cognitive capacities, and also becoming an actor in a milieu where the linguistic activities of those making statements are structured and organised in writing. Learning to write an argumentative text is not simply a matter of transposing an oral debate into a literate context, but it also means, for example, becoming capable of holding oral discourses whose organisation and structure are the product of the controlled work of writing, and carried out by means of the written word. Appropriating writing means structuring one's thoughts and actions using methods developed by a culture of writing. Very often, psychology studies of written argumentation fail to consider the contexts in which texts were produced, but focus instead on intellectual and individual activity. However, it is during teaching and learning interactions that pupils acquire these capacities and access the culture of writing.

In the field of computer-mediated learning, many studies start from the Vygotskian premise that manipulation of external graphical representations facilitates the resolution of cognitive tasks and has consequences on development. The results show that visual representations and structured dialogues can facilitate learning, under certain conditions (Andriessen 2006; Andriessen et al. 2003; Muller Mirza et al. 2007; see also Andriessen's chapter, in this book). Muller Mirza & Perret-Clermont (2008) observe that introducing software designed to support and facilitate argumentation into the classroom has consequences on the whole educational activity.

6 Argumentation as a socially and culturally situated activity

6.1 Institutions

An inventory of the different contexts in which argumentation takes place raises new questions, such as what it is that distinguishes argumentation in one context compared with another; whether arguing in a courtroom or at home is the same type of communication; what it is that distinguishes them, and what their common points are. The distinction between different contexts makes it possible to show that the institution in which argumentation takes place exerts a constraining effect of greater or lesser degree, in particular in relation to certain historical and social processes which define the roles, rules, and norms of use for the different actors involved. It is therefore essential to consider the institutional context in which an argumentative discourse takes place, as van Eemeren & Houtlosser remind us: "Activity types are more or less institutionalized entities of verbal interaction that can be distinguished by empirical observation of communicative practices in the various domains of discourse. (...) Argumentative discourse, typically but not exclusively, takes place in the context of an activity type, or a similar kind of social background, that is regulated by conventional preconditions instrumental in shaping the communicative practice concerned" (Van Eemeren and Houtlosser (2007, p. 376).

The courtroom is often cited as the place where rhetoric originated, and is an institutionalised setting for argumentation; it has a body of specialist professionals whose task is to provide reasons for judging an individual to be innocent or guilty, and whose roles, tools and manner of speaking have been defined socially and historically, and need to be specially learned. In this situation, the available "elements of evidence" and the situation (both physical and emotional) in which the event in question took place, the selection of articles of law used to determine punishment, and other elements, are subject to interpretation and consequently to argumentation between the different parties (Amsterdam and Bruner 2000). The two sides set out their opposing positions and each tries to convince the other that their reasoning and perception of the facts are right, while following special rules to do this, within a very specific framework. While argumentation certainly takes place in the courtroom, there are specific norms governing its use by the different protagonists, which give it a recognisable character.

The institutional dimension is also important to researchers studying argumentation in school. The school defines units of knowledge to be taught and learned, and the methods to be used. For learners, learning in school involves participating in an activity which is both cognitive and social, which requires and understanding of the routines, implicit rules and timings which are the foundations for communication between teacher and learners (Grossen 2002; Mehan 1979; Mercer 2000). So teaching and learning are activities which should be seen as situated in institutional and cultural contexts (Lave 1988; Lave and Wenger 1991).

It is therefore important to study argumentative practices by studying the educational objectives and programmes: What are the place and educational goals of argumentation in academic programmes? At what age should argumentation be taught? What practices are suggested to the teachers? Are they efficient? Certain studies have also demonstrated the importance of the subject chosen in an argumentative discussion (Dolz and Schneuwly 1998). Learners may feel that certain subjects belong to their personal or family life, in which case they would not feel they are allowed to discuss them in a school setting. From the learner's point of view, evaluation is a key issue: if I get involved in discussion in the classroom, will my skills or the opinions I express be judged?

6.2 Cultural dimensions of argumentation

In general, representations and the way they are put into words are rooted in the previous and collective experiences of the individual and of the group. People have learned how to find their place, adopt a script, allow themselves to act, take the floor and make claims in front of another person; they have learned their expected roles, rights and duties, and to recognise whether or not subjects are suitable for discussion. The culture offers matrices for thought, symbolic resources for interpreting events (Bruner 1990, 1996).

In argumentative situations, individuals take from their previous experiences references to beliefs and norms that they have shared in interactions with other people, roles they have tried out, subjects for discussion, discursive forms, etc... It is therefore important to ask when and how individuals and groups learn to recognise the value of argumentative communication.

6.2.1 Is argumentation universal?

In a way which today could be seen as somewhat provocative, some authors have asked whether all cultures allow their members to develop what they call "basic rationality", the foundational logic of argumentation. For instance, in this field, Miller (1987) studied complex discussions about territorial litigation between Trobrianders. He asks whether certain forms of ritual communication could to some extent prevent the development of collective argumentation. The observations made around the Malagasy form of oratory known as "kabary" (Bloch 1971; Muller Mirza 2005) could be an example of this. Kabary is a discourse where generally the only people who speak are the elders, or people acknowledged as having power. Before speaking, the community's leaders announce the seriousness of the subject they are about to address, according to an unvarying order of precedence which reproduces the hierarchical order and is reflected even in the physical arrangement of the individuals who are present: "From that point, less powerful individuals know that they have no chance of being heard" (Ottino 1998, p. 587). Authority is therefore crystallised by physical and symbolic elements which make its effect natural: "The order in which things are arranged is not seen as the result of the actions of anybody in particular, but of a state which has always existed and therefore of the same kind as the order of nature" (Bloch 1975, p. 17).

In order to determine the role of the sociocultural context in reasoning, during the 1930s Luria (1974) carried out a series of studies in Central Asia, as part of a collaboration with Lev Vygotsky. Independently of the criticism addressed to Luria, the results demonstrate differences in the way in which individuals approach and resolve problems, particularly with regard to their academic level. In

general, individuals who have not received any schooling show themselves to be incapable of categorising objects (or refuse to do so) in a way considered by individuals who have received even basic schooling, to be “correct”. Rather than using “theoretical” or abstract reasoning (these are Luria’s terms) to resolve syllogisms, for example, subjects who had not been to school use “practical” reasoning, or reasoning “related to a concrete situation”.

Luria concluded that this was a lack of aptitude for abstract logical reasoning, but in fact it is more a case of peasants refusing to play the game of logic (Muller Mirza 2005). This reticence goes back to different cultural values – you don’t express what you don’t know – and to a vision of the world in which it is important to know who is allowed to say what. When attention is focused on the relationships between the object and its context, some authors call this way of thinking is called holistic or dialectic thought: “Holistic thought is based more on concrete knowledge than on abstract logic. It is also qualified as dialectic, i.e. that when opposing points of view are put forward, the individual (…) will maintain multiple perspectives and look for a “middle way” (Norenzayan 2007). This means that when two opposing points of view meet, the individual will not exclude one of them but will try to find a “middle way”. They will look for harmony, as both types of proposition contain elements of truth. Based on different experiences, Nisbett and his colleagues found that people from Asian countries (notably China and Japan) have a tendency to avoid social conflict and reduce contradiction by changing their point of view (Peng and Nisbett 1999). The authors define dialectic thought according to three principles: the principle of change (reality is a process which is always in motion, dynamic and changing); the principle of contradiction (since change is constant, contradiction is constant too and if there are two contradictions, they are connected and mutually control each other); finally, the principle of relationship and holism (nothing is isolated and independent, but everything is connected; if you want to know an object, it has to be seen in relation to its environment). Conversely, analytical thought, which is felt to be more highly valued and developed in Western countries, extracts the object from its context by concentrating on its characteristics in order to assign it to categories according to rules, and tries to resolve contradictions. This reasoning which decontextualises the object leads to a search for the true and the false from two opposing points of view. The authors state that Westerners rely more heavily on formal logic which separates the structure of the argumentation from its content. Analytical thought is based on three principles: pursuing a single truth; building counter-argumentation; and finally, giving preference to content.

To explain the differences observed, the researchers refer to familiar values of the people studied and shared within their group, and the way in which speech is used and valued within everyday activities. Among certain social or cultural groups, the child gradually becomes familiar, in the different contexts of its life, with the scripts of communication involving values and categories of people with whom an argued discussion is possible. For example it is interesting to observe the adolescents who when faced with a Piagetian task of conservation, will not let themselves contradict an adult’s false assertions; they focus on the relationship rather than on the task to be resolved. Bernstein’s (1972) studies demonstrate the importance of argumentation in the processes of socialising young children, as arguing involves making explicit the rules, social positions, codes and reasons for authority behaviour, particularly in asymmetrical relationships between children and parents. In certain social environments it seems that children are more exposed to articulated argumentation, while in others, authority is presented in the form of behaviour or the taking of a position without words to support it. This type of relationship with authority could prevent the child from developing behaviours of curiosity, exploration, speaking out, and particularly at school, when the teacher encourages a child to construct a position and then support it (Robinson 1982). We suggested earlier that in certain cultural configurations, certain topics are not considered equally suitable as subjects for possible discussion. For argumentation to take place, the partners have to perceive the subject as “discussable”; but discussability is perceived in different ways, depending on the social and cultural group to which individuals belong.

6.2.2 Implications for school

In the context of school, even when argumentation is considered to be an effective learning tool, actually holding debates to encourage argumentation may in some situations lead to problems. For example, Sekiguchi (2000) shows that young Japanese have difficulty in entering into an argumentation situation in a maths class as they are afraid that they may to some extent damage social harmony, which is an important cultural value. In traditional Japanese culture, the aim of public communication is to create harmony ("wa") among the participants. So people have a tendency to avoid expressing disagreement in public; expressing direct opposition is regarded as very impolite. Cooperation is highly valued, rather than competition. Because people try to avoid direct confrontation, they openly rehearse their opinions in advance, so that they can abandon them or change them easily if other people indicate their opposition. In Japanese classes, teachers often organise exchanges of opinion in the whole class or in small groups. These exchanges are called "hanashi-ai", and the teachers have an important role in managing them, for example by seeking to use conflict setting children against each other as good opportunities to deepen understanding of the phenomenon in question for the whole group; the conflict is shared between members of the class, it becomes "our" problem. Although hanashi-ai can agree on the fact that a solution is better, more correct, effective, elegant etc., competition is generally discouraged; there are no losers and no winners. The teaching of Demonstration ("shoumei") in maths takes place in the context of a "collective model" of Japanese communication. Such demonstration should separate the stated assertion from accepted premises, so reconciling the idea of "following the social obligations of the community" with the process of stating the proof. This model seems more suitable to the style of communication practised in Japan than Toulmin's model (which involves affirmation, foundation, guarantee and qualifier), used in class in certain Western countries and sometimes metaphorically associated with war; Lakoff & Johnson (1980) suggest that the ways we argue are partly shaped by the concept of war. Although there is no physical battle, there is a verbal battle, and the structure of argumentation – attack, defence, counter-attack, etc. – takes this into account.

For the last few years, researchers in psychology, sociolinguistics and education have expressed their doubts about a model which they felt was culturally Euro-centred; in their eyes, it put too much emphasis on deductive and inductive forms of justification. They have asked whether in other cultures exist different models which would not necessarily require individuals to take an opposing view, or to be contentious or aggressive when justifying their point of view. Some studies in the field of learning English or French as a second language suggested the difference, at the level of writing, between the argumentative structure adopted by native speakers and the members of other cultures and languages (Disson 2002; Takagaki 2000).

So there are many strategies for justification (deductive, inductive, abductive, narrative, epideictic, etc.), which are used in different ways by members of different cultures when they need to justify and persuade. In particular, some studies have demonstrated the positive value accorded to indirect styles of justification (e.g. justification by deduction, for example) by members of Asian cultures. However, Warnick and Manusov (2000) highlight the fact that the majority of these studies deal with written argumentation (or reports of oral interactions) and question the relevance of the results in relation to oral situations of justification. In research carried out in the United States with students from different cultural backgrounds, they demonstrated the use of different types of justification. Their conclusions open up interesting perspectives in education, emphasising that in teaching, it is important to consider alternatives to the forms of argumentation which are valued in European cultures. However, we should note that these studies have underestimated major theoretical and methodological problems, such as the definition of the term "culture" (considered as a product, when it is in fact a dynamic process, continually reconstructed, negotiated and transformed in everyday interactions); they also use very gross categories that are too general and ignore the diversity that exists within this geographical grouping, etc.

7 Conclusion

Argumentation is a cognitive activity which involves the skills of logic and reasoning. Dialogue is a major part of argumentation, which means that it involves all dimensions of an individual - cognitive, communication, affective, etc. This is what makes it valuable in educational situations. It is also what makes it a particularly sensitive and difficult activity, which only seems to arise in certain contexts. Arguing is a highly complex activity which is simultaneously cognitive and social.

In this chapter we have looked at the psychological and psychosocial dimensions of argumentation, and we have demonstrated the importance of the processes of constructing meaning. Arguing is not a trivial activity. It requires the use of language and other cognitive tools, and the ability to recognise another person's position. The ability to develop complex argumentation, i.e. to justify and negotiate, develops gradually in children. However, a narrow focus on the abilities of the individual, seen independently of a situation in which the child has recourse to thought and speech, is inadequate. To sum up briefly: it matters who you are arguing with, it matters what you are arguing about, it matters what context you are arguing in, and it matters why you are arguing.

It matters who you are arguing with

The question of the 'other' is key to argumentation. It lies at the heart of the definition of the activity of arguing; people argue when they have to oppose another form of thought. The central nature of argumentation means that both the dynamics of interaction and group dynamics are involved in argumentation. The interlocutor's opposition leads the individual to look for proof or evidence, and so to develop a new form of understanding of the subject under discussion. But argumentation is affected by the identity and status of the person who is being argued with. There are issues of asymmetrical relationships and management of status and of power, both between children and adults, and also between peers. The risk of losing or of endangering the relationship is felt by the protagonists in a particular way in an argumentation. Processes of social comparison and conforming to the group are also involved in an argumentative interaction.

It matters what you are arguing about

The form and style of the argumentation differ according to the subjects being discussed; people do not argue in the same way about political or ethical issues, historical events, or biology. Argumentation is affected by its subject, because of the way it has been "built" and because of the representations that it conveys. Every topic has its own social representations, shared to a greater or lesser degree, and brings out emotions and motivations inherent to the activity and which can be contrasted. The issue of the social and cultural legitimacy of the topic of the argument is important.

It matters what context you are arguing in

The situation dimension of argumentation is illustrated by a courtroom, which has been historically and culturally constituted as the location par excellence of argumentative discourse; in court, speakers use coded discourse, and the rules regarding participants, manner and timing of arguments have been defined beforehand. Other places probably lend themselves less well to argumentation, for reasons related to the hierarchies of social relationships and to issues arising from practices; for example, the care situation and the relationship between patient and caregiver.

It is in the family, another important social institution, that the child becomes familiar with argumentation by participating in an increasingly central manner in discussions. This is where the child learns, more or less, according to family traditions, to develop their position and have it listened to and to listen to other people's positions, either with brothers and sisters or with parents. Within the institution of school, the place and role of argumentation are incorporated within the curriculum, which itself bears traces of historical, economic and political issues. Argumentation has for a long time been an educational subject in courses in rhetoric, and today it has a place in activities involving debate around current issues or accepted knowledge. However, the learner, as an actor in this specific institutional situation, may not consider themselves authorized to take the floor and participate in building knowledge.

Individuals are also members of larger groups which have developed traditions concerning the division of roles and status, who may take the floor and when, and for what purpose. So the cultural dimension runs through the activity of arguing, and structures it. In certain situations, arguing is regarded as endangering a certain harmony in relationships, if it is not given the boundaries of precise rules. Among the Baoulé of the Ivory Coast, for example, when it is felt that a confrontation is about to start, one of the protagonists recalls a proverb saying that it is not the individuals who enter into conflict, but ideas. In other cultural and spiritual traditions, for example in Judaism, argumentation based on specific techniques and frameworks is regarded as a condition which maintains and renews one's knowledge of oneself and of the world.

It matters why you are arguing

Sometimes individuals argue, but what is important is not so much the acceptability or rationality of the argument as the sense attributed to the global situation in which the argumentation is taking place; the individual may wonder whether their opponent will continue to speak to them, if they confront them or whether, if they enter into a debate, their teacher will judge them by what they say, or by their personal opinions; whether, if they put forward hypotheses which they try to support, this will have an impact on the real world ; they may wonder whether their representation of what reality is will be overturned.

The personal, social and cultural implications are very important in this particular activity of thinking which makes it possible to explore the sometimes hard to identify borders between searching for rationality and searching for meaning.

References

Amsterdam, A.G., & Bruner, J. (2000). *Minding the law*. Harvard: Harvard University Press.

Andriessen, J. (2006). Arguing to learn: confronting cognitions in computer-supported collaborative learning environments. In R. K. Sawyer (Ed.), *The learning sciences* (pp.443-459). New-York : Cambridge University.

Andriessen, J., Baker, M. & Suthers, D. (Eds.) (2003). *Arguing to learn: Confronting cognitions in computer-supported collaborative learning environments*. Dordrecht, Boston, London : Kluwer Academic.

Asch, S.E. (1956). *Studies of independence and conformity*. Washington: APA.

Astington, J. W. (1994). *The child's discovery of mind*. London : Fontana Press.

Bakhtin, M. (1981) *The Dialogic Imagination: Four Essays*. Austin: University of Texas Press (originally published 1975).

Baker, M. J. (1999). Argumentation and constructive interaction. In P. Coirier and J. Andriessen (Eds.), *Studies in Writing* (pp. 179-202). Amsterdam, University of Amsterdam Press.

Barton, D., & Tusting, K. (Eds.). (2005*). Beyond communities of practice: language, power and social context*. Cambridge: Cambridge University Press.

Bernstein, B. (1972). *Class, codes and control Vol. 1, Theoretical studies towards a sociology of language*. St. Albans : Paladin.

Bloch, M. (Ed.) (1975). *Political language and oratory in traditional society*. London: Academic Press.

Brassart, D.G. (1990). Le développement des capacités discursives chez l'enfant de 8 à 12 ans. [The development of discursive skills in children of 8 to 12 years]*Revue Française de Pédagogie, 110*.

Brna, P., Baker, M., Stenning, K., Tiberghien, A. (Eds.) (2002). *The Role of Communication in Learning to Model*. New Jersey: Lawrence Erlbaum Associates.

Bruner, J. (1990). *Acts of meaning*. London : Harvard University Press.

Bruner, J. (1996). *The culture of education*. Harvard: Harvard College.

Buchs, C., Butera, F., Mugny, G. & Darmon, C. (2004). Conflict elaboration and cognitive outcomes. *Theory Into Practice*, *43*(1), 23-30.

Christmann, U., Mischo, C. & Flender, J. (2000). Argumentational integrity: a training program for dealing with unfair argumentative contributions. *Argumentation*, *14*, 339-360.

Coirier, P., Coquin-Viennot, D., Golder, D., Passerault, J.M. (1990). Le traitement du discours argumentatif: recherches en production et en compréhension. [The processing of argumentative discourse : research on generation and understanding] *Archives de Psychologie, 58,* 315-348.

Darnon, C., Butera, F. & Mugny, G. (2008). *Des conflits pour apprendre [Conflicts for learning*]. Grenoble : Presses universitaires de Grenoble.

Di Donato, F. (2008). *La costruzione giudiziaria del fatto. Il ruolo della narrazione nel 'processo'*, Milano : FrancoAngeli,

Disson A. (2002). D'une culture l'autre : argumentation et stratégies discursives au Japon. [From one culture to another : argumentation and discursive strategies in Japan] *Revue de didactologie des langues*-cultures, 126(2), 181-188.

Dolz, J. (1996). Learning argumentative capacities. A study of the effects of a systematic and intensive teaching of argumentative discourse in 11-12 year old children. *Argumentation*, *10*, 227-251.

Dolz, J., & Schneuwly, B. (1998). *Pour un enseignement de l'oral*. *Initiation aux genres formels à l'école*. [For teaching oral skills. Initiation to formal genres in school] Paris : ESF.

Dorval, B., & Eckerman, C.O. (1984). Developmental trends in the quality of conversation achieved by small groups of acquainted peers. *Monographs of the Society for Research in Child Development, 49,* 1-72.

Dorval, B., & Gundy, F. (1990). The development of arguing in discussions among peers. *Merill-Palmer Quartely, 36*, 389-409.

Douaire, J. (Ed.) (2004). *Argumentation et disciplines scolaires*. Paris: INRP.

Dunn, J., & Munn, P. (1987). Development of justification in disputes with mother and sibling. *Developmental Psychology, 6*(23), 791-798.

Fasulo, A., & Pontecorvo, C. (1999). *Come si dice? Linguaggi e apprendimento in famiglia e apprendimento in famiglia e a scula*. Roma : Carocci editore.

Festinger, L. (1954). An experimental investigation of the effect of unstable interpersonal relations in a group. *The journal of abnormal and social psychology*, 49(4).

François F. (2005). *Interprétation et dialogue chez des enfants et quelques autres*. [Interpretation and dialogue in children and certain others] Lyon: ENS.

Goffman, E. (1967). *Interaction Ritual: Essays on Face-to-Face Behavior*. New-York: Anchor Books.

Golder, C. (1996). *Le développement des discours argumentatifs*. [The development of argumentative discourse] Neuchâtel : Delachaux et Niestlé.

Golder, C., & Coirier, P. (1994). Argumentative text writing : developmental trends. *Discourse Processes*, *18*, 187-210.

Grossen, M. (2000). Institutional framings in thinking, learning and teaching. In H. Cowie, D. Van der Aalsvoort, N. Mercer (Eds.), *Social interaction in learning and instruction : The meaning of discourse for the construction of knowledge* (pp. 21-34). Permagon Press.

Grossen, M., Liengme Bessire, M.-J., Perret-Clermont, A.-N. (1997). Construction de l'interaction et dynamiques socio-cognitives. [Construction of the interaction and socio-cognitive dynamics] In M. Grossen, & B. Py (Eds.), *Pratiques sociales et médiations symboliques*. [Social practices and symbolic mediations] Berne: Peter Lang.

Hay, D.F., & Ross, H.S. (1982). The social nature of early conflict. *Child Development, 53*, 105-113.

Hofer, M. (1999). Discourse asymetries in adolescent daugter's disputes with mothers. *International Journal of Behavioral Develpment, 23*(4), 1001-1022.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: The University of Chicago Press.

Lave, J. (1988). *Cognition in Practice*. Cambridge: University Press.

Lave, J., & Wenger, E. (1991). *Situated learning : legitimate peripheral participation*. Cambridge : University Press.

Leitão, S. (2001). Analysing changes in view during argumentation : a question for method. *Forum : qualitative social research, 2*(3).

Luria, A.R. (1974/1976). Cognitive development*. Its cultural and social foundations*. London : Harvard University Press.

Mehan, H. (1979). *Learning lessons*. Cambridge, MA: Harvard University Press.

Mercer, N. (2000). *Words and Minds: how we use language to think together*. London: Routledge.

Mercer, N., & Littleton, K. (2007). Dialogue and the development of children's thinking : a sociocultural approach. London : Routledge.

Milgram, S. (1974). *Obedience to authority: An experimental view.* London: Tavistock.

Miller, M. (1987). Argumentation and Cognition. In M. Hickman (Ed.), *Social and functional approaches to language and thought*. San Diego, CA: Academic Press.

Misho, C. (2003). Cognitive, emotional and verbal response in unfair everyday discourse. J*ournal of Language and Social Psychology, 22*(1), 119-131.

Moeschler, J. (1989). Argumentation, relevance and discourse, *Argumentatio*n, 3(3), 243-339.

Moscovici, S. (1976). *Social influence and social change*. London: Academic Press.

Mugny, G. (1982). *The power of minorities*. New York: Academic Press.

Muller Mirza, N. (2005). Psychologie culturelle d'une formation d'adultes [Cultural psychology of an adult training]. Paris: L'Harmattan.

Muller Mirza, N., & Perret-Clermont, A.-N. (2008). Dynamiques interactives, apprentissages et médiations : analyses de constructions de sens autour d'un outil pour argumenter. [Interactive dynamics, learning and mediation : analyses of the construction of meaning around a tool for arguing] In L. Filliétaz, M.-L. Schubauer-Leoni (Eds.), *Processus interactionnels et situations éducatives* (pp. 231-254). Bruxelles: De Boek.

Muller Mirza, N., Tartas, V., Perret-Clermont, A.-N., de Pietro, J.-F. (2007). Using graphical tools in a phased activity for enhancing dialogical skills: an example with DUNES. *International Journal of Computer-Supported Collaborative Learning, 2,* 247-272. *Special issue "Using argument graphs to support collaborative learning"* (coordinated by J. Andriessen & M. Baker).

Munn, P., & Dunn, J. (1989). Temperament and the developing relationship between siblings. *International Joumal of Behavioral Development,* 12, 433-451.

Nemeth, C. (1986). Differential contributions of majority and minority influence. *Psychological Review*, 93, 23-32.

Norenzayan, A. (2007). Psychologie interculturelle et raisonnement. [Intercultural psychology and reasoning] In S. Rossi (Ed.), *Psychologie du raisonnement* [Psychology of reasoning] (pp.169-189). Bruxelles : De Boeck.

O'Keefe, D.J., & Benoist, P.J. (1982). Children's arguments. In J.R. Cox, and C.A. Willard (Eds), *Advances in argumentation theory and research*. Carbondale : Southern Ilinois Press.

Olson, D. R., & Torrance, N. (1996). *Modes of Thought. Explorations in Culture and Cognition*. Cambridge : University Press.

Ottino, P. (1998). *Les champs de l'ancestralité à Madagascar. Parenté, alliance et patrimoine.* [The fields of ancestorship in Madagascar. Kinship, alliances and heritage] Paris: Karthala-Orstom.

Peng, K., & Nisbett, E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist,* 54 (9), 741-754.

Perelman, C. & Olbrechts-Tyteca, L. (1969). *The new rhetoric: A treatise on argumentation*. (J. Wilkinson and P. Weaver, Trans.). Notre Dame: University of Notre Dame Press.

Perret-Clermont, A.-N. (1980). Social interaction and cognitive development in children. London: Academic Press

Perret-Clermont, A.-N. (Ed.). (1996). *La construction de l'intelligence dans l'interaction sociale* (Ed. revue et augm.). [The construction of intelligence in social interaction (Corrected and augmented edition)] Berne: Peter Lang.

Perret-Clermont, A.-N., & Schubauer-Leoni, M.-L. (1981). Conflict and cooperation as opportunities for learning. In W.P. Robinson (Ed.)*, Communication in development* (pp. 203-233). London : Academic Press

Piaget, J. (1969). *Judgment and reasoning in the child* (M. Warden). Totowa NJ : Littlefield Adams. (Edition originale, 1928).

Piaget, J. (2007). *The child's conception of the world* (J. Vonèche). Pennsylvania: Rowman & Littlefield. (Original Edition, 1929).

Plantin, C. (2004). On the inseparability of emotion and reason in argumentation. In E. Weigand (Ed.), *Emotions in Dialogic Interactions* (pp. 265-276). Amsterdam: John Benjamins.

Pontecorvo, C. & Arcidiacono, F. (2007). *Famiglie all'italiana. Parlare a tavola*. Milano: Cortina.

Psaltis, C., & Duveen, G. (2006). Social relations and cognitive development: The influence of conversation type and representations of gender. *European Journal of Social Psychology,* 36, 407-430.

Robinson, P. (1982). *Communication in development*. London: Academic Press.

Rigotti, E., & Greco, S. (2005). Introducing argumentation. Argumentum eLearning module. http://www.argumentum.ch.

Sekiguchi, Y. (2002). Mathematical proof, argumentation, and classroom communication: from a cultural perspective. *Tsukuba Journal of Educational Study in Mathematics,* 21.

Stein, N. L., & Albro, E. R. (2001). The origins and nature of arguments: studies in conflict understanding, emotion, and negotiation. *Discourse processes, 32*, 113–133.

Stein, N. L., & Miller, C. A. (1993). A theory of argumentative understanding: relationships among position preference, judgments of goodness, memory and reasoning. *Argumentation,* 7(2), 183-204.

Takagaki, Y. (2000). Des phrases, mais pas de communication. Problème de l'organisation textuelle chez les non Occidentaux: le cas des Japonais. [Sentences, but not communication. The problem of textual organisation in non-Westerners : the case of Japanese] *Dialogues et Cultures,* 44, 84-91.

Trognon, A. (1997). Conversation et raisonnement. [Conversation and reasoning] In J. Bernicot, A. Trognon, J. Caron-Pargue (Eds.), Conversation, interaction et fonctionnement cognitif [Conversation, interaction and cognitive processes] (pp. 253-283). Nancy : Presses Universitaires de Nancy.

Trognon, A., & Bromberg, M. (2006). Psychologie sociale des groupes. [Social psychology of groups] In M. Bromberg & A. Trognon (Eds), Psychologie sociale [Social psychology] (pp. 181-211). Paris : PUF.

Tusting, K., & Barton, D. (2006). *Models of adult learning : a literature review*. Leicester : NIACE.

Van Der Puil, C., Andriessen, J., Kanselaar, G. (2004). Exploring relational regulation in computer-mediated (collaborative) learning interaction: a developmental perspective. *Cyberpsychology & Behavior*, 7(2), 183-195

Van Eemeren, F.H., & Grootendorst, R. (2004). *A systematic theory of argumentation : the pragma-dialectical approach*. New York : Cambridge.

Van Eemeren, F.H., & Houtlosser, P. (2007). Seizing the occasion: Parameters for analysing ways of strategic manoeuvring. In F.H. Van Eemeren, J. A. Blair, C. A. Willard, B. Garssen (Eds.), *Proceedings of the Sixth Conference of the International Society for the Study of Argumentation* (pp.375-380). Amsterdam: Sic-Sat.

Voss, J., & Van Dyke, J. (2001). Argumentation in psychology : Background comments. *Discourse Processes* 32(2-3), 89-111.

Vygotsky L. (1978). *Mind in Society: The development of higher psychological processes*. M. Cole, V. John-Steiner, S. Scribner & E. Souberman (Eds.). Cambridge: Cambridge University Press.

Warnick, B., & Manusov, V. (2000). The organization of justificatory discourse in interaction: a Comparison within and across cultures. *Argumentation*, *14*, 381-404.

Zittoun, T. (2007). *Tradition juive et construction de sens* [Jewish tradition and meaning making]. Argumentum eLearning module, www.argumentum.ch.