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The inclusion of students who are most vulnerable to exclusion via cooperative learning. A longitudinal case-study

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ABSTRACT

Research into the effectiveness of cooperative learning for students who encounter barriers to participation and learning, and for those who show resistance to cooperative learning, produces poor results because learning strategies do not always incorporate the essential elements of cooperative learning. For this reason, in this study we intend to show how the factors of competence for cooperative learning evolved over 6 terms in base teams, in students with resistance to cooperative learning and in one student diagnosed with ADHD. This was a longitudinal case study where qualitative research instruments were used, carried out in a rural classroom. The results show how the base teams (class-group) evolved, how the resistant students and the ADHD student evolved, and offer pointers to cooperative proposals that should be developed in a class-group, considering the different learning needs of students.

Introduction

Inclusive education remains a political project that attempts to remove the obstacles that prevent students from accessing, participating in, and succeeding in education (Slee 2010; Ainscow, Booth, and Dyson 2006) Inclusive education has also been defined as a process that offers all children, regardless of ability or any other differences, the opportunity to be ordinary members of a class and learn both from their peers and together with them (Stainback and Stainback, 1991). The concept of educational inclusion is closely linked to the need to structure classroom activity in a way that allows and promotes such interaction, as do the cooperative structures. Cooperative learning starts from social interaction and dialogue as sources of learning and tries to balance diversity and equity as the path to inclusion (Putnam 2015; Ashman 2008; Ashman and Gillies 2013; Syrjämäki et al. 2017; Sandoval, Simón, and Echeita 2019 about Spanish situation). Our research analyses the contribution of cooperative learning to the inclusion of especially vulnerable students.

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Theoretical framework of reference

Cooperative Learning and Inclusive Education

It is widely recognised that cooperative learning is a pedagogical practice that improves the cognitive, emotional, social and academic development of students, as Gillies (2016) concludes after reviewing four meta-analyses (1981 and 2014). The two most relevant theoretical referents of cooperative learning are the Social Interdependence Theory of Johnson, Johnson, and Holubec (1993), Johnson and Johnson (2009, 2016) that explains the 5 essential elements needed for us to speak of effective cooperation, and the explanatory model of cooperative learning developed by Slavin (1995, 2012, 2015) incorporating his social and metacognitive strategies.

Putnam (2015) analysis shows the importance of research into cooperative learning as a strategy for inclusion. In a review of 40 investigations and meta-analyses he highlights the fact that cooperative learning improves the performance and personal development of students with disabilities or special needs when teachers use structured cooperative teaching strategies such as those proposed by Johnson, Johnson, and Holubec (1993), Slavin (1995), Kagan and Kagan (2009), Ashman (2008) and Ashman and Gillies (2013). His meta-analyses confirms that the impact of cooperative learning depends on the conditions in which it is carried out, on the programme duration exceeding one year, on whether academic, social and attitudinal performance, and the degree of heterogeneity of the learning teams, are considered. It also indicates that the results are less consistent in students with behavioural disorders since they need to learn certain specific social skills to benefit from cooperative learning at all. Both Putnam (2015) and Ashman (2008) and Ashman and Gillies (2013) emphasise that these issues require further investigation. Recent research by Perlado, Muñoz, and Torrego (2019) and Van Dijk, Eysink, and de Jong (2020) confirms that teachers consider that the use of cooperative strategies helps advance the inclusion of students with SEN (Special Educational Needs), because they improve their motivation and social and emotional disposition to learn. But at the same time this research suggests it is necessary to continue investigating ways to introduce and implement cooperative learning effectively to overcome the repeated difficulties that teachers encounter. In this regard, Opdecam and Everaert (2018) indicate that some students think working in teams means it takes longer to solve tasks. Likewise, Gillies and Boyle (2010) point out that there are students who complain that they have done more work than others in their group yet have received the same grade. The presence of students with such attitudes has led Hoo and Boo (2007) to affirm that we can consider that these are students who are resistant to working in teams, and this has been confirmed by recent research carried out by Tolman and Kremling (2017).

To analyse the relevance of cooperative learning with respect to inclusion, it is important to observe how students diagnosed with disabilities or learning difficulties such or ADHD develop in a programme of cooperative learning and to observe the impact that students' resistance to cooperative learning has on inclusion.

Cooperative learning in students who are vulnerable to exclusion: students who show resistance to cooperative learning and students with ADHD

Students who show resistance to cooperative learning

The description by Hoo and Boo (2007) refers to students who are concerned because they see their classmates as not doing their fair share of the work, who are therefore little motivated to take advantage of the interaction between students, who are used to learning passively and have a strong inclination to seek explanations from teachers rather than their companions.

Isaac (2012), in an investigation into secondary education, points out that the existence of students who do not want to participate in teamwork must be considered when designing groups so that they cannot negatively interfere with the evaluation of the group. Stover and Holland (2018) have used the term 'Student Resistance to Collaborative Learning'. They take Tolman and Kremling's (2017) definition of this term as an 'outcome, a motivational state in which students reject learning opportunities due to systemic factors' (p. 3) and say that this is not personality characteristic but the result of the impact of students' previous negative experiences with CL in the classroom. This point of view lead Van Dijk, Eysink, and de Jong (2020) to propose a strategy to support learning in cooperative teams like the one we propose in our research.

Students with ADHD

In recent years, the learning difficulties experienced by students who have a psychological diagnosis of Attention Deficit and Hyperactivity Disorder (ADHD) has received special attention.

Spencer's review (2006) of 38 studies concludes that peer tutoring of students with behavioural and emotional disorders helps to improve learning in social skills and mathematics.

In recent years, research into the social interactions of students with SEN and with ADHD has increased (Pinto, Baines, and Bakopoulou 2019; Perlado, Muñoz, and Torrego 2019; Van Dijk, Eysink, and de Jong 2020). Feder et al. (2017) highlight the need for mediation between such children and their peers to promote their social inclusion and well-being. However, few cooperative learning studies exist on students with ADHD, although a meta-analysis carried out by Zentall, Kuester, and Craig (2011) into students with behavioural problems such as ADHD show they evinced various indicators of negative behaviour, difficulty concentrating on tasks and showing a negative disposition. However, the same authors pointed out that, as the structuring of activities increased, negative verbalisations were reduced and positive verbal interactions increased.

Kuester and Zentall (2012) observed that, in research into students with ADHD, participants were able to contribute to problem solving when there were clear participation rules and that these rules also allowed them to make significant progress in social behaviour. The research of Sharifi, Entesar, and Hejazi (2020) and Murdaca, Patrizia, and Martelli (2019) confirm how the use of cooperative learning in a control group, initially with 30 students and subsequently with 20 in different classes, had a greater effect on motivation and relationships with others with respect to a control group in, firstly, an Emotion Regulation Questionnaire and, secondly, an Academic Self-regulation Questionnaire. Klang et al. (2020) observe that, while achieving improvements in the social inclusion of children with SEN is necessary, it requires intense, lengthy intervention.

Focussing on the same issue, Capodieci, Rivetti, and Cornoldi (2019) show that, in an investigation involving 30 students aged 6 to 10 years, the sociometric status evaluation, 'liked-least nominations' and Social Questionnaire COM-scale rating of children with ADHD in an educational centre was better in classes where cooperative activities had been carried out than in those classes at the same level where such activities had not been undertaken.

Although these investigations suggest that there are positive effects of cooperative learning on students with ADHD, they do not indicate under what conditions or via what strategies such improvements in social skills are generated, although several indicate that such skills are essential to progress in social learning and the academic results the students achieve.

The Present Study

The case

Our research took place in a rural school classroom in a primary school in the Community of Valencia, Spain in the 5th and 6th grade of primary education. There were 8 students in the group diagnosed with ADHD by external psychological services, some immigrant students and some who show resistance to teamwork. The 'Cooperate to Learn/Learn to Cooperate' strategy (CLLC from now on) was implemented over two school years.

The Cooperate to Learn/Learn to Cooperate

The CLLC strategy takes as its references the conditions necessary for the development of cooperative learning from Johnson and Johnson (2016), the cooperative instructional strategies outlined in Kagan and Kagan (2009) and the teaching methods of Slavin (2015). Based on these contributions, Pujolàs and Lago (2018) define cooperative learning as the didactic use of work in small, heterogeneous teams, so that each team member can learn the course content to the best of their ability while learning to work in a team.

The works of Pujolàs (2008), Pujolàs and Lago (2018) and the research carried out by his team (Pujolàs, Lago, and Naranjo 2013) have provided the basis for the CLLC Strategy, which has been widely described in Pujolàs and Lago (2018).[1] It incorporates considerations from numerous different investigations into cooperative learning and inclusion (Putnam 2015; Ashman 2008; Gillies and Ashman 2000).

The CLLC strategy proposes that cooperative learning should be developed simultaneously in three interconnected areas:

The area of cohesion, which is a set of group dynamics used in the programme to prepare and to generate in the students a positive disposition to work in teams and develop social and emotional competences and positive expectations regarding participation in team activities. This allows the teacher to obtain information by organising cooperative teams of 3 to 5 students. This is aligned with the proposal of Slavin (1995), Gillies and Ashman (2000) and Tharp et al. (2002) that the promotion of shared values in the classroom advances inclusion.

The area of learning in cooperative teams, which is the use of cooperative structures in an increasingly generalised way to model interactions between students. This responds to the proposal (Gillies and Boyle 2010; Webb et al. 2021) to use teacher-student dialogue to

model student interaction and guarantee the conditions of equitable participation, social interaction and mutual aid that are indispensable for teamwork (Kagan and Kagan 2009; Slavin 1995; Johnson and Johnson 1989; Sharan 2002).

The area of learning to cooperate as a team, which focuses on teaching students to self-evaluate and co-evaluate teamwork through team plans and notebooks to help them self-regulate the functioning of their team and learn to organise themselves better as time goes on. The modelling of this dialogue by the teacher helps the teams to identify their improvement objectives in a progressively autonomous manner, using the same strategy recently outlined by Jacobs and Renaldya (2019) and Gillies and Boyle (2010) regarding the potentiality of cooperative learning for formative assessment among students.

Research Objectives and Questions

General objective: To analyse the evolution of the presence of the quality factors needed for cooperative learning during two academic years in the interactions of a heterogeneous base team, in the interactions of resistant students and those of a students diagnosed with ADHD.

Research Questions:

a.1 How did situations of maximum, average and minimum presence of the quality factors of cooperative learning evolve over 6 terms (2 years) in the base team both in resistant students and in a student diagnosed with ADHD?

a.2 What differences and similarities can be observed in situations of maximum, medium and minimum presence of the quality factors of cooperative learning over 6 terms in the resistant ADHD students?

a.3 What resources of the 3 areas of cooperative learning of the CLLC strategy can be associated with changes in the maximum, medium and minimum presence of the quality factors of cooperative learning in the base team, in the interactions of the in the resistant and ADHD students?

Method: Data Collection and Analysis Criteria

The methodology of the study has a qualitative character and is framed in an interpretive paradigm. Given the nature of the research objectives, we opted for a longitudinal case study design (Simons 2009).

Data was collected over 6 terms of two school years. The data collection instruments were: The teacher's diary with anecdotal evidence, with the description of each cooperative learning activity focused on the three research objectives; Semi-structured individual interviews each quarter with parents and support teachers, collecting their opinions on each cooperative activity carried out in the quarter, collected in Table 1; Transcripts of the recordings of the support committees of each team, and their negotiations (at the beginning) and evaluations (at the end) of each Team Plan. The specific data of each instrument can be consulted in Traver (2016, Annexe).

The data analysis instrument was a 'Guide for the analysis of the quality factors of a cooperative team', based on the guidelines outlined by Pujolàs (2009), and consisting of a definition of each of the 8 quality factors and 3 dimensions with 3 indicators linked to each factor to assess their degree of presence in a cooperative situation. 6 degrees of achievement are defined for each factor that help us to

evaluate the cooperative competencies shown by the participants, either as a team or individually in an educational situation. The definition, indicators and dimension can be consulted in Traver, 2016 (pp. 210–217).

This guide integrates the proposals of various authors, especially the so-called essential elements of PIGSF (Positive Interdependence, Individual Accountability, Group Processing, Social Skills and Face-to-Face Interaction) by Johnson and Johnson (2014), the contributions of Slavin (2015), Kagan and Kagan (2009), and Sharan (2014) and subsequent elaborations of Pujolàs (2008) and Pujolàs and Lago (2018), developed from a perspective of cooperation as an instrument of inclusion. The factors to be considered were the following: Positive Interdependence of Purposes (PIP) roles and tasks, Equitable participation (EP), Simultaneous Interaction (SI), Personal Responsibility (PR), Socio-Emotional Competencies (SEC) and Self-Assessment and the establishment of improvement objectives (SA). The first term in Results section give an example how uses these acronyms in the coding of situations that have been analysed.

The first task for analysis is to indicate, for each cooperation situation, which quality factors can be observed in the interactions in the base teams, the interactions focused on resistant students and the interactions focused on the student diagnosed with ADHD. The second task is to determine what degree of development each of them has reached (from grade 6 to grade 1) in that situation.

Once each situation has been evaluated, the situations of each term (T) are analysed, how many subjects have a maximum degree of achievement (grade 6 very high, grade 5 high), medium (grade 3) or minimum (grade 2 low, grade 1 very low). Given that there are not the same number of situations in each quarter, the percentage of situations of maximum, medium and minimum degrees in each quarter is established. The graphs of the results show both the number of situations and their value as a percentage.

Table 1. Educational proposals for cooperative learning in area A: motivating to cooperate, area B: learning cooperatively, area C: learning to cooperate.

| Resources didactic for the AC Times / Terms	A: Area of cohesion for motivated to cooperate	Area of learning in cooperative teams	Area of learning to cooperate as a team
T1 (September, December, course 1)	5 dynamics	Simple cooperative structure weekly	Creation of Base Teams 3 Team plans
T2 (January, March, Course 1)	3 dynamics	Two simple cooperative structure weekly	4 Team plans
T3 (April, June, Course 1)	3 dynamics	A complex cooperative structure weekly	4 Team plans
T4 (September, December, Course 2)	3 dynamics	Simple cooperative structure A complex cooperative structure weekly	5 Team plans
T5 (January, March, Course 2)	3 dynamics	Two simple cooperative structure A complex cooperative structure weekly	4 Team plans
T6 (April, June, Course 2)	2 dynamics	Two simple cooperative structure A complex cooperative structure weekly	2 Team plans

A second analysis is to identify, in each quarter, the didactic resources proposed by the CLLC programme in the three areas (cohesion dynamics, simple and complex cooperative structures, team plans and session diaries) in order to teach students to self-regulate and co-regulate in the context of learning activities (Pujolàs and Lago 2018).

The validation of the analysis instruments was carried out through a process of judgement of academic experts who validated the design of the analysis, the triangulation of sources and the coding of the factors validated by a judgement of academic and professional experts, following the model of Goetz and Le Compte (1988).

Results

The presentation of the results is organised according to one of the fundamental criteria underlying the objectives: to observe the longitudinal development of cooperative factors and conditions in the base teams, in students who show resistance to cooperative learning[2] and in the student diagnosed with ADHD,[3] to be able to analyse the interdependence between the students in the development of cooperative learning and, in parallel, to observe the evolution of cooperative didactic resources throughout the terms The results for each term are collected in Graph, 1, 2, and Graph 3

> *In the first term of the first year, T1*, a predominance of situations of maximum cooperation was observed in the base team, 50% (27 situations) 27% medium (14 situations), 23% minimum cooperation (12 situations). The students began to cooperate reasonably well, did their homework (PR) and helped each other (PIP), but did not follow the rules (PIP) and did not speak to each other with respect (SEC). In the team plans the following were listed as desired improvements: 'Raising an arm to speak and waiting for one's turn; Complying with the rules; Talking less; Doing homework'. In the periodic reviews the students performed self- and co-evaluation well.
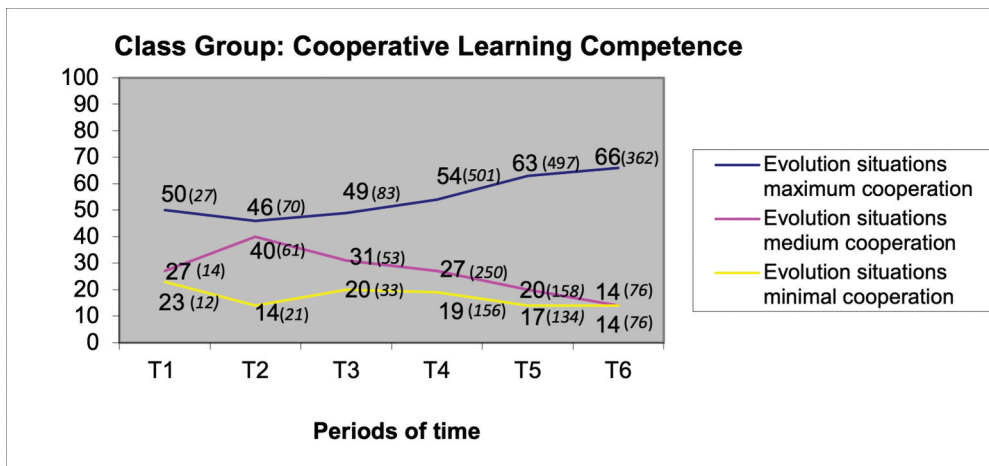
Graph 1.
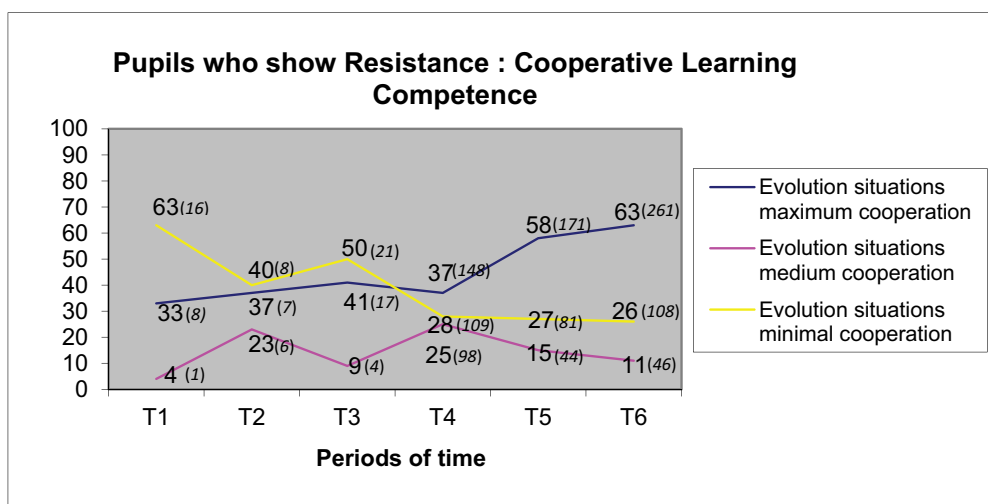
Graph 2.
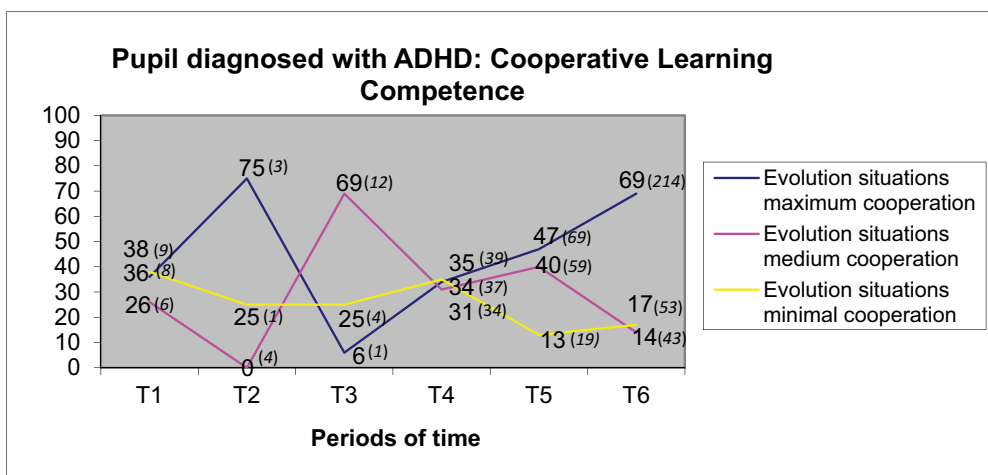
Graph 3.

Among resistant students, situations of minimal cooperation dominated 63% of the time. In the commission set up to help the teams and the students, students made comments such as: 'Nicolàs – a resistant student – only helps Ismael – a very competent student. He does not want to help me or Karim – a poor student – either'.

In the case of the ADHD student, situations of maximum and minimum cooperation were practically equal at 36–38%, although the student had certain difficulties with teamwork. The teacher commented in his diary: 'I am concerned about the way the students treat Amadeu – the ADHD student – and Karim – an academically not very competent Arab student'.

In this first period, 5 group cohesion dynamics were carried out in class. After the third, cooperative learning teams were created that would last the entire course. The composition of the teams was: one very competent yet resistant student, one student with learning difficulties and other students with medium or high communicative competence. During this period a weekly cooperative structure was developed. The team plan helped to set out the team's objectives by identifying where they needed to improve and by collecting self-assessments and peer-assessments from time to time.

> *In the second term of the first year, T2*, overall cooperation slightly decreased. Situations of medium cooperation in the base teams rose from 27% to 40% while situations of maximum cooperation fell to 46%, practically equal those of medium cooperation. However, members of the base teams did do their homework and helped each other. In the area of learning to work in a team, the team plan objectives were: 'Asking for and giving help; Congratulating classmates; Complying with class norms'.

In resistant students, situations of minimum cooperation decrease markedly and were balanced with situations of maximum cooperation at approximately 37%. The teacher noted in his diary: 'in the simple structure 'shared reading' Nora – a resistant student – and Stefan – a Romanian student with poor academic competence – did not show respect for Amadeu – the ADHD student – because he read slowly'.

The ADHD student saw a marked increase in situations of maximum cooperation from 36% to 75%, and cooperated very well in general, showing more personal responsibility both at home and during classes. Their team plan commitments were: 'Do not talk so much. Congratulate the team'.

In this period, 3 group cohesion dynamics were carried out in class. The number of cooperative learning situations was increased, two simple cooperative structures were used per week, reflection times were increased, and 4 team plans were developed.

> *In the third term of the first year, T3*, students began to cooperate well with those who were different to themselves: situations of maximum cooperation remained at 49% in the base teams, while those of medium and minimum cooperation were at 31% and 20% respectively.

Resistant students showed difficulties in cooperating ('I do not like to work in a team'). They helped each other in ATI (Accelerated Team Instruction) but it was difficult for them to talk respectfully to a partner, and they imposed their own point of view. The teacher noted: 'Nora – a resistant student – sometimes reminded Amadeu – the ADHD student – that they were waiting for him and that he should finish soon'.

In the case of the ADHD student, compared to period 2, situations of maximum cooperation dropped dramatically from 75 to 6% , those of medium cooperation rose to 69%, while situations of minimal cooperation remained at 25% ('It is not easy for me to work like that'). The student learned the contents of the course but began to adopt a role of indifference and it was difficult for him to be honest in the periodic review.

In the third term the frequency of cohesion dynamics was maintained, but complex structures were already beginning to be introduced, and AIT was carried out each week. This increase in activity also corresponded to an increase in times spent in evaluation and 4 team plans were developed.

> *In the first term of the second year, Q4*, there was a predominance of situations of maximum cooperation, at 54%. In group team discussions, they said: 'We have worked hard towards the team objectives . . . we've been helping each other by suggesting that if one student does one thing better and another does another thing, then we'll help and motivate each other and do everything better'.

Regarding resistant students, this was the first time that there was a predominance of situations of maximum cooperation. The resistant student, in the team group discussion, told Amadeu – the ADHD student ' . . . you have to focus on tasks more and do your homework, because we are trying to encourage you and you are ignoring us'. The support teacher commented: 'Although the student hasn't done his homework, he doesn't seem to care about the complaints of others' (Anecdote).

In the case of the ADHD student, situations of maximum, medium and minimum cooperation were equal at 31–35%. He complained, 'It is difficult for me to work in a team' but this was not a sincere complaint because he was not acting in a responsible enough manner to deliver his part of the work on time.

> *In the second term of the second year, T5*, situations of maximum cooperation continued to increase in the base teams, going from 54% to 63%, predominating over the situations of medium and minimal cooperation that were now decreasing. A mother expressed it like this: 'Yes, yes . . . she has got very comfortable now, she has got used to things now and so she has become very comfortable' (Interview with a mother of a poorly competent student).

In resistant students there was a clear predominance of situations of maximum cooperation, which increased by 21% with respect to the previous period. A student of average competence explained: 'Nora is learning to work much better in a team because at the beginning of the course she always said . . . I don't want to work like that. And now she does not say that very often' (Interview student of average competence).

The ADHD student was making good progress because, for the first time for him, situations of maximum cooperation were dominant at 47%. He was trying harder to act responsibly in the tasks that he had committed to. He still had a hard time fulfiling the tasks, concentrating while doing teamwork, and he also found it very hard to accept criticism from his colleagues.

> *In the third term of the second year, Q6*, a progressive increase was observed in situations of maximum cooperation, at 66%, Teacher diary: 'They worked hard to learn course content, they talked a lot, combining complex and simple structures, congratulated each other more and included all the correct ideas when participating'.

The resistant students and the ADHD student both cooperated adequately so that now they too were working in properly cooperative teams.

In the case of the ADHD student, Amadeu, situations of maximum cooperation rose from 47% to 69%, and situations of medium cooperation decreased to 14%, equalling those of minimal cooperation. However, it was still difficult for him to act responsibly in tasks to which he had committed and to auto-regulate himself in teamwork. Amadeu's teammates agreed that he worked very well in Research Groups and 1-2-4 by 'Thanking him for his knowledge of the environment, and thanking him a lot for what he says, which leads him to study things so that he can explain them' (Interviews with the teammates of the ADHD student).

Discussion and Conclusions

The analysis of the data supports previous research data and indicates where to direct cooperative learning to promote the inclusion of the most vulnerable students.

Regarding the first research question, after a first term of marked cooperation and a decrease in the second, the number of situations of maximum cooperation was maintained with a jump from the fifth to sixth term. In interactions between resistant students, although the number of situations of maximum cooperation was like those of the base team, the number of minimum ones remained high until the fourth term. In interactions with the student with ADHD these oscillated during the initial terms and reached similar situations of maximum cooperation as the base team by the sixth term. This was in line with the findings of Zentall, Kuester, and Craig (2011), initiating a similar progression to the base teams, first with cooperative structures and later with more complex techniques, which was also in line with Kuester and Zentall (2012) Sharifi, Entesar, and Hejazi (2020) and Murdaca, Patrizia, and Martelli (2019). In summary, as stated by Johnson and Johnson (2016), and Klang et al. (2020), and confirmed for students with SEN, a minimum of two academic courses is necessary to observe the effects of cooperative learning.

Regarding the second question, about similarities and differences in the evolution of the factors, in the three cases studied some relevant data can be observed. The starting point for all three was very different in the first term. Although there was a decrease in situations of cooperation in the second term in the base teams, this was followed by an upward progression of situations of maximum cooperation, while in students showing resistance to cooperative learning, situations of minimum cooperation predominated for at least two terms, while in students with ADHD these two terms were very irregular, eventually producing similar data in the third team. It is possible this happened because this was a longer period than Klang et al. (2020) contemplated. In conclusion our research shows how students at risk of exclusion can progress in the same way as their teammates, but with slower and more irregular progress. Special attention should be paid to students who show resistance to cooperative learning as regards its impact on the inclusion of the most vulnerable students, as referenced by Opdecam and Everaert (2018). A limitation of the research has been observing the differences between cooperation factors that had a higher degree in the base teams, in interaction situations of the resistant student and the student diagnosed with ADHD.

The most relevant data for the third question, regarding the educational resources of the areas of cooperation and the evolution of the presence of the cooperative team factors was that the data shows that working with cohesion dynamics, self-knowledge and the creation of positive expectations regarding teamwork (Lago, Pujolàs, and Riera 2015) may have helped to reorientated situations of some anxiety that appeared in the first term. In the fourth term, the start of self-evaluation in the team plan in equitable participation and simultaneous interaction seems highly relevant, processes that have been highlighted by Webb et al. (2021) and Naranjo and Jiménez (2015), although they had been working on this since the first term. It is possible that the introduction of structures such as 'The Four Wise Men' (Pujolàs 2008), the 'Jigsaw Classroom' and AIT presented by (Slavin 1995) with the adaptations of the CLLC programme (Pujolàs 2008) in

the fourth term will help to improve the academic self-image of the ADHD student. In the fifth and sixth term, emphasis was placed on objectives involving socio-emotional competencies, giving much importance to the personal compromises outlined in the team plans and to the team rules in the Session Diaries, which could have helped the ADHD student. This reinforces the importance of these competencies, as affirmed by Ashman and Gillies (2013) and highlighted by Lago, Pujolàs, and Riera (2015), regarding the CLLC programme. A limitation of our research has been the lack of an instrument to analyse whether the changes in cooperative learning activities in area A, B, and C throughout the quarters were related to the increase in maximum cooperation factors.

This research indicates that it is necessary to further investigate the big questions about cooperative learning: i. the proposals for motivating teamwork and fostering team cohesion, especially at the beginning (Ashman 2008); ii. the way in which the adjusted and diversified use of cooperative learning structures, area B of the CLLC programme, can help diverse students to get more out of cooperative learning: iii. how the mechanisms of self and co-evaluation can be developed to take into account considerations regarding the intervention in the interaction patterns such as those proposed by the research of Gillies and Boyle (2010) Webb et al. (2021) with instruments such as those proposed by the CLLC programme (Pujolàs and Lago 2018) can contribute to the inclusion of students who are most vulnerable and at most risk of exclusion.

Notes

1. A detailed description of the CL / LC strategy and research publications and innovations in this regard can be found at http://cife-ei-caac.com/es/ .
2. Henceforth 'resistant students'.
3. Henceforth 'ADHD student'.

Disclosure statement

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