ON DIDACTIC MANAGEMENT OF SOCIOCOGNITIVE CONFLICT

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Abstract

Development is a process that requires conflict ('disequilibrium'). The dialogue allows to co- create new meaning through mutual understanding and reciprocal communications between two or more parties. 'New meaning' can threaten 'old meaning' that is inextricably embedded in cultural discourse. Sociocognitive conflict is one product or form of the meeting of the 'incommensurable' or 'irreconcilable' aspects of diverse cultures/ interpretations of the same values. This meeting is a transformative process but the transformation is not always satisfying or mutually enriching, at least in the short term. The meeting of multiple knowledge systems may enrich perspectives, but also can impoverish perspectives and cause a retreat from dialogue into the social and cognitive security of the familiar. This paper brings in strategies and methods for positively managing sociocognitive conflict in the classroom.

Key words: *creative controversy, didactic methods, didactic strategies, sociocognitive conflict*

INTRODUCTION

First of all, within the educational context of the 21st century, it's a fact that the classroom is especially conducive to sociocognitive conflict due to cultural diversity which entails increasing exposure to different sociocultural conventions and practices. Diverse sociocultural conventions embedded in pedagogy and curriculum content meet relatively frequently with the developmentally sensitive cognitive operations of individual learners. There is much interest in the potentially facilitative effect of cultural courses on cognitive development. 'In order to provide the highest quality education for today's students, we need to understand especially the ways in which (multi)cultural courses support cognitive, and not just moral or social, development in students' (Kögler)[1].

Given the evidence that sociocognitive conflicts can facilitate or debilitate development (Tudge), the dynamics of sociocognitive conflict raise important questions in educational contexts: What are the key dynamics that affect sociocognitive conflict as a positive or negative influence on development? Should sociocognitive conflict be prescribed in educational settings? What pedagogical strategies can help manage sociocognitive conflict to facilitate development amid increasing cultural diversification? Is cognitive development always a desirable outcome of sociocognitive conflict? How to manage in classroom a sociocognitive conflict in order to optimally activate the individual and collective consciousness for personal benefit and group development?

Butera & Darnon's research [2] found that *sociocognitive conflict is beneficial for learning to the extent that conflict is regulated in an epistemic manner*, that is, by focusing on the task or on the knowledge at hand. On the contrary, *sociocognitive conflict can result in detrimental effects whenever conflict is regulated in a relational manner*, by focusing on status and on interpersonal dominance.

A recent experiment illustrates these dynamics: university students participated in a fictitious computer-mediated interaction about a text with a bogus partner who introduced through her/his rhetoric either an epistemic conflict (a conflict that referred to the content of the text), or a relational conflict (a conflict that questioned participants' competence). Results indicated that compared to the epistemic conflict, the relational conflict enhanced threat and reduced the perceived contribution of the partner. Moreover, when the conflict was epistemic, the stronger the

perceived conflict, the more participants said they worked through the problem to understand it better and tried to integrate the two points of views, that is, the more they regulated the conflict in an epistemic way. On the contrary, after a relational conflict, the stronger the perceived conflict, the more participants said they tried to assert they were right and the other person was wrong, that is, the more they engaged in a relational regulation of the conflict. Finally, epistemic conflict elicited better learning than relational conflict [2].

Beside the impact of such researches, I personally have a direct cognitive interest and motivation in searching this topic: I teach philosophy, a provocative subject for both sides of the chair, a subject where (socio)cognitive conflict is at home. I work with students who learn environmental/ rural engineering and management. Every group is heterogeneous by various criteria: rural/urban area of student's origin, cultural background of every student, cognitive interest, learning motivation, cognitive styles, statutes and roles. I frequently encounter in class different interests, various cognitive and problem-solving styles and I feel the tension of the dialogue between students as a shaping force of the group dynamics. I'm aware that, potentially, every conflict separates or unites parties. And I also know that development outside the range of the group can be a socially/ cognitively costly process (i.e. negotiating dual cultural identities) – hence my need to deepen conflict's theme, to understand its role and purpose, to investigate its formative-educative impact. The more so as pedagogy reconfigured developing interactive methods, some of them deliberately provoking cognitive conflict.

In this paper I investigate the internal origin of the conflict (particularly of the sociocultural discord) and I try to highlight the educative benefits and limitations of the conflict and of the teaching methods that promote it because I truly believe that cultural subjects which raise questions, worries, dilemmas, paradoxes help us in our cognitive development and also in building authentic relationships with the others and with our self.

MATERIALS AND METHODS

This paper is the theoretical result of a bibliographic study on the main topic (*didactic management of sociocognitive conflict*) combined with my own teaching practical experience for nearly 20 years.
Concerning the documentary study I selected eloquent works by authors internationally / nationally appreciated in their branch.
The main methods used in paper's elaboration are: documentation by reading, analysis, synthesis, comparison, written discourse, explanation, questioning, example.

RESULTS AND DISCUSSIONS

(1)Sociocognitiv conflict - proximate gender and specific difference
Resulted in disagreements and frictions within inner-self or between group members, latent or manifest verbally/ emotionally/ in actions, '*conflict* (lat. *conflictus*) exists when incompatible activities meet – when an activity is blocked, interfere, harm or in a certain way make another activity less enjoyable or effective' (Schmuck & Schmuck) [6]; 'in class conflict provides opportunity to develop individual and group' [3].
Also, the failure to balance my 'outputs' / your 'outputs' – my 'inputs' / your 'inputs' (as a lack of equitability between the participants in an act of communication) determines one of the parties to be frustrating to the other and this can lead to conflict (Myers) [6].
Essentially conceived as 'a situation where seemingly incompatible elements exert force in opposition or in different directions' (Heitler), conflict can be a 'source for individual change or for the system where it evolve' (Constantin Stoica, Neculau coord.)[6].
NB: We characterize a conflict as such only when *both* parties infer uncertainties, disagreements, but are unable or unwilling to implement resolutions on their own communication field.
'*Cognitive conflict* is a psychological state involving a discrepancy between cognitive structures and experience, or between various

cognitive structures (i.e., mental representations that organize knowledge, beliefs, values, motives, and needs). This discrepancy occurs when simultaneously active, mutually incompatible representations compete for a single response. The detection of cognitive conflict is thought to trigger compensatory adjustments in executive control processes, which serve to reduce and prevent subsequent instances of similar cognitive conflict.' [7]

Cognitive conflict, inevitable fact due to the social nature of knowledge, is a part of many different psychological theories, and has been regarded both deleterious and beneficial.

For example, Freud (1901/1953) viewed distortions of rational thinking and neuroses as the result of conflict between basic drives. Similarly, early learning – theoretic investigations of conflict focused on different types of response competition that lead to negative outcomes (Miller, 1944). Many empirical investigations of the effects of cognitive conflict in human participants have shown that when conflict arises between behavioural responses in experimental tasks, performance is adversely affected in terms of speed and accuracy.

It was around 1970 that experimental studies explicitly investigating the relation between social interaction and cognitive development started to appear. Theorists such as Piaget (1977) and Festinger (1957) viewed the effects of cognitive conflict as playing a beneficial role in rational thinking and intellectual development, insofar as conflict drives positive cognitive adaptation. Piaget viewed cognitive development as involving the attainment of successively higher states of equilibrium or balance. Piaget proposed that the mechanism of transition from one state of equilibrium to another was the process of equilibration. According to Piaget, this process is fueled by conflict or 'disequilibrium', either between cognitive structures and experience or between various cognitive structures. Disequilibrium then motivates an individual to resolve the conflict and attain a new state of equilibrium.

The term 'sociocognitive conflict' was popularised by Doise and Mugny in their studies of the effect of peer group involvement on individual Piagetian operations. Defined within a structural-developmental paradigm, *sociocognitive conflict* is a source of disequilibrium. It is disequilibrium that is at once both social and cognitive. It is cognitive disequilibrium in that the cognitive system is unable to integrate simultaneously its own responses and those of others within a single coherent whole; it cannot account for others and itself at the same time. It is social disequilibrium since this is not simply cognitive disagreement; it involves relations between individuals for which this conflict poses a social problem.

Sociocognitive conflict is the result of a contradiction or mismatch between the cognitive operations an individual applies to a situation and the sociocultural conventions that contextualise the situation. Studies of sociocognitive conflict have focused on individual to peer interactions and individual to expert or authority figure interactions. (Doise & Mugny, Druyan & Levin, Perret-Clermont, Tudge) [1].

(2)Strategies for positively managing sociocognitive conflict in the classroom

Raoul J.Adam [1] identifies three complementary strategies for positively managing sociocognitive conflict in the classroom: experiential strategies, metacognitive strategies and integrative strategies. Collectively, these strategies aim to facilitate development in response to increasing cultural diversification.

Experiential strategies engage students with self-representations of 'the other'. These strategies by no means avoid conflict and may even serve to clarify points of conflict.

However, encounters with self-representations of the other can help to negate conflicts over misrepresentations generated in the absence of self-representation. In developmental terms, experiential strategies facilitate the development of perspective taking (Selman and Byrne). Here, managed sociocognitive conflict facilitates a move from subjective (I see you) to self-reflective (I see you seeing me) to mutual perspective taking (I see you seeing me see you) and beyond. It seems reasonable to assume on the basis of even the

loosest age-stage relationship that school-aged children and adolescents are prone to see the other, without seeing the other see them.

Accordingly, experiential strategies do not merely place culturally diverse others in proximity – that is to provoke conflict – rather, they encourage listening to the self representation of the other in order to develop more complex perspective-taking (I see you seeing yourself, I see me seeing myself). In a meta-analysis of developmental theory, Marchand writes: According to various authors (Kramer, Labouvie-Vief), the relativistic conception of knowledge develops during adolescence and young adulthood, thanks to the growing expansion of social space which confronts subjects with (1) different points of view and different values; (2) with the assumption of roles which, at times, can be difficult to reconcile; and (3) with the choice of one direction among many possible ones.

The difficult task of the teacher is to facilitate development through the sociocognitive conflict that occurs when one culture experiences another[3]. Experiential strategies offer genuine encounters of the other in managed environments. However, management involves recognising and offering a range of cognitive and social solutions to sociocognitive conflict and an understanding of their consequences. The desired effect of this development is to humanise the intentions of the other and to broaden the boundaries of the self [1].

Meta-cognitive strategies engage students directly with the cognitive operations needed to coordinate otherwise opposing binaries arising through cultural diversification. It is necessary for educators to actively sponsor some conceptual tools and learning experiences to help students manage rather than despair the 'irreconcilable' dimensions of

[3] It is problematic that these cognitive developments and their desired effect can be obfuscated by the contents of culture because some cultures are structured to protect and perpetuate very simple perspective-taking. In the context of religious development Oser and Gmünder claim "Cultural development can hamper or sponsor the construction of individual stages while, simultaneously, shaping the content of the stages" [1].

diverse cultures in the classroom. Meta-cognitive strategies highlight and offer alternatives to the dualistic, absolutist, and dichotomous structuring tendencies that characterise childhood and adolescent epistemologies: the issue is to 'coordinate' two or more 'rivalling' descriptions, explanations, models, theories or interpretations on a certain reality (see Reich's model of relational and contextual reasoning - RCR). The questionable reality staying *the same*, applying formal binary (Aristotelian) logic someone would conclude that only one of the given answers/solutions is right, and proceed to determine which one. In contrast, RCR logic will confirm that an answer is correct in one context, and another answer to the same question is right in another context.

In a meeting of cultures RCR adds the cognitive tool of 'complementarity' to the existing tool of 'binary dualism' to conceptualise the meeting. It does not replace active construction but it places tools in cognitive proximity should students wish to use them to resolve the apparent conflicts [1].

Integrative strategy integrates experiential strategies and meta-cognitive strategies to facilitate development. Integrative strategies provide opportunities for collaborative problem solving through interaction between diverse cultural perspectives. Integrative strategies create situations where students actively choose from a range of cognitive tools to engage conflicts arising from diversity.

In a school context interactive strategies can take the form of debates, forums, discussion groups, scenario tasks etcetera. Such strategies bring the problems of diversity into collective consciousness (for example the wearing of the Hijab in English, French and Australian schools). Students are given and construct a language of awareness to engage the problems that diversification brings. Many decisions can at once be reasoned by the most egocentric dualistic absolutism or the most inter-subjective multi-perspective relativism. The rationale for a developmental approach to sociocognitive conflict could be that the former basis for a decision will do more long-

term damage than the latter. Integrative strategies provide students with the opportunity to engage such conflicts arising through cultural diversification with sufficient cognitive tools [1].

(3) Teaching methods which constructively exploit sociocognitive conflict

As I mentioned before, the integrated complementary strategies already described various interactive teaching methods and technics classified, adapted and inter-correlated in educational practice by the purpose, type and content of learning: conditioning learning, social learning, using conflict learning, problem-solving, communication skills, methods based on experience (real and simulated) [5].

Correlated with the theme of the paper, I will mention some effective teaching methods for practicing social learning (through cooperation or conflict), whose practical application supports the observation that neither competition nor cooperation are essentially 'pure' (competition contains cooperation's germ in its own structure and cooperation is defined in turn by a competitive area).

Specific methods of social learning and cooperative learning are: learning with others[4], cooperative learning, data base,

Socratic seminar, strengths and weakness technique, small groups mentoring, mosaic method, reflective teaching, paper technique, fishbowl, tutorial discussion groups, Phillips 66 reunion, nominal group technique, '£ 100 offer" technique.

Using conflict learning methods are reflected in creative controversy, controversial decision technique, debate's technique, focus group technique.

Among the *methods which aim problem-solving* there are: SWOT analysis, fishbone technique, force field analysis, errors' tree technique, Venn diagram, personal reflection, cube method, panel discussion, brainstorming, brainwriting etcetera.

Next I will present three methods to manage a (socio)cognitive conflict, following the logical order of a conflict' analysis: (1) the force field analysis, (2) debate technique, (3) creative controversy.

Force field analysis [6] – within problematic learning situations, the student needs to gain a proper and global perspective that can start in three steps: (1) the detection of the acting forces, those which have a driving role and those which slow, even can stop the conflict; (2) the group leader draws a horizontal line on flip chart and then he distributes the forces graphically: above the line he draws the dynamical forces, beneath the suppressing forces. Through arrows he marks various correlations between forces, the impact they can have on the situation; (3) this diagram forms the basis of possible combinations/ action on forces and it will be used in adopting the strategy.

Debate technique [6] puts emphasis on competition, confronting two teams: affirmative team (favorable to the topic) and negative team (who have opposing arguments). The argumentation do not evolve in parallel, the teams must confront on the battlefield of ideas. There are several models of debate among this one: (1) the arrangement of students – the teacher divides the class into two teams, one favorable to the topic, the

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[4] Mugni&Doise established by research on seventy-four children, aged from 5 to 7 years, that: (1) collective cognitive performances are superior to those of the individual, on condition, however, that the interaction be conflictual; the performances often acquired structural characteristics after the interaction which neither of the two subjects had been capable of in the individual pre-test; (2) when subjects of the lowest level work together with subjects of the highest level, they do not progress even though the group's performance is usually correct – the more advanced subject tends to solve the problem on his own, ignoring the suggestions of his colleague, so the latter is therefore given no opportunity to coordinate his approach with that of his partner; (3) when the less advanced subject is together with an intermediate subject, the latter, whose system is less stable comparing to an advanced subject, is perturbed by the unacceptable solution proposed by the first one, although he does not yet possess the cognitive instruments necessary to solve the problem. While looking for a satisfactory solution, the intermediate subject's explicitate their strategy and the problem they face. As a result, they progress, but so do the lowest

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subject who are able to take part in the search for a correct solution; (4) children who teach other children progress [4].

other in opposition to the first, then he selects two representatives from each team; (2) every speaker (from each team) speaks on turn during five minutes about the position that he defends; (3) then the topic is open to comments, questions and answers between teams; (4) one member of each team summarizes the case, the debate ends with some general conclusions involving the whole class (K.D.Moore).

Pânişoară adapted this model: three elected members from each team start the discussion in front of the whole group an after some time one or more members of the team will be replaced by fellows from their team until all participating students rotate to the discussion. They way to replace members, by rotating active students, is preferable to a simultaneous change of both teams because the latter usually diminishes student's motivation and damage the fluency of the dialogue. [6].

Creative controversy, also called 'structured controversy' or 'academic controversy', was promoted by Johnson & Johnson, Holubec. It is one of the best ways to approach strategies which positively model conflict and post-conflict acquisitions within the sociocultural subjects. This technique differs from debate, where contestants are sometimes more interested in winning arguments than to know the truth. It combines traditional techniques of debate with compromise' techniques, causing positive results for participants on three points: (1) implementation – it produces high quality judgments involving problem solving and decision making, creativity and deep involvement in solving tasks, (2) personal relationships – it leads to a more extensive and qualitative relation among students, (3) psychological health – it produces high esteem among the participants, the ability to control stress and coping with adverse positions.

There are two models of the method: on one hand is Johnson&Johnson&Holubec model, on another hand is B.Watters'. Next I summarize the first model, elaborated in 1992 and structured in seven steps: (1) instructors propose issues, (2) students are grouped in pairs to research issues in the literature, following various points of view – pros and cons, (3) participants are divided into teams and these teams meet on contradictory positions, then teams reverse their roles, trying to support convincing opposite view, (5) instructor requires teams to abandon their lawyer roles for one position and for another and to compile a written report based on compromised; (6) each participant receives a written test based on the discussed issue and receives bonus points if all members of the team that built the compromise had answers close to the provided criteria; (7) during ten minutes, teams have to make an oral report by presenting the compromise reached by the entire group [5].

Through this equally informative-formative method students find/update information and apply it to their own existence. For instance let's see the case of the next creative controversy: 'Western Scientific modernist paradigm or postmodernist liberal paradigm – which way is up?'[1] The teacher can give a clue or a reference like French philosopher Bruno Latour, who writes eloquently on the "War of the Worlds" (2002). Of *modernist optimism* he writes: There was always the hope that differences of opinion, even violent conflicts, could be eased or alleviated if only one focused a little more on this unifying and pacifying nature and a little less on the divergent, contradictory and subjective representations humans had of it … modernization compelled one to mourn the passing of all one's colorful pretensions, one's motley cosmologies, of all the many ways of life with their rich rituals. 'Let us wipe our tears', the modernists liked to declare, 'let us become adults; humanity is leaving behind its myth-imbued childhood and is stepping into the harsh reality of Science, Technology, and the Market. It's a pity but that is the way it is: you can either choose to cling to your diverse cultures, but conflicts will not cease, or, alternatively, you can accept unity and the sharing of a common world.'

The *postmodern argument* against or beyond modernism and its developmental imperative raises the nature of the truth that such developmental progress is seen to reveal: 'For if nature has the immediate advantage of imparting unification, it also has the serious

drawback of being fundamentally devoid of meaning. Objective facts in their harsh reality can neither be smelled, nor tasted, nor can they provide any truly human signification. The modernists themselves were fully aware of this, and even acknowledged it with a sort of malicious joy. The great scientific discoveries, they were glad to say with a shudder, are incessantly wrenching us from our little village and hurling us into the frightening, infinite spaces of a frozen cosmos whose centre we no longer occupy.' (Latour 2002)

For Latour, the postmodern return to diversity struggles to escape the criticism that meaning is closely related to the sense that one has access to reality: 'You possess meaning, perhaps, but you no longer have reality, or else you have it merely in the symbolic, subjective, collective form of mere representations. You have the right to have a culture, but all others likewise have this right, and all cultures are valued equally … In this combination of respect and complete indifference, we may recognize the hypocrite condescendence of cultural relativism … No one wants to be just tolerated anymore. No one can bear to be just one culture "among others". Reality is now once again becoming the issue at stake'.

In this example the compromise begins with the observation that in a social context each individual has biological, social and cultural/spiritual needs. Genuine compromise is neither in reducing all individuals to the common denominator of *homo economicus* in a throwaway society, nor in condescending tolerance of different value orientations under the cultural relativism' umbrella. Let's all recognize that the fulfillment of ones needs asks for science, technology and market and that science, technology and market are used and interpreted from the subjective perspective of each individual according to its cardinal values which guide and model its personality. So genuine compromise does not mean toleration of difference, but the will and the capability (according to one's receptivity / personal development) to recognize, to accept and to value what we have in common and what sets us apart.

CONCLUSIONS

1. Although educators obviously differ in their perspective, the creation of culturally responsive science curriculum has powerful implications for students: a student might conceivably develop all of the common skills and understandings while working from and enhancing a traditional knowledge base; acquisition of the common ground, regardless of route, is a significant accomplishment; exploration of a topic through multiple knowledge systems can only enrich perspective and create thoughtful dialog. The meeting of these objectives requires a process that recognizes and manages the obstacles that stand in its way. Dialogue is 'the co-creation of new meaning through mutual understanding and reciprocal communications between two or more parties' (Roberts). 'New meaning' can threaten 'old meaning' that is inextricably embedded in cultural discourse. Poorly managed, the meeting of multiple knowledge systems, far from enriching perspectives, can impoverish perspectives and cause a retreat from dialogue into the social and cognitive security of the familiar [1].

2. Socio-cognitive conflict is one product or form of the meeting of the 'incommensurable' or 'irreconcilable' aspects of diverse cultures/ interpretations of the same values. This meeting is a transformative process but the transformation is not always equal, or mutually enriching, at least in the short term. Sometimes even a teacher who is at once given the task of encouraging cognitive development and the task of valuing socio-cultural diversity may clash; an understanding of this clash is the first step in its management.

3. Development is a process that requires conflict and it is important to differentiate conflict management and conflict resolution (management suggests that conflict is inevitable and inextricably linked to growth; resolution suggests that conflict can be solved). Sociocognitive conflict can be useful if it is managed, devastating if it is mismanaged, and likely to be mismanaged if it is not recognized [1].

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