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Introduction: Cooperative Learning
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El objetivo principal de esta revisión es la defensa del aprendizaje cooperativo, rendimiento; incidentes críticos, plataforma digital, habla comunicativa, conocimientos previos. 

La robustez de la investigación existente contribuye a su valoración como una estrategia altamente efectiva para el logro de los objetivos de aprendizaje. 

El aprendizaje cooperativo, donde los individuos trabajan en interacción, ha emergido como una estructura eficaz para el logro de los objetivos de aprendizaje.
on the basis of the cooperative efforts towards learning, understanding and problem-solving. For the Cultural-Historical Psychology School, a key concept to understand the cooperation processes is the Zone of Proximal Development, defined as the distance existing between what a student can do individually and what they can do provided they work under the supervision of instructors or in collaboration with more capable peers (Vygotsky, 2007).

All of this lets us conclude that, within these conceptions, both peer-interaction and teacher-student interaction are the basic ingredients which support the learning process.

However, for a highly-efficient academic achievement, interaction processes occurring in the classroom context should meet certain requirements. Is, for that reason, advisable to examine the factors leading to success in a process of cooperative learning, and that is the underlying idea of the second article of this monograph, developed by Robyn Gilles. The author, after undertaking revision in research on cooperative learning, examines the factors which determine and intervene in its success, focusing on the key role that classroom talk plays on students’ learning.

In effect, there is enough empirical evidence supporting the conclusion that high quality talk originated in certain contexts of problem-solving, not only fosters learning and communication abilities in students but also their thinking skills. From this perspective and paraphrasing Simpson, Mercer, & Majors (2010), we should put forward the following hypothesis: if learning floats on a sea of talk, then, which type of conversation should we promote? And in order to foster which type of learning?

Ever since the first couple of works of Douglas Barnes (Barnes & Todd, 1977), we are aware that when students approach the curricular contents, they do so in very different ways, and when they try to communicate their knowledge to the others, they use different means of communicative talk (cumulative, presentational, exploratory, etc.), depending, as much on the moment and instructional situation as on their previous knowledge (Barnes, 2008). Regarding this process we have to distinguish between two frames of reference: interaction frame and interactivity frame (content-centered interaction). The interactivity frame has to do with what the subject is speaking about (their ideas, their reasoning logic, etc.), and within this frame, participants give evidence of what they think (or of what they want others to believe they think). The interaction frame deals with how the constituting elements within the group socialize with each other and in it, participants give evidence of their attitudes towards the others and of the relationships established between them. The main problem we have found in the classroom is that, during group discussions, there is not simultaneous interaction between these two frameworks (Edward & Westgate, 1987) and this interaction would be necessary to achieve a “countable talk” in the sense that Lauren Resnick (1995) gives it. It would be the teacher’s duty to carry out the necessary actions to facilitate the confluence between these two frames.

Therefore, if talk within the student-to-student interaction process is a potenter factor for learning, talk produced in the course of teacher-student interactions developed along the teaching process is equally as important. Research carried out on the use of talk between teachers and students lets us postulate the existence of an educational discourse which reveals different types of talk existing in teacher-student interactions and which follow other forms of participation in students (Mercer, 1995). Gilles’ article lays out the guidelines on how teachers can use efficiently cooperative learning in order to foster effective teaching and learning processes in their classrooms.

Expanding this particular point, Alessio Surian and Marialuiza Damini present a general vision regarding the challenges that for the teachers involve the implementation of cooperative learning, highlighting the necessity of a specific training in this type of methodology.

The methodology employed by the authors for the training of teachers in Cooperative Learning Methods is that of critical incidents, which focus on the Group Investigation (Sharan & Sharan, 1994). This methodology, which could be categorized as part of the paradigm of the reflexive teacher, posits that the “critical incident” is an event located in time and space that, after exceeding a specific emotional threshold in the teacher, sparks off a crisis or destabilizes this one’s traditional ways. The “incident” unleashes in this way the urge to revise the conventions, strategies and feelings in the teacher, turning this way into a tool capable of precipitating significant changes or revisions in their professional identity (Everly & Mitchell, 1999), being this understood as “the sum of the representations in relation to teaching that a teacher has about himself/herself, which happen to be stable over time and quite limited with regard to their content” (Monereo, 2010, p. 157). The authors conclude that critical incidents constitute a highly effective methodology to carry out teachers’ training activities on cooperative learning methods.

However, if it is not easy to teach from the perspective of a cooperative organization in the classroom, learning to learn cooperatively is not easy, either. In the beginnings of the 20th century, Baldwin (1909) stated that cooperation was only possible if the individual was willing to cooperate and was capacitated to cooperate.

In the qualities of the sociaus or socialized individual, we have the type of personal fitness upon which the qualifications of the group for survival will depend. Only so far as the individuals of the group are soo, members capable of cooperation and willing to cooperate with their fellows, will the group hold together efectively. (Baldwin, 1909, p. 43).

Yael Sharan’s article is especially illustrative about this point. In her essay, the author describes the different ways that, along several decades of research and educational praxis, have been developed in order to train both students and teachers so as to adapt the teaching and learning processes to the demands necessary for an efficient cooperative organization of the classroom. In this work Sharan describes the necessary resources to learn to cooperate and reminds us that
learning cooperatively implies a vast number of changes that affect both social conducts in students (how to behave) and cognitive ones (how to learn), which leads us, without any solution of continuity, to the two aforementioned frame: interaction frame and interactivity frame.

In line with this view is the work by Cesar Coll and Anna Engel, where the authors examine the relationships between these two frameworks in four situations of on-line cooperative learning, two of them following the CSILE (Computer Supported Intentional Learning Environments) approach, making use of the Knowledge Forum software, and the other two employing LCMS (Learning Content Management System), using the technological platform Moodle. The results obtained allow them to suggest an analysis proposal which contemplates the participants’ talk in each one of the dimensions and in each of the technological tools, while determining the weight of the discourse in each one of the proposed learning situations.

If the works described so far, mostly take as a relevant independent variable for a successful cooperative learning the directionality, depth, connectivity and quality of the communicative transactions (parameter of mutuality) existing between the participants in a situation of cooperative learning, the work carried out by Rosa María Pons, María Dolores Prieto, Clotilde Lomeli, María Rosario Bermejo y Sefa Bulut focuses its attention towards a different parameter involved in the cooperation and which makes reference to group formation: the parameter of equality. The authors of said job hypothesize that the success of learning in the three cooperative situations likely to occur in the classroom (Damon & Phelps, 1989), depend on the characteristics of content and on its relationship with students’ previous knowledge. In this way, their work concludes that there is an inversely proportional relationship between the parameter of equality and the distance towards the zone of proximal development. Therefore, when the distance between previous knowledge and the content to be learned is short, the most effective group structure responds to a situation of collaboration (groups with high level of equality), but, as this distance increases, the parameter of equality is bound to decrease until getting to situations where the situation of peer-tutoring (low level of equality) proves more effective than the rest of relationships.

Finally, and centering on the social frame of reference for the classroom, we can affirm that from the decade of the 1950’s on, a series of social changes have occurred which have forced humans to live closer and closer to each other, forming a complex and sophisticated social structure, where interpersonal relationships day by day acquire a greater importance, in such a way that a member of this type of society who considers himself/herself integrated in it, must develop as a basic competence, the capacity to solve problems and tensions which, inevitably, arise between individuals, groups or nationalities. This way, we could state that cooperation is, in a broad sense, one of the keys for the improvement in social relationships and material progress in individuals. In effect, one of the causes of human progress is the capacity that the individual has to put their intelligence at the disposal of a collective in search of a common objective and, in this sense, the article which ends this monograph informs about the virtues of cooperative learning as an instrument for the effective accomplishment of these goals. David and Roger John- son undertake a revision on the nature of cooperative learning, which takes as its framework of reference the theory of social interdependence and conclude with the analysis of results derived from the research on this topic carried out along the last decades, in order to determine the positive effects that this methodology has on certain variables deemed essential for learning, like academic achievement, self-esteem, interpersonal attraction, social support, etc. In situations of cooperation there is more productivity, relationships are more positive, there is a higher social adaptation and better aptitudes than in more competitive or individualistic situations. Furthermore, the solidity of this research contributes to its validity and the possibility to extend this type of methodology to other cultures, countries or ethnic groups.

Cooperation emerges this way as a teaching instrument extremely adapted to today’s educational necessities and, at the same time, represents a powerful tool charged with future which, in words of the distinguished mathematician Johann Carl Friedrich Gauss, the key in cooperative learning is not knowledge per se, but the act of learning; the key is not the possession of said knowledge, but the sum of those actions which enable us to accomplish that possession.

References


