How to Teach to Think Critically: the Teacher's Role in Promoting Dialogical Critical Skills.

Claudia Fredella, *Università degli Studi di Milan Bicocca*
claudia.fredella@unimib.it
Luisa Zecca, *Università degli Studi di Milan Bicocca*
luisa.zecca@unimib.it

Introduction

The aim of this study, part of a broader Erasmus+ project (STEP-Pedagogy of Citizenship and Teacher Training: an Alliance between School and Territory), was to identify different dialogue styles and explore the relationship between modes of teacher intervention and differential dialogical critical thinking skills in children. School as a democratic venue, where knowledge is also co-constructed via debate, offers opportunities for pupils to take on active and responsible roles in experiential contexts.

The teacher can play a key role in supporting the development of dialogical competence by encouraging classroom debates on socially acute questions. Dialogical practice is a vehicle for enhancing meaningful pupil engagement and increasing the quality of classroom interaction and pupils' reasoning abilities. However, even today, teachers tend to make greater use of monological practices than of dialogical ones.

There is also a marked gap between theorizing on the verbal and non-verbal language required to foster learning and empirical research tapping into the type of communication that teachers actually implement in the classroom. This background informed our exploratory study, in which we assessed selected classroom dialogues, with the additional goal of fostering the professional development of the participating teachers.

1. Citizenship education in primary school

The aim of citizenship education is to lay the foundations for civil coexistence in democratic societies. Citizenship is a polysemic term. In our own research, we take it to mean the conditions that allow individual to express themselves, and to exchange views and make joint decisions with others (Losito et al., 2001).

In light of key changes in European society over the past decade, the education ministers of the EU Member States have reaffirmed the crucial role of citizenship education in the construction of European society. They have even more strongly endorsed the guiding principles already formalized in Strategic Framework: Education and Training 2020 (OJ 119, 28.5.2009), which are based on the values of tolerance, freedom and non-discrimination, inclusiveness and the active exercise of one's rights (Eurydice, 2015).The EU has identified four areas of citizenship education viewed as strategic to attaining target democratic citizenship outcomes:

- Area1: Interacting effectively and constructively with others, including personal development (self-confidence, personal responsibility and empathy); communicating and listening; and cooperating with others.

- Area 2: Acting in a socially responsible manner, including respect for the principle of justice and human rights; respect for other human beings, for other cultures and other religions; developing a sense of belonging; and understanding issues relating to the environment and sustainability.

- Area 3: Acting democratically, including respect for democratic principles; knowledge and understanding of political processes, institutions, and organizations; and knowledge and understanding of fundamental social and political concepts.

- Area 4: Thinking critically, including reasoning and analysis, media literacy, knowledge and discovery, and use of sources.

Area 1 competences are most actively pursued at the lower levels of education. As children come up through the school system, the ability to interact is attributed progressively less importance. The ability to think critically is among the least developed aspects of citizenship education in Europe (Eurydice, 2017).

We understand the term 'dialogic Interactions' to mean exchanges in which students ask questions, explain their points of view and comment on other ideas. The Dialogic Teaching perspective is informed by the studies of Vygotsky and Bruner on the development of language as a social practice. Learning to speak entails more than acquiring a set of linguistic resources; it also involves discovering how to use them in conversation with a variety of people and for a variety of purposes. Dialogical teaching and inter-thinking are reciprocal, supportive, cumulative, and purposeful practices (Alexander, 2018).

The ability to interact effectively and constructively with others presupposes the ability to listen to others and to verbal express one's own ideas and emotions. Our understanding of the development of dialogical competence and our approach to teaching it in the classroom are based not only on the proven relationship between the development of thought and that of language – especially in relation to fostering the development of cognitive abilities – but also on the connection, also proven, between language and one's cultural values. Teaching children how to engage in dialogue is thus not to be solely understood as offering them a medium for self-expression and action, but as an end in itself, in terms of the construction of individual and social identities within democratic societies (Alexander, 2018, Daniel et al., 2015).The classroom (and the school more generally) is one of the key places where citizens are formed.

2. Participation and Dialogical Critical Thinking

Dialogical skills are the basis for effective participation. Learning to think critically is conceptualized as the acquisition of the competence to participate critically in the communities of which a person is a member and their social practices. If education is to further the critical competence of students, it must provide them with the opportunity, at the level of the classroom and the school, to observe, imitate and practice critical agency and to reflect upon it. Learning contexts that students can make sense of must be made available, so that students can develop a sense of responsibility for the quality of their dialogical practices (Ten Dam, Volman, 2004).

The existing scholarship on critical thinking is extremely broad and interdisciplinary. Its roots stretch back to ancient and modern philosophy, and it has spanned the Galilean revolution, Descartes, Kant and the Enlightenment movement. In education, Dewey's pragmatic philosophy and pragmatic linguistics formed the theoretical bases for an interdisciplinary construct that is hotly debated to this day (Abrami et al., 2015).Critical thinking implies logical and

creative thinking; it signifies reasonable and reflective thinking that enables one to decide what ought to be believed or done. Thinking critically entails the ability to reflect and analyse one's own statements or questions, justify them, and discuss them: all of these are cognitive operations that prevent prejudice and form a moral disposition to engage with other points of view. The habit of thinking critically is complementary to an empathic emotional attitude and to self-monitoring of prejudices and stereotypes. Here, we draw on the work of M.F. Daniel and colleagues (Daniel, Gagnon, 2011: 422-23), who for over a decade empirically analysed the development of critical thinking in children aged three to twelve years across different disciplinary domains. These authors found that the development of critical thinking requires drawing on four modes of thinking: logical, creative, responsible, and metacognitive. It goes through three distinct stages defined by distinct perspectives that we now define.

The self-centered perspective means that a student's representations are simple and centered on the self and beliefs and opinions are expressed as certain. Affirmations concern concrete facts from the pupil's specific personal experience, are focused on simple units (as opposed to interrelated ones), are typically not justified, lack nuance, and are formulated using the pronoun 'I'. Post-egocentric language may be observed when the facts referenced by the child are extended to his or her family and intimate social circle, and the pronoun 'we' begins to be used. Children make concrete statements with the beginnings of an underlying tendency to generalize that is grounded in their familiar environment (parents, friends). The only justifications observed are egocentric in form, i.e. predominantly self-referential. The pre-relativist and relativist perspective reflects a plurality of points of view and a certain reflexivity among students. Formulated using a generic 'we' (we must love everyone) or generalized 'they' (parents love their children), affirmations at this stage are justified explicitly and in detail, ideas tend to be independent units linked via simple relationships, and the preferred formulations are based on the 'you', 'we' or generalized 'they' pronoun forms. And finally, the intersubjective perspective enables students to produce representations that are complex, nuanced, aimed at furthering the common good, and marked by uncertainty and questioning; this entails an evaluative type of reflection. Utterances present concepts are justified, and take the form of questioning, doubting or constructive evaluating diverse points of view. There is an evident striving to identify or accept other points of view. Arguments are presented as the outcome of negotiation and can encompass self-correction, the expression of doubt, and the drawing of connections with the ideas of interlocutors.

3. Research questions and methodology

Dialogical practice is a vehicle for enhancing pupil engagement at a deep level and raising the quality of classroom interaction and pupils' reasoning abilities. However, even today teachers tend to make greater use of monological practices than of dialogical ones.

Our aim in this study was to identify different dialogue styles and the link between teacher intervention and children's dialogical critical thinking skills. What kind of DCT (Dialogical Critical Thinking) process would be correlated with an analytical citizenship education approach? How would children's DCT develop in the course of an ongoing citizenship education project? What role would be played by the teacher? Is there a relationship between teachers' epistemological perspectives and their habitual modes of intervention?

The data we analyze in this study was collected in the context of case studies involving two Primary School classrooms (Clericetti 5th grade and Cornaredo 3th), respectively located in Milan and Cornaredo, a town on the outskirts of Milan. The Clericetti class was accustomed to dialogue and the teacher was expert in dialogic teaching, while the class in Cornaredo experienced classroom discourse in the form of dialogue for the first time in the context of the case study. The first two conversations analysed in Cornaredo were facilitated by a teacher with no specific expertise or background in moderating dialogue in the classroom, while the third conversation was facilitated by the researchers. We analyzed six typical debates (Table 1), two led by the classroom teacher and one led by the researchers, recorded at different stages of the research process and analyzed using a combined coding system that encompassed both DCT (Daniel, Gagnon, 2011) and Teacher/Child Interaction around SAQs (Socially Acute Questions) and was both data-driven and theory-driven (Krippendorf, 2012),

TABLE 1. *Data*

Conversation	Date	Time	Transcription lenght	Note
COR Mirò	10th October 2016	23'	11064	whole classroom
COR Corti	28th March 2017	21'	10944	whole classroom
COR History/Citizenship	16th October 2017	19'	9317	small group
CLE welcoming	11th November 2016	46'	21798	whole classroom
CLE migrants	8 February 2017	56'	28678	whole classroom
CLE final reflection	4 May 2017	17'	8636	whole classroom

4. Results

The positive correlation between type of intervention by the adult and level of DCT attained in Cornaredo (third graders, age 8-9 years) (Table 2. Co-occurences Cornaredo) suggests that when the teacher stimulated active participation and supported the dialogical process, the children produced a higher number of pre-relativist arguments that went beyond egocentric reasoning. The dialogues enabled the children to change their point of view; however, they were still largely unable to justify their ideas or make meaningful generalizations. It is interesting to note that all types of intervention had the same level of impact on post-egocentric forms of thinking. This may imply that monological and rhetorical recitative discourse elicits non-problematizing and non-complex responses from children.

TABLE 2. *Co-occurences Cornaredo*

	Egocentricity Gr=2	Post-egocentricity Gr=55	Pre-relativism Gr=43	Relativism Gr=15	Pre-inter-subjectivity Gr=15	Inter-subjectivity Gr=2	CSC Gr=1	Transformative Dialogue Gr=4
I1 Teacher interventions Gr=15	6	11	3	2	2	0	0	0
I2 IRE Gr=15	0	11	2	0	1	0	1	0
I3 Interventions that stimulate participation Gr=20	6	10	19	9	9	2	0	4

Gr   Groundedness of a Code (number of quotations coded by a code)

The outcomes of the Clericetti class (fifth graders, age 10-11 years) (Table 3. Co-occurences Clericetti) also included a positive correlation between

intervention based on scaffolding and supporting authentic participation and the expression of relativist (18) and intersubjective (22) epistemological perspectives on the part of the children. In this class, all the levels of development of DCT were represented, reflecting both the individual characteristics of the students making up the class group, and the fact that some students were simultaneously engaging in different ways of thinking. This in turn prompts us to hypothesise that the development of higher-order thinking skills does not proceed in a linear fashion.

TABLE 3. *Co-occurences Clericetti*

	Egocentricity Gr=20	Post-egocentricity Gr=5	Pre-relativism Gr=7	Relativism Gr=22	Pre-inter-subjectivity Gr=24	Inter-subjectivity Gr=51	CSC Gr=4	Transformative dialogue Gr=1
I1 Teacher Interventions Gr=25	10	2	3	3	11	20	2	0
I2 IRE Gr=0	0	0	0	0	0	0	0	0
I3 Interventions that stimulate participation Gr=22	7	2	2	18	9	22	2	1

Gr   Groundedness of a Code (number of quotations coded by a code)

The gradual increase in dialogical interventions on the part of the teachers in the Cornaredo class is also clearly reflected in the data (Table 4. DCT Development – Cornaredo). In the course of one year, there was a significant increase in the children's pre-relativist statements, reflecting key gains in terms of their depth of reasoning and self-questioning abilities.

TABLE 4. *DCT Development – Cornaredo*

	Mirò	Corti	History Citizenship	Totals
I1 Teacher interventions	2	9	3	14
I2 IRE	4	3	1	8
I3 Interventions that stimulate participation	35	25	52	112
Egocentricity	0	0	6	6
Post- Egocentricity	38	17	6	61
Pre-relativism	21	22	34	77
Relativism	11	4	13	28
Pre-inter-subjectivity	1	14	10	25
Inter-subjectivity	0	8	2	10
DialogueBetweenChildren	7	7	16	30
DialogueTeacher/Child	4	4	10	18
CSC	0	2	1	3
TransformativeDialogue	0	3	4	7

Gr: Groundedness of Codes (number of quotations coded by a code) or Documents (quotations created for a document)
GS: Number of documents in a document group or number of codes in a code group

In the case of Clericetti, no development in the children's thinking skills were observed. This was likely because they were already accustomed to receiving dialogical teaching before the study began (Table 5 DCT Development - Clericetti). Forms of egocentric and inter-subjective thinking were present simultaneously although the latter appeared to dominate. It would appear that if children are used to discussing socially acute questions, reflecting on them and constructing a shared perspective on them via dialogical exchange, this mitigates the impact of directional and unidirectional intervention on the part of the

teachers. While individual teachers display a dominant communication style with specific characteristics, all teachers draw on a variety of modes of communication which do not necessarily appear to form a coherent whole.

TABLE 5. *DCT Development – Cornaredo*

CLERICETTI	Welcoming	Migrants	Final reflection	Totals	
I1 Teacher interventions	11	14	0	25	
I2 IRE	0	0	0	0	
I3 Interventions that stimulate participation	7	13	2	22	
Egocentricity	17	0	3	20	Gr=26
Post-egocentricity	2	2	1	5	Gr=21
Pre-relativism	2	4	1	7	Gr=41
Relativism	3	6	13	22	Gr=35
Pre-inter-subjectivity	7	14	3	24	Gr=34
Inter-subjectivity	22	21	8	51	Gr=53
DialogueBetweenChildren	7	6	1	14	Gr=30
DialogueTeacher/Child	6	8	0	14	Gr=24
CSC	1	2	1	4	Gr=5
TransformativeDialogue	0	0	1	1	Gr=5

Gr: Groundedness of Codes (number of quotations coded by a code) or Documents (quotations created for a document)
GS: Number of documents in a document group or number of codes in a code group

Conclusions

On the one hand, the results illustrate the effectiveness of our professional development-research methodology in helping the teachers to construct cross-disciplinary pathways and in enhancing their awareness of the educational topics addressed, and openness to taking the points raised by the children into account. On the other hand, the outcomes also point up resistance on the part of teachers to changing the way they manage classroom debates, even when their current approach risks inhibiting the children's self-confidence and negatively impacting on the quality of the children's interventions. We also identified a significant difference between the micro-structure of the dialogues led by the teachers and those led by the researchers, which corresponded to markedly different patterns of reactions on the part of the children, confirming the outcomes of studies conducted in English-speaking countries (Alexander, 2018; Lyle, 2008)

Contrary to what one might expect if we view teachers as experts in educational communication, teacher professional development focused on communication themes is virtually non-existent in Italy. The teachers we worked with on this project found themselves thinking about their own communication styles for the first time; in the course of their meetings with the researchers, communication skills emerged as a key factor in the teaching-learning process. However, it is crucial that the conceptual paradigms and values informing teachers' thinking should be socio-constructivist in nature and oriented towards fostering critical thinking. When teachers view critical thinking as a key educational objective, they are more likely to develop an impactful verbal communication style. Meanwhile, analysis of their own discursive practices is a powerful tool for accessing the most latent and implicit meanings in their complex vision of themselves as teachers.

References

Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., Persson, T. (2015), «Strategies for teaching students to think critically: A meta-analysis», *Review of Educational Research*, 85(2), pp. 275-314.

Alexander, R. (2018), «Developing dialogic teaching: genesis, process, trial», *Research Papers in Education*, 33(5), pp. 561-98.

Asquini, G. (2018), *La Ricerca-Formazione: Temi, esperienze e prospettive,* Milan: Franco Angeli.

Daniel, M.F., Gagnon, M. (2011), «Developmental process of dialogical critical thinking in groups of pupils aged 4 to 12 years». *Creative Education*, 2(05), pp. 418-28.

Daniel, M. F., Lafortune, L., Pallascio, R., Splitter, L., Slade, C., de la Garza, T. (2005), «Modeling the development process of dialogical critical thinking in pupils aged 10 to 12 years», *Communication Education*, 54(4), pp. 334-54.

Krippendorff, K. H. (2012), *Content Analysis: An Introduction to Its Methodology*, Thousand Oaks: SAGE Publications.

Losito, B. (2001), «La seconda indagine IEA Civic Education», *Cadmo. Giornale Italianodi Pedagogia Sperimentale. An International Journal of Educational Research, IX* (27), pp. 35-49.

Lyle, S. (2008), «Dialogic teaching: Discussing theoretical contexts and reviewing evidence from classroom practice», *Language and education*, 22(3), pp. 222-40.

Ten Dam, G., Volman, M. (2004), «Critical thinking as a citizenship competence: teaching strategies. Learning and instruction», 14(4), pp. 359-79.

Zecca, L. (2000), «Conversazioni con i bambini e stili educativi» in AA. VV. (eds) *Appunti per una ricerca sugli stili educativi*, Milan: CUEM, pp. 145-68.