

CREATIVITY AND COMPETENCIES IN EXPERIMENTING WITH COMPLEX INSTRUCTION: FROM THE PUPILS' PERSPECTIVE

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Abstract

This article explores the implementation of Complex Instruction (CI) in multicultural Italian primary school classrooms in the city and province of Bologna. Based on ethnographic research carried out in 2007-2009, it presents a critical analysis of the complex process of learning in a cooperative way. The article will describe the different competencies and strategies pupils use to cope with CI. These have been divided into three categories: *cooperative competencies*, *school competencies*, and *child competencies*. Students did not use *cooperative competencies* just because they had learnt them, but they interwove these with their habitual way of learning and behaving at school (i.e. *school competencies* and *child competencies*), which could influence the process and the results of the CI experiments in class. Pupils engaged actively with the changes brought about by the implementation of the CI method, choosing and selecting different responses ranging from routine ones to creative ones. Finally, the article presents an analysis of the conditions under which low-status students had a

Complex Instruction: Theory and Research

Cooperative learning (CL) has been internationally recognized as one of the most successful teaching strategies for multicultural societies. Thanks to its positive effects on student learning, this strategy has recently been adopted by school systems and teacher training institutions in several countries. It has also been used autonomously by groups of teachers to improve teaching quality and students' achievement in heterogeneous classrooms and schools (Batelaan, 1998; Batelaan, Gundara, 2000; Gobbo, Jacobs, & Pescarmona, 2010). Complex Instruction (CI), developed by E. Cohen and her colleagues at Stanford University, differs from other cooperative approaches in its potential for intercultural education. It strives to consider differences among learners as resources for learning and to promote equal opportunities for participation in classroom interactions (Cohen, 1994, 2003; Cohen & Lotan,

1997; Lotan, 2004, 2006).

To these ends there are three main strategies. First, the creation of open-ended tasks as part of a unit built on a central concept (called the Big Idea, a key epistemological question in one or more disciplines relating to real life issues, problems or dilemmas) which, to be solved, requires multiple abilities. Examples of Big Ideas¹ are: "How to go Green?" (Environmental Education), "Getting the message across" (Communication) or "Why do people move?" (Migration Issues). Each of these are explored from different perspectives and require students to use a great variety of abilities and intelligences to complete the group tasks, such as building models, play-acting, writing poems and drawing pictures² (see also Gardner, 1983).

Each individual student's contribution is important, as each one is expected to bring different abilities and problem-solving skills to

¹ These Big Ideas, and the related CI teaching units, were developed within CLIP European Project (Cooperative Learning in Intercultural Education Project). See Batelaan, 1998.

² For example, the unit "How to go Green?" is about facing dilemmas and critical thinking. As future citizens, pupils face dilemmas when they want to take responsibility for the environment. Such issues can be expressed in different ways. The unit consists of five activities, which require students to create a rap song, a radio advertisement or a sculpture starting from contradictory information, graphics and histograms on garbage, local environmental maps etc. (see Batelaan, 1998).

the task. Secondly, the teacher's authority must be delegated through differentiation, cooperative rules and roles, allowing students to exercise their responsibility towards the group task (Cohen, 1994; Cohen & Lotan, 1997; Lotan, 2004, 2006a; 2006b).

There are certain basic rules for working in CI, such as "everybody has the right to ask anyone in the group for help"; "nobody has completed the task before every member of the group is ready"; "everybody helps" (Cohen, 1994). Roles also hold students accountable for the learning process. Among these there is the 'facilitator' (to make sure everyone understands instructions and that all group members participate and get the help they need); the 'resource keeper' (collects materials and looks up relevant information); the 'timer' (makes sure assignments are completed on time); the 'reporter' (organizes the group's presentation) (Cohen, 1994; Cohen & Lotan, 1997). The teacher's main activity consists of organizing group tasks, observing pupils, listening to group discussions and providing positive feedback.

Finally, specific competencies need to be assigned to low-status students. Status treatment is at the core of CI and addresses the fact that a pupil's status often determines the level of participation in the learning process. The teacher pays particular attention to low-status students and when they put into practice some of the abilities mentioned above the teacher points this out to the group. By displaying how each student may serve as resource on similar multiple-ability task in the future the teacher creates a mixed set of expectations for competence for all students, and equalizes participation in small groups.

Although this method is well known and research results show that it improves students' academic achievement, implementing it in schools is still controversial and does not always guarantee that the desired goals are reached.

Indeed, translating the CI approach into practice can be a complex task for teachers (Augelli, Gobbo, Traversi, & Pescarmona, 2005; Gobbo, 2007; Pescarmona, in press), just as it is for all cooperative learning methods (Sharan, 2010). But it is also challenging for students. If undertaking a process of educational change may require teachers to rethink their own way of working in the classroom (Pescarmona, 2010a, 2010b), for students this could mean questioning what they have been taught to be the "right" way of learning. The cooperative approach could be very different from their previous school experience and could enhance motivation but also raise considerable scepticism (Tan, Sharan, & Lee, 2006). Notwithstanding the positive effect on social abilities and students' self-esteem and outcomes of CI, it seems necessary to take a closer look at how this strategy is developed in the classroom; factors that may affect learning outcomes; and student responses to educational innovation. This study investigates and discusses some issues in the implementation of CI from the students' perspective in Italian multicultural classrooms. It explores what happened in groups when pupils faced a new task, what meanings pupils gave to the implementation of CI, under which conditions CI proved to be an effective way of learning and gave new opportunities to low-status students.

Research Context and Methodology

This article describes the implementation of CI in two multicultural primary school classrooms, which was part of a broad research project³ aimed at investigating, from a comparative educational viewpoint, what happens and which critical questions emerge when a new method, such as CI, is "borrowed" by a group of teachers and implemented in their classrooms. It examines what the innovation involved for the professional development of six teachers, and what it entailed for students' development of competencies and

³ This is a doctoral research project I developed at the University of Turin, Italy.

for equal opportunities for participation.

For this segment of the project an ethnographic methodology was used for researching and gathering data about students' perspectives of CI. Participant observation was employed two or three times a month from December 2007 to May 2008, for two whole consecutive school days, in different heterogeneous classrooms. I took field notes during regular and CI lessons. In each class the teacher used a series of games and exercises called 'skill-builders' (Cohen, 1994) to develop students' social skills, and implemented the new CI teaching unit (*Sapore è Sapere?*)⁴, created by the teachers as part of the broader project. In order to understand how pupils experienced the new strategy, data were collected and analysed during the whole period I spent in classrooms. Great attention was paid to the triangulation of the data gathered about students' experience with CI from their answers to teachers, what they said in informal conversations and what I observed within the group during CI activities. I moved from these detailed descriptions to the identification of concepts, according to the grounded theory by Glaser and Strauss (1967).

Ethnography also provided a theoretical framework for interpreting what happened in class during the implementation of CI. It is a fruitful way of achieving a comprehensive and 'thick description' (Geertz, 1987) of the process and of giving voice to the insiders' perspectives (Hargreaves & Woods, 1984; Woods et al., 1997; Gobbo, 2000; Troman et al., 2006). The three main basic concepts underlying this study are:

- the *culture of the school* (Hargreaves, 1984; Florio-Ruane, 1996; Gobbo, 2000), i.e.

the implicit set of rules and norms of behaviour and the way of organizing space and time and of interacting with others, which gives meaning to school life and is usually taken for granted;

- the *agency*, i.e. the ability to construct their own social reality (Walford et al., 2004). People can re-elaborate their culture and create their own meanings and choose appropriate strategies and actions;

- the *social interaction*, i.e. active participation in social interactions and the construction of social reality through these interactions. Through classroom interactions pupils interpret and give meaning to events (Soenen, 2003; Ernalsteen, 2001) and, in this study, to CI.

Pupils' different contextualized responses about the implementation of this new way of learning were critically interpreted. For this paper, the process was analyzed in two different school contexts: a 2nd grade class of 7 year-olds in a primary school, and a 4th grade class of 9 year-olds in a village in the Apennines.⁵ The 2nd grade class consisted of twenty five pupils (twelve girls and thirteen boys), one of whom was Russian and two were children with special needs. The 4th grade class consisted of eighteen students (four girls and fourteen boys), two of whom were Albanian, one Moroccan, one Romanian and two Roma children.

Pupils at School: Three Competencies

Faced with a task that was new and "strange" to them, students coped with CI by choosing different strategies which have been divided into three categories:

⁴ *Sapore è Sapere?* is a pun that expresses the concept "Is Tasting Learning?". This was the name given to the teaching unit used in the school research project. See also Pescarmona, 2010a.

⁵ These data refer to the school year 2006/2007 when the research study began. The process was also carried out the following year in other two classes. Both the 2nd grade class (7 year-olds pupils) and the 4th -grade class (9 year-olds pupils) refer to the Italian primary school system.

- *School Competencies* –School-focused attitudes and skills determined by the will to be a good student. Their emphasis is on normative and school-desirable behaviours

- *Child Competencies* –A set of manners and skills for peer interactions, led by the need to obtain peers’ approval and to form alliances.

- *Cooperative Competencies* – Social and communication skills which develop attitudes, such as group accountability, respect for differences, and social and cognitive interdependence.

Subsequently, I analysed how these categories interacted with the implementation of CI and how evident they were in pupils’ responses to the new educational strategy.

These categories regulated the norms at the basis of classroom life and interactions among peers. Pupils and teachers in each class developed and reinforced a specific pool of competencies. Each school context contributed to the development of different competencies and the pupils themselves took part in the making of specific rules and ways of interacting. Pupils encouraged each other to stay within certain boundaries and to reproduce specific competencies that gave a meaning to their staying and learning at school.

SCHOOL COMPETENCIES

The most representative school competencies were: complying with strict demands to be on time; not interrupting; carrying out tasks correctly, quickly and well (Hammersely, 1984; Gobbo, 2000); having the right attitude; seeking teachers’ confirmation and avoiding sanctions; preferring teacher-pupil conversation. The pupils in the 2nd-grade class developed this “managerial” attitude⁶ (Soenen, 2003). They gained satisfaction from showing these competencies, and from blaming

those who adopted “illegal” behaviour. In this context, behaviour that did not follow the norms was labelled an accident or malfunction so as to re-establish order. Competition for the teachers’ attention was the major factor around which life in the classroom was organized.

A system of praise and sanction maintained this order. It was developed by the teacher who publicly highlighted the appropriate behaviours (e.g. “I see some good students ready to work”) and the unsatisfactory ones (e.g. “Who are the ‘little tortoises’ who have not finished the task yet?”), and was also reproduced by the pupils themselves. Furthermore, pupils referred to these competencies in order to resolve conflicts (they often repeated “It’s not right. The teacher says that...”) and to protect themselves from failures.

As a result, students who acted according to the status criterion of *being a good student* (as if they were following a “script”, see Goffman 1969) were labelled “professional students”. The pupils who did not usually achieve good marks and were excluded from the competition for attracting the teacher’s attention were considered of low status. There were native Italian and foreign-born pupils in both high and low-status groups.

The 2nd-grade pupils often applied school competencies. There were also creative activities but these were developed in an established order and followed the above principles. The final purpose of school competencies was to reproduce the status quo and maintain the class hierarchy.

CHILD COMPETENCIES

Child competencies relate to the peer group (Hill, 1996) and are animated by what I called “the spirit of play”. Classroom life is organized by peer interaction, “illegal” parallel activities (Ferrari, 1999) and association according to friendship (based on gender or hobbies, e.g. a

⁶ Soenen uses this concept to investigate how diversity expresses itself in the classroom.

sticker collection).

As already demonstrated (Soenen, 2003; Van Zanten, 2003), peer interaction can be very powerful in the classroom environment. In fact, in the 4th grade it often caused a chaotic atmosphere. Each school event was an opportunity to exchange pencils, test answers, snacks or paper-balls with friends. These objects were important according to how well they could be bargained. Indeed, being able to carry out negotiations and forming alliances were at the basis of classroom rules. The syllabus itself was susceptible to constant negotiation. The aim of these activities was to *gain popularity*, which was the status criterion. In the 4th grade class, this was achieved by obtaining peers' approval thanks to pupils' bargaining skills. Therefore I named these pupils the "players".

In this context, low-status students were pupils, native Italian and foreign-born, who did not agree, or were not invited, to participate in pupils' exchanges and were not able to successfully manage both school duties and peer requirements. Peer relations were so important that some pupils decided to engage in a negotiation even if they were the 'victims'.

The final purpose of child competencies was to take advantage of classroom dynamics to achieve and maintain a position within the peer group. This could be a way of opposing school rules, which may entail the risk of bullying. The 4th-year class teacher coped with this situation creatively by giving pupils the role of protagonists, and finding moments to discuss social and civic rules. According to the situation they chose between being a good pupil and/or a good peer.

COOPERATIVE COMPETENCIES

Cooperative competencies consist of cooperative roles (such as facilitator, reporter, and resource keeper) and rules (such as "you have

the right to ask for help"; "you have the duty to assist when asked"), which need to be explicitly taught in order to achieve effective group work, since positive relationships produce a better level of learning for all (Cohen, 1994; Cohen & Lotan, 1997). These rules were developed both in the 2nd and 4th grade classes through skill-builders such as "Broken Circles" and "Guess My Rule" (see Appendix in Cohen, 1994), and classroom discussions.

Cooperative competencies refer to specific cognitive and social skills, such as: having a specific role; working autonomously; interacting more with classmates than with teachers; dealing with a wider concept; involving multiple abilities. These make students responsible for both their own learning and that of their group mates, leading them to use each other as resources. In this way, they promote the participation and integration of each pupil in the classroom, and construct an alternative social hierarchy by creating a new set of expectations for competence.

Experimenting with Complex Instruction: Competencies at Work

The issue examined in this study was how the above tools of competence influenced the implementation of CI. I chose two multicultural-classroom contexts to investigate the complex process of learning in an unaccustomed way; how pupils may react to a cooperative task; which choices and strategies they adopt to cope with the new way of learning.

DEALING WITH CI FOR "PROFESSIONAL STUDENTS"

The 2nd grade class experimented with a CI task for the first time, which raised initial excitement for this "unusual" task, which was soon replaced by disappointment and disorientation.

When "professional students" worked in a group and felt less supervised by the teacher they tried to re-establish the traditional order and act

with familiar *school competencies*, such as: looking for the only one correct solution; listening to the high-status members; asking teachers for critical points instead of discussing them with peers. This helped them complete the CI task in an orderly way, but it also caused competition, especially among high-status pupils, who wanted to affirm their point of view or were eager to solve the task correctly and on time. They often completed the task in place of the weakest members of the group. Some pupils ‘stole’ the cooperative roles assigned to those members or ignored their contribution, even if this had been decisive for task solution. Classmates were treated simply as neighbours and not as resources. Cooperation became more a patronizing attitude towards the less skilled than a mutual interdependence of intelligences and resources.

But “professional students” also experimented with *cooperative competencies* by combining them with *school competencies*. During group work some pupils took care to share a strategy to facilitate work on the task and to include all group members (e.g. “*Have you got all the materials you need?*” or “*Can you explain your idea?*”), which promoted fruitful discussions and encouraged the search for new solutions. It improved the group performance level and developed pupils’ interest in trying out new cooperative roles (especially the ‘resource keeper’). It also presented an opportunity to analyse the solutions found by other groups.

Encouraged by the new rules, sometimes low-status pupils denounced injustices. For example, a pupil asked “*Will somebody listen to me? I understand the task!*” They used group roles as a means of asserting their position within the group. Remarkably, in the 2nd grade class there was a group of middle achievers who organized their work in a truly cooperative way, creating a beautiful song that included each member’s

ideas. Conversely, the group with two high-status members did not reach a solution, and held up the learning process by spending all the time competing for the ‘right’ idea.

At that point, cooperative competencies started seeping into the class routine.

DEALING WITH CI FOR “PLAYERS”

The 4th grade class had already experimented with CI⁷ and reacted to the cooperative activity with excitement and eager anticipation of fun, together with a highly competitive team spirit. For example, pupils began the task by hiding what they were doing so as not to be seen by members of other groups.

The “players” applied their *child competencies* in group work by transforming the original meaning of the task. Sometimes they invented new rules to make the task more exciting for themselves, by pretending to be fantasy characters (unspecified in the task), or redistributed cooperative roles in a sneaky way. Despite the fact that the teacher had assigned specific roles, they exchanged these within the group according to relationships of friendship and power. They preferred using counting rhymes, the majority rule or even a just-as-it-comes approach, rather than engaging in a real discussion and achieving a shared solution. It was not unusual for them to divide the work into separate individual tasks. As classmates were considered friends in group work, negotiating skills were often applied in place of cooperative norms.

Besides, managing social relationships within each group was considered more important than solving the problem-task. This behaviour often helped pupils experiment with new and unforeseen solutions. For example, a group had the task of drawing a big picture, but ended up

⁷ This class was involved in the teacher training project on Complex Instruction developed in 2004-2005. See Augelli, Gobbo, Pescarmona, Traversi, 2005; Gobbo, 2007.