

# ATHLETICS COACHES EXPERIENCING COOPERATIVE LEARNING FOR THE FIRST TIME: A QUALITATIVE STUDY

Lea Železnik Mežan and Saša Cecić Erpič

*Faculty of Sport, University of Ljubljana, Slovenia*

Original scientific paper

DOI 10.26582/k.57.1.8

## Abstract:

As cooperative learning (CL) is not yet well researched and widely used in competitive youth sport, we aimed to gather coaches' experiences of CL to evaluate and promote its suitability for use in kids' athletics. Four track-and-field coaches from Slovenia who coached mixed youth athletics groups were interviewed after conducting 30 training sessions with CL according to the experimental programme. In addition, the coaches wrote a reflective analysis after each session. The coaches' responses from the interview and the reflections were analysed using thematic analysis and constant comparison. Three themes were identified: (a) *roles in the pedagogical process*, (b) *interpersonal and small-group skills*, and (c) *transition to CL and related challenges*. The coaches developed very positive attitude towards CL and group work in general. They reported that children acquired various interpersonal and small-group skills, which helped them in peer teaching and learning. The most difficult part was the beginning, as the children were not able to cooperate with their peers. Later on, the athletes were active learners and very confident in taking on different roles, including the role of the tutor. Because of this, the coaches' role changed tremendously. Nevertheless, the coaches felt important in guiding the learners to the desired knowledge. CL is very effective in improving children's learning in kids' athletics and is also well accepted by Slovenian track-and-field coaches. However, we would suggest combining it with other pedagogical models. In addition, coaches would need additional training in CL to be able to decide which learning objectives should be targeted with which approach.

**Keywords:** *pedagogical model, roles, peer teaching, autonomy, youth sport*

## Introduction

The effects of cooperative learning (CL) in youth athletics' motivational climate, peer relationships and self-concept (Železnik Mežan, Škof, Leskošek, & Cecić Erpič, 2023) and the effects of CL on children's motor learning (Železnik Mežan & Škof, 2023) have been empirically investigated. Although statistics confirm the effectiveness of CL on some psychosocial and cognitive variables, the success and usefulness of the model for coaching young athletes depends heavily on the participants' experiences with it. Although the study focuses on youth sport, CL was developed and initially used in an educational setting, which is why the terms *students* and *teachers* are also used in the following sections.

"...in CL, teachers need to promote students' ability to cooperate and deal with potential conflicts and divergent ideas. This requires teachers to abandon traditional and authoritative roles, in which the teacher is the full instructional leader, and start acting as facilitators of student-centred learning." (Silva, Farias, & Mesquita, 2021: 2). While the focus

of CL is indeed on students learning to cooperate with their peers, and the theme is *students learning with, by, and for each other* (Gurvitch & Metzler, 2013), is it necessary for a teacher or a coach to relinquish all of their traditional responsibilities? What does it mean to take on the role of a facilitator and what should it look like? Should modern approaches such as CL really only be student-centred?

Student-centred learning has its origins in constructivist learning theory, which recognises the active role of the learner (Zhu, Ennis, & Chen, 2011). Rather than delivering content so that the learner passively absorbs the information, a constructivist paradigm gives the learner ample opportunity to actively engage in linking his/her prior experiences to new knowledge in order to build personally meaningful understanding. This approach is often considered good, whereas teacher-centred direct instruction (DI) is now mostly considered bad (Hattie, 2009). Nevertheless, it is still one of the most commonly used pedagogical models (Guzmán & Payá, 2020). In this type of learning process, the teacher leads the process,

makes decisions independently (about the content, class management, student participation), controls all group interactions, introduces tasks, determines their progression, evaluates the achievement of objectives, etc. (Metzler, 2011; Pereira, Araújo, Farias, & Mesquita, 2016).

CL has developed on the basis of the constructivist paradigm, which is why it places the student at the centre of the pedagogical process and assigns the teacher the role of a facilitator. However, this does not necessarily mean that the teacher has to stand on the sidelines and should only interact when asked to do so by the students (García-González, Santed, Escolano-Pérez, & Fernández-Río, 2023). The role of the teacher as a facilitator in CL is usually misunderstood. For this reason, Biesta (2012) warns against the disappearance of teaching (by the teacher). The representative of relational pedagogy fears that a teacher and his or her basic function will no longer be needed over time. The disappearance could be caused by the newer theories of teaching and learning, which place the teacher alongside the learning process. This is as extreme a view as that of the constructivists. Rather, the pedagogical process should be centred on both the student and the teacher.

Visible teaching and learning encompass a teacher-centred and a student-centred approach (Hattie, 2009). The concept represents a combination of extreme perspectives. It is characterised by the active participation of both actors in the pedagogical process. According to the concept of visible learning, students should be encouraged to learn actively by testing optimal learning paths, looking for clues to help them learn, etc., until they become their own teachers. Then they are able to set appropriate learning goals and reflect on their own success. It is very important that the learning goals challenge the students to an appropriate degree (Hattie, 2009). Creating an appropriate learning environment requires a dedicated and passionate teacher. He/she must know which teaching strategies work well and which do not; he/she must understand the students (at least try to); a teacher must be willing to adapt the learning process to the students and the context; he/she should share his/her experiences with the students... Creating a warm socio-emotional group climate is one of the steps a teacher must take to invest in students' learning. In addition, it is important for the teacher to ensure that all students are included, to be open to students' experiences and feedback, to expect that every student can make progress, to encourage students to make an effort to learn, etc.

While in DI the teacher is the only person who supports the students in their learning, the interaction between the teacher and each student is only emphasised. In CL, however, the teacher should be responsible for teaching students interpersonal and

small-group skills that enable them to successfully interact and cooperate with each other. Explicitly teaching the latter is one of the most important CL features that promises improvements in interpersonal relationships (Grineski, 1996; Jacobs, Teh, & Spencer, 2017; Železnik Mežan, et al., 2023). For this reason, a student- and teacher-centred pedagogical process with CL should have the potential to improve students' learning and promote the development of interpersonal relationships between all those involved in the pedagogical process.

Previous studies on CL in Physical Education (PE) (Dyson, Howley, & Shen, 2021; García-González, et al., 2023; Liu & Lipowski, 2021; Yang, Chen, R., Chen, X., & Lu, 2021) and in youth sport (Železnik Mežan & Škof, 2023; Železnik Mežan, et al., 2023) have mainly focused on the impact of CL on students' outcomes, but rarely on the impact on teachers/coaches who have introduced CL (Cochon Drouet, Fargier, Margas, & Lentillon-Kaestner, 2023). In order to implement CL in either PE or youth sport, teachers/coaches' attitudes towards this model need to be well researched. Qualitative methods are needed to analyse the teachers/coaches' implementation strategies in more detail (Schulze & Huth, 2023). Research has shown that teachers appreciate the fact that CL is less directive and therefore more engaging for students (Casey, 2014; Casey, Dyson, & Campbell, 2009). On the other hand, teachers do not feel comfortable being left out of the learning process. This paper adds to the existing literature describing coaches' experiences with CL in youth sport and emphasises the importance of both children and coaches being at the centre of the learning process. The aim was to analyse coaches' perceptions of their involvement and engagement of children with CL and its suitability for coaching young athletes. Coaches' experiences with CL have not yet been researched.

## Methods

### Participants

The participants in this study were four track-and-field coaches who trained three mixed youth athletics groups from Slovenia. The average age of the coaches was 34.50 years (SD=8.43; min=26 and max=44). On average, they had been working as coaches for 10.25 years (SD=6.60; min=3 and max=18). Further demographic data can be found in Table 1. Coaches were assigned identification codes (Table 1), used in the interpretation of the results (section Results).

### Procedure

The study was approved by the Committee on Ethical Issues in Sport (University of Ljubljana, Faculty of Sport, Ljubljana, Slovenia) in February 2021 (number: 033-1/2021-2). Shortly afterwards,

Table 1. Demographic information of the groups

Club (group)	1	2	3
Coach's identification code	E	F	G, H
Number of sessions per week	2	2	3
Length of a session [min]	90	60	60
Coach's gender	F	F	F
Coach's age	39	44	29, 26
Coach's education/qualification	PE teacher <sup>a</sup>	Q. – 2 <sup>nd</sup> level	Sports coaching graduates <sup>a</sup>
Coach – professional/amateur	A	P	P, A
Coach's experience coaching athletics [years]	13	18	7, 3
Male athletes [number]	11	9	8
Female athletes [number]	15	8	16
Athletes' age [Mean±SD]	9,45±0,60	8,60±0,83	9,20±0,56

Note. Group 3 had two coaches (G and H) because of the size of the group.

<sup>a</sup>Educated personnel (PE teachers, sports coaches) does not need a qualification to coach.

an introductory meeting was held for coaches and parents to inform them about the study and give them the opportunity to ask questions. The coaches, children and their parents then signed a consent form. From March to October 2021, the coaches participated in the CL training (see section Model fidelity).

The coaches conducted 30 consecutive training sessions following the experimental programme based on CL. The experiment lasted from November 2021 to April 2022 (the groups did not end at exactly the same time due to the different training conditions [see Table 1] and the COVID-19 pandemic). During that time, the coaches performed a reflective analysis after each training session and wrote it down. A semi-structured interview with each coach took place directly after the last training session of their athletics group.

## Data collection

Qualitative data were collected to report on the children's and coaches' perceptions of CL: semi-structured interview with the coaches and *Post-Coaching Reflective Analysis* (PCRA). Quantitative data were collected using the *Cooperative Learning Validation Tool* (CLVT; Casey, Goodyear, & Dyson, 2015) to report on fidelity to the CL (see section Model fidelity).

*Semi-structured interview.* To investigate the coaches' attitude towards the CL and its actual implementation, we interviewed the coaches individually immediately after the last training session analysed. The cloud-based video conferencing service Zoom was used for this purpose. Each interview lasted between 20 and 30 minutes. We asked the coaches eight semi-structured questions related to: the idea of CL implementation in kids' athletics (*Present your view of CL implementation in kids' athletics.*); the differences between CL and

DI (which they used before the study); how they experienced the CL training sessions; how CL influenced their pedagogical practice; the suitability of CL for coaching 9-11 year olds; the children's reaction to the new learning approach. The whole set of questions is available from the first author.

*Post-coaching reflective analysis.* The coaches were asked to answer five questions after each training session. The set of questions is a translated and modified version of the Post-Teaching Reflective Analysis (Dyson, 1994, quoted in Casey, et al., 2009: 422). It is available from the first author. We wanted to gain a deeper insight into the achievement of goals in different categories (*Did you achieve the learning goals you set? How do you know this? Explain using specific observations.*) that indicated the effectiveness of the CL and the most positive and negative things that happened during the training sessions from the coaches' perspective. The coaches answered five questions.

## Data analysis

The coaches' responses from the interview and the PCRA were analysed using thematic analysis and constant comparison (Braun & Clarke, 2006). The interviews were recorded and transcribed verbatim. The responses from the interviews were carefully read through several times to get a sense of their meaning as a whole. The analysis continued with the coding of the data. Each relevant thought from the coaches was labelled with a composite marker (coach identification code and a sequential number) and a code. The codes were then sorted into nine categories so that six themes and three sub-themes could be identified.

The responses from the PCRA were also read several times, but the analysis was slightly different. The categories were predetermined, according to the themes from the interviews. The coaches'



thoughts were coded and assigned to the categories at the same time.

At this stage, the authors discussed the identified themes and tried to refine them accordingly. Finally, all analyses were merged and three main themes were identified: (a) *roles in the pedagogical process*, (b) *interpersonal and small-group skills*, and (c) *transition to CL and related challenges*.

### Trustworthiness

Dependability of the results was enhanced by the involvement of an expert in qualitative methods who is familiar with this research but not directly involved in it (the second author). She scrutinised the logic behind the results and interpretations of the first author. We have attempted to fulfil Braun and Clarke's (2006) criterion of confirmability by producing a reflective, self-critical account. To meet the criterion of credibility, the interviewer tried to have an open and free dialogue with the coaches so that they could tell her how they actually experienced the learning journey through CL. During the experiment, we were in constant contact with the coaches. We met regularly remotely and communicated by phone and email to resolve various dilemmas, deepened the coaches' knowledge of CL and adapted the plan according to the circumstances. To support credibility, two member checks were also conducted (Bjørke, Standal, & Mordal Moen, 2021). In the first, the coaches received the interview transcripts back and had the opportunity to change or clarify various parts of the interviews. In the second member check, the coaches read a draft of the manuscript to verify the interpretations. They did not suggest any significant changes. Finally, we provided a detailed description of the programme context to ensure transferability (section Model fidelity).

### Model fidelity

For the results of this study to be valid, it was necessary to demonstrate that the CL implementation met the standards for this model. To adequately understand the results, we reported on all three elements of model fidelity that should be considered when exploring educational approaches (Casey, et al., 2015; Hastie & Casey, 2014).

*A rich description of the curricular elements of the unit.* The first author prepared a thorough intervention programme. It started with the Introduction to CL, as coaches and children had to get used to their new roles (Casey, et al., 2015). The first unit started with cooperation games (icebreakers) that did not yet contain all the key elements of CL. The coaches added them gradually, in line with the programme (see Appendix A). In the second and third units, the coaches had to form permanent, heterogeneous (by gender, abilities, knowledge, psychosocial characteristics, friendships) groups of

four ( $\pm 1$ ). The organization of the learning process was based on cooperative structures that determined how the children worked together and what their learning objectives were. Pairs-check-perform (Grineski, 1996; based on Kagan, 1992) was introduced first because learning in pairs is much easier than working in larger groups. Peer teaching was also promoted through learning teams (Johnson & Johnson 1994). Coaches had to assign specific roles to children (e.g., performer, tutor, timekeeper, referee, etc.) so that they learnt to take responsibility for part of a group task. Jigsaw (Grineski, 1996) was also frequently used for learning basic track-and-field skills, which were broken down into parts (subtasks). With *performer and coach earn rewards* (PACER; Kane & Kane Jr., 2004) we focused on improving running technique. Student teams-achievement divisions (STAD; Slavin, 1995) was the most complicated of all the structures used. Learners tried to make the most progress as a group, so they taught the other group members the correct technique. Collective score (Orlick, 1982) was mainly used to develop movement skills for sports skill learning (Kane & Kane Jr., 2004). Each structure was adapted for 8-11-year olds and used several times with different track-and-field skills. Only six different structures were used because the learners needed to become well acquainted with each of them before a new one was to be added (Grineski, 1996).

The cooperative structures promoted peer teaching and all five CL non-negotiables. The children were provided with learning materials, e.g., special flashcards with coordination exercises (PACER), so that face-to-face promotive interaction was encouraged. Positive interdependence and individual accountability were promoted by giving each member of a jigsaw group only one piece of information needed to complete a group task. PACER also emphasised positive interdependence, by requiring all members to reach a certain level of competence in coordination exercises before the group (consisting of two pairs) could play a game. Individual accountability was also promoted by publicly presenting both the group's progress and individual results (posters). As part of the affective goals, the interpersonal and small-group skills were defined separately for each training session (Appendix A). The coaches presented each skill to the children and they wrote it together on a special poster that accompanied them throughout the experiment. Group processing took place at the end of each session. It evolved from a coach-led discussion in the whole group to an independent debate in fixed groups.

*A detailed validation of model implementation.* To determine model fidelity, we recorded four randomly selected training sessions from each athletics group (Polvi & Telama, 2000; Zach,

Cohen, & Arnon, 2020). Data were collected through systematic event coding of the 17 categories of the CLVT (Casey, et al., 2015) (see Appendix B). The observations were conducted by the first author. In the quantitative analysis of the CLVT data, the average percentages of each coded category were calculated.

The CLVT results showed that we achieved a satisfactory degree of CL model fidelity (Appendix B). All critical elements of CL were used in 75% of the sessions, but group processing was done in all sessions. Other key concepts of CL beyond the five non-negotiables (categories 2-6 in Appendix B) were also observed in about three-quarters of the recorded training sessions. We found that the percentage of the observed CL key elements would be even higher if the structures and non-negotiables were not gradually added. Student learning was assessed in each session and improvements were made in 92% of the sessions, reflecting high student engagement. The number of learning assessments and improvements observed was highest in the social or emotional domain. The CLVT revealed that social/emotional and cognitive goals were observed in 75% of the recorded sessions. However, physical goals were observed in every training session. We cannot claim that full fidelity was achieved in every session, and there are certainly examples highlighted by the CLVT that show variation in the degree of fidelity achieved. However, this moderate-to-high degree of fidelity to CL ensures an appropriate interpretation of the qualitative data collected in the study (Bjørke & Mordal Moen, 2020; Casey, et al., 2015).

*A detailed description of the programme context that includes the previous experiences of the coaches and children with the model.* The study was carried out in the Republic of Slovenia, a small country in central-southeast Europe with a population of 2.052 million. On 31st December 2021, 6534 young athletes, born in 2009, were registered at the Olympic Committee of Slovenia – Association of Sports Federations (OCS-ASF, 2022), 388 of them with the Slovenian Athletic Federation. The official language is Slovenian.

All coaches (except the first author) had only used the traditional approach (DI) before the study, so their athletes had no experience with CL. Prior to the first training session, a coach training for CL was conducted. We met five times from March to October and held two lectures and three workshops, totalling 20 hours. In the lectures, the coaches received a theoretical introduction to CL with its non-negotiables and structures. In the workshops, the coaches were given an initial insight into the intervention programme. The cooperative structures with athletic content were presented in practice. To check whether the learning had taken place,

the coaches themselves tried to teach according to CL.

## Results

To assess the suitability of CL for use in kids' athletics, we analysed coaches' experiences with CL and identified three main themes: (a) *roles in the pedagogical process*, (b) *interpersonal and small-group skills*, and (c) *transition to CL and related challenges*. The second theme is mainly concerned with the impact of CL on children's social learning.

### Roles in the pedagogical process

The coaches talked about the roles in the training process more in the interviews. They all noted that the children had become much more independent in preparing the equipment, performing the exercises and learning with the help of peers and different learning materials. The coaches repeatedly emphasised the importance of involving the children in the organization of the training sessions: *The children took responsibility as they did the time keeping and recording of the results themselves... the most positive thing about this training was that the children learned how to use the stopwatch. I think it was a great achievement that the children read the instructions themselves and prepared the necessary equipment themselves.* (PCRA)

The coaches found the role of the child as tutor particularly interesting. They realised that the children came up with very good drills, for example to train the block start (PCRA). The coaches developed a positive attitude towards peer teaching because: *The pair work went smoothly most of the time. Before, I was the only person who corrected... in the CL, I also demonstrated occasionally, but giving feedback was mostly up to the children.* (PCRA, interview) The coaches also found peer teaching effective: *... the children gave each other feedback on their execution of the scissors, which was reflected in their technique.* (PCRA) Working together encouraged rational learning, which enabled children to recognise mistakes for themselves: *Through CL, where the children worked alone most of the time, they learned a lot... including what to look for when observing a performance of their partners.* (interview)

The active involvement of children in teaching and learning proved to be very useful in several ways: *Children who were present at the last session explained and demonstrated exercises for the members of the group who might have been absent last time.* (PCRA) The coaches reported that the children were very realistic when assessing each other. Independent learning also encouraged the children's creativity.

*In CL I gave the children a free hand... I gave instructions and then they worked independently*

– *some of them better, others worse...* (interview)  
 The coaches have recognised that their role in the learning process has changed. They have become learning facilitators. This change in role was the most difficult thing for some of them. In the beginning, they had to hold back from directly instructing the children, but rather guiding them in the right direction. *Initially, I wanted to correct the children subconsciously. I had to hold back...* (interview)  
*When the children had difficulties and/or asked for help, it was very difficult not to immediately rush to their aid. I had to be patient because children learn more slowly...* (interview)

### Interpersonal and small-group skills

Not only did *the young athletes significantly improve their understanding of CL over time*, but they also began to realise that *mutual help and cooperation are very important* – coach F noted this as early as the fifth training session. Another coach noted her observation: *The children realised that without the help and feedback of their partner(s) it is difficult to do an exercise correctly... or you just don't know if you have done it right* (PCRA). The coaches noted improvements in many interpersonal and small-group skills, e.g., cooperating with all peers, helping and respecting each other, communicating appropriately, giving feedback, contributing ideas and opinions, giving praise, etc. The coaches also observed that the children were friendlier to each other and that *they no longer despised their less skilful peers* (interview). As a result, they felt more comfortable in the athletics group than before the intervention. The coaches found that CL enabled all the children to be included: *I thought it was great that nobody was lonely. Now they all had to be active, but the traditional coaching method allowed individuals to be passive and skip...* (PCRA, interview) The coaches also noted that all conflicts were resolved cooperatively, which they really liked. *Before the experiment started, I eliminated disruptive children, but now we all confront each other and discuss what went wrong and how we can improve the situation...* (interview).

The coaches thus recognised positive effects of CL on the group climate, which they liked very much: *The collective score structure has strengthened cohesion... everyone was aware of their tasks and wanted improvements in the team, so the group members really helped each other...* (PCRA). One coach told us in the interview that she would recommend the CL to any coach, who felt that the climate in their group was not so good. The coaches saw better group cohesion compared to the traditional coaching approach: *It's useful because the children are more peer orientated... At the beginning of the experiment, for example, they didn't even know the names of the other group members... now they at*

*least seem to know the names... it seems that they have mingled with the others.* (interview)

### Transition to cooperative learning and associated challenges

The coaches had a positive attitude towards the chosen pedagogical model. They found it interesting and useful for their future coaching activities. What they particularly appreciated was the feeling of trust: *I think it's wonderful that I can trust the children when they work independently.* (PCRA) However, coach E noted that a large number of young athletes occasionally caused her problems with control: *I did not have as much control as I would have liked.* The coaches felt that the children enjoyed the CL training sessions, had fun, *generally did not get bored* (PCRA) and that they were interested (*Although some of them have a lot of energy, the activities seemed to interest them, otherwise they would not be so focused on the tasks...*).

Although the coaches recognised many positive aspects of CL, they stated that the implementation brought many concerns and difficulties in the transition to the new form of teaching (interviews). According to the coaches' comments, the children were not able to cooperate with their peers before the experiment began. *At home, at school and during leisure activities, the children were constantly guided by adults. Not only were they used to certain warm-up protocols, games, etc., but they also knew that a coach was the only one giving instructions, demonstrating, helping, giving feedback, controlling... Before the experiment began, the children were not used to taking on roles other than that of the performer. As a result, some children were at the beginning of the study extremely dependent and had difficulty putting themselves in the role of a coach; they felt uncomfortable when they had to observe their partner and give him/her feedback. They felt the same way during the group processing.* Considering that communication among peers is usually forbidden during the educational process, regardless of the setting, the children found it completely alienating at the beginning of the experiment, when the coach started to encourage communication among them about the learning activities. The coaches admitted that the Introduction to CL (the first unit) was necessary and very useful: *It seemed indispensable to have these ten training sessions that allowed us and the children to familiarise ourselves with the concept.* They reported that they needed time to adjust to a different way of thinking about teaching and learning.

On the other hand, as the children's initial curiosity waned over time, some of them showed a desire to return to the traditional approach. Some children were saturated with cooperation (and only



cooperation) at every training session for more than three months.

## Discussion and conclusions

The aim of our study was to use qualitative data to discuss the perspectives of athletics coaches who were confronted with CL for the first time. The coaches described their experiences and those of the children as predominantly positive. These results confirm the findings from a study by Velázquez Callado (2012). The children developed a positive attitude towards working in groups and cooperating. Goudas and Magotsiou (2009) and Bjørke and Mordal Moen (2020) also found greater affection for collaboration and less discomfort when working in groups.

CL helped to develop autonomous individuals. The coaches praised the division of roles, which influenced the acceptance of responsibility among all young athletes. However, by sharing responsibility, coaches recognised that their role in the learning process had changed. It is very important that children develop into autonomous individuals, but there should always be a teacher/coach to guide learners towards universal knowledge, even if the children follow their own learning paths (Biesta, 2012). The teacher/coach should also play a very important role in modern learning approaches. The coaches in our study perceived the changes in their role as very big, but they did not feel that it would become less important (interviews). Although each pedagogical model is based on a theoretical foundation, it can be applied in different ways (Casey, 2016). Considering that the Slovenian athletics coaches did not feel neglected, the learning was both athlete-centred and coach-centred (Hattie, 2009). This type of CL implementation improves the attitude of all participants towards the pedagogical model and the training process and has a positive effect on the group climate (Železnik Mežan, et al., 2023).

Although it appears that the coaches in our study view the children's autonomy as positive, one coach perceived control issues. The feeling of losing control over the children has its origins in old habits. By introducing CL methods, teachers and coaches need to change their attitudes and habits in teaching practice and transfer responsibility to the learners. Cochon Drouet and colleagues (2023) have also found that this can lead to a sense of loss of control and work overload. Therefore, training coaches in the use of cooperative methods is essential to support them in making these changes in practise.

The coaches reported that the children learnt many interpersonal and small-group skills. However, they had to work hard initially to teach these skills to the young athletes. As a result, the coaches noted improvements in group climate, which they felt was

very positive. Although athletics is an individual sport, every athlete needs companions to help each other, celebrate successes, and comfort each other when things do not go as planned. Achieving positive interdependence is very complicated or even impossible in some cases. Silva and colleagues (2021) reported improvements in giving feedback among peers as a result of CL, but students did not trust and accept everyone.

According to the coaches' comments, the children were not used to cooperate with their peers before the experiment began. Similar findings were observed and reported by a teacher-as-researcher (Casey, et al., 2015) who admitted that things did not go as planned, especially at the beginning of the implementation. In the initial stages, groups were not focused and students had difficulty taking on different roles and cooperating with other group members. Silva and colleagues (2021) found that during the first AR-cycle, students were not able to use appropriate social skills, they had difficulty accepting others' opinions, and they were not able to resolve conflicts. Casey and colleagues (2009) also reported a difficult transition to CL, but from the students' perspective. The main reason why the children had difficulties with the transition to CL and sometimes expressed their unwillingness to cooperate could be the traditional, teacher-centred approach to which they are accustomed. It encourages competition and direct comparison between peers (Grineski, 1996). The success of CL could be related to the motivational climate of an environment that includes a teacher/coach (Zach, et al., 2020).

The willingness to cooperate, observe peers, give feedback, share ideas, etc., is also determined by the personality of the individual. In order to maintain a cooperative climate, some character adjustments of the learners are necessary. And these take time. CL is a complex model that needs time to be implemented effectively and allow students to realise its potential. Goodyear's findings (2017) suggest that initial difficulties can be overcome with time, experience and support if teachers gradually adapt CL methods to students' learning needs.

The coaches found the idea of introducing CL in kids' athletics very good and useful. They told us that they would definitely use CL in the future. However, they agreed not to use it in every training session. These findings seem to be very important for the development of CL and coaching approaches in youth sport in general. Even if a particular coaching approach proves to be effective – through its impact on athletes' learning and development – this does not mean that coaches will use it.

Therefore, we can conclude that CL is a suitable pedagogical model that can also be used in youth sport, but we would suggest combining it with other pedagogical models. The coach should judge for

themselves which learning objectives and content are suitable for this type of delivery and which can be learnt in the old way (or using another approach). Furthermore, coaches should undergo additional training for CL so that they fully understand their role in the pedagogical process and can counteract the feeling of loss of control.

This study makes an important scientific contribution, whereas previously there was only one study dealing with CL in sport (Železnik Mežan, et al., 2023). The results proved the effectiveness of the

model and also brought in the coaches' experiences with CL, which should be taken into account when implementing the model. In the future, it would be very useful to repeat the study with other coaches to investigate whether the experiences are consistent with those presented. It would also be interesting to measure retention. Next time, we would analyse the PCRAs regularly to adjust the training process accordingly. Future research should also focus on other sports.

## References

- Biesta, G.J.J. (2012). Giving teaching back to education: Responding to the disappearance of the teacher. *Phenomenology and Practice*, 6(2), 35-49. <https://doi.org/10.1074/jbc.275.7.4949>
- Bjørke, L., & Mordal Moen, K. (2020). Cooperative learning in physical education: A study of students' learning journey over 24 lessons. *Physical Education and Sport Pedagogy*, 25(6), 600-612. <https://doi.org/10.1080/17408989.2020.1761955>
- Bjørke, L., Standal, Ø.F., & Mordal Moen, K. (2021). 'While we may lead a horse to water we cannot make him drink': Three physical education teachers' professional growth through and beyond a prolonged participatory action research project. *Sport, Education and Society*, 26(8), 889-902. <https://doi.org/10.1080/13573322.2020.1799781>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- Casey, A. (2014). Models-based practice: Great white hope or white elephant? *Physical Education and Sport Pedagogy*, 19, 18-34. <https://doi.org/10.1080/17408989.2012.726977>
- Casey, A., Dyson, B., & Campbell, A. (2009). Action research in physical education: Focusing beyond myself through cooperative learning. *Educational Action Research*, 17(3), 407-423. <https://doi.org/10.1080/09650790903093508>
- Casey, A., Goodyear, V.A., & Dyson, B. (2015). Model fidelity and students' responses to an authenticated unit of cooperative learning. *Journal of Teaching in Physical Education*, 34(4), 642-660. <https://doi.org/10.1123/jtpe.2013-0227>
- Cochon Drouet, O., Fargier, P., Margas, N., & Lentillon-Kaestner, V. (2023). Effect of the jigsaw method on self-reported practices by physical education teachers: A textual analysis. *Education Sciences*, 13(4), 415. <https://doi.org/10.3390/educsci13040415>
- Dyson, B., Howley, D., & Shen, Y. (2021). »Being a team, working together, and being kind«: Primary students' perspectives of cooperative learning's contribution to their social and emotional learning. *Physical Education and Sport Pedagogy*, 26(2), 137-154. <https://doi.org/10.1080/17408989.2020.1779683>
- García-González, L., Santed, M., Escolano-Pérez, E., & Fernández-Río, J. (2023). High- versus low-structured cooperative learning in secondary physical education: Impact on prosocial behaviours at different ages. *European Physical Education Review*, 29(2), 199-214. <https://doi.org/10.1177/1356336X221132767>
- Goodyear, V.A. (2017). Sustained professional development on cooperative learning: Impact on six teachers' practices and students' learning. *Research Quarterly for Exercise and Sport*, 88(1), 83-94. <https://doi.org/10.1080/02701367.2016.1263381>
- Goudas, M., & Magotsiou, E. (2009). The effects of a cooperative physical education program on students' social skills. *Journal of Applied Sport Psychology*, 21(3), 356-364.
- Grineski, S. (1996). *Cooperative learning in physical education*. Human Kinetics.
- Gurvitch, R., & Metzler, M. (2013). Aligning learning activities with instructional models. *Journal of Physical Education, Recreation and Dance*, 84(3), 30-37. <https://doi.org/10.1080/07303084.2013.767719>
- Guzmán, J.F., & Payá, E. (2020). Direct instruction vs. cooperative learning in physical education: Effects on student learning, behaviors, and subjective experience. *Sustainability (Switzerland)*, 12(12), 48-93. <https://doi.org/10.3390/SU12124893>
- Hastie, P.A., & Casey, A. (2014). Fidelity in models-based practice research in sport pedagogy: A guide for future investigations. *Journal of Teaching in Physical Education*, 33(3), 422-431. <https://doi.org/10.1123/jtpe.2013-0141>
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Jacobs, G.M., Teh, J., & Spencer, L. (2017). A proposal for facilitating more cooperation in competitive sports. *Journal of Chemical Information and Modeling*, 53(9), 1689-1699.



- Johnson, D.W., & Johnson, R.T. (1994). *Learning together and alone: Cooperative, competitive, and individualistic learning* (4th ed.). Interaction Book Company.
- Kagan, S. (1992). *Cooperative learning*. Kagan Cooperative Learning.
- Kane, J.J., & Kane Jr., R.J. (2004). Using cooperative learning strategies to teach children fitness. *Teaching Elementary Physical Education*, 15(1), 24-27.
- Liu, T., & Lipowski, M. (2021). Influence of cooperative learning intervention on the intrinsic motivation of physical education students: A meta-analysis within a limited range. *International Journal of Environmental Research and Public Health*, 18(6), 2989. <https://doi.org/10.3390/ijerph18062989>
- Metzler, M.W. (2011). *Instructional models for physical education*. Routledge.
- OCS – ASF—Olympic Committee of Slovenia – Association of Sports Federations. (2021). *Arhivska evidenca registriranih športnikov*. [Archival evidence of registered athletes.] Retrieved April 15, 2022 from: <https://www.olympic.si/sportniki/registracija-in-kategorizacija>
- Orlick, T. (1982). *The second cooperative sports and games book*. Pantheon.
- Pereira, J., Araújo, R., Farias, C., Bessa, C., & Mesquita, I. (2016). Sport education and direct instruction units: Comparison of student knowledge development in athletics. *Journal of Sports Science and Medicine*, 15(4), 569-577.
- Polvi, S., & Telama, R. (2000). The use of cooperative learning as a social enhancer in physical education. *Scandinavian Journal of Educational Research*, 44(1), 105-115. <https://doi.org/10.1080/713696660>
- Schulze, C., & Ruth, M. (2023). Digital survey to detect factors that determine successful implementation of cooperative learning in physical education. *Journal of Physical Education and Sport*, 23(2), 399-403. <https://doi.org/10.7752/jpes.2023.02048>
- Silva, R., Farias, C., & Mesquita, I. (2021). Cooperative learning contribution to student social learning and active role in the class. *Sustainability*, 13, 8644. <https://doi.org/10.3390/su13158644>
- Slavin, R.E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Allyn & Bacon.
- Velazquez-Callado, C.V. (2012). Analysis of the effects of the implementation of cooperative learning in physical education. *Qualitative Research in Education*, 1(1), 80-105. <https://doi.org/10.4471/qre.2012.04>
- Yang, C., Chen, R., Chen, X., & Lu K.-H. (2021). The efficiency of cooperative learning in physical education on the learning of action skills and learning motivation. *Frontiers in Psychology*, 12, 1-17. <https://doi.org/10.3389/fpsyg.2021.717528>
- Zach, S., Cohen, R., & Arnon, M. (2020). Motivational climate in physical education classes: Is it really determined by the instructional model? *The Physical Educator*, 77(2), 426-446. <https://doi.org/10.18666/tpe-2020-v77-i2-9855>
- Zhu, X., Ennis, C.D., & Chen, A. (2011). Implementation challenges for a constructivist physical education curriculum. *Physical Education and Sport Pedagogy*, 16(1), 83-99. <https://doi.org/10.1080/17408981003712802>
- Železnik Mežan, L., & Škof, B. (2023). Cooperative learning vs. direct instruction in youth sport: Effects on children's motor learning. *Kinesiology Slovenica*, 29(2), 136-156. <https://doi.org/10.52165/kinsi.29.2.136-156>
- Železnik Mežan, L., Škof, B., Leskošek, B., & Cecić Erpič, S. (2023). Effects of cooperative learning in youth athletics' motivational climate, peer relationships and self-concept. *Physical Education and Sport Pedagogy*, 30(4), 444-461. <https://doi.org/10.1080/17408989.2023.2232814>

Submitted: September 24, 2024

Accepted: May 12, 2025

Published Online First: June 6, 2025

Correspondence to:

Lea Železnik Mežan, Ph.D.

University of Ljubljana, Faculty of Sport

Gortanova 22, 1000 Ljubljana

Phone: 00386-40-653-665

E-mail: [lea.zeleznik@fsp.uni-lj.si](mailto:lea.zeleznik@fsp.uni-lj.si)