

Co-Teaching – An approach for enhancing teaching-learning collaboration in physical education teacher education (PETE)

SIMA ZACH

School of Education and Sport Pedagogy, The Academic College at Wingate, ISRAEL

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Abstract:

The strategy of cooperative teaching (co-teaching or teaching in pairs) contribute to the attainment of several objectives: increasing learning time by facilitating work in several groups at the same time, inclusion through heterogeneous classes, providing alternative teaching approaches adapted to learners by working in stations, providing alternative tasks, increasing personal attention to each pupil, and allowing experienced teachers to mentor young teachers. Preparatory planning is required for two teachers to succeed in working together. This includes a well-defined division of roles and a coordinated approach to co-teaching in practice. Co-teachers must decide about the level of cooperation; which teaching approaches to use; their objectives, hopes and expectations; and the specific areas of responsibility for each teacher. The benefits of co-teaching can be extensive, enabling teachers to address variance between learners and to use the very act of co-teaching as a means of demonstrating tolerance for other opinions and for accepting a variety of approaches and abilities. Co-teaching is also a potential aid for teacher education. As part of the effort to promote a partnership between higher education and schools, many teacher education programs have included co-teaching between cooperating teachers and student teachers. The rationale underlying this approach is that co-teaching can encourage reciprocal learning, in which both sides are beneficiaries of the process. Students bring a fresh new spirit of optimism and innovation to teaching, while veteran teachers bring their experience and familiarity with the learners.

Key Words: Teaching strategies; higher education, sport pedagogy, academia-class, partnership

Introduction

Co-teaching was first implemented as a teaching strategy to promote integration between general and special education (Bauwens, Hourcade, & Friend, 1989). The strategy of cooperative teaching (co-teaching or teaching in pairs) began about three decades ago in special education, in an effort to make the general curriculum more accessible to pupils in special education without impinging on their right to special instruction. This was to be accomplished by lowering the learner-teacher ratio in comparison to general classes, so that each pupil could receive more attention (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Mercer & Mercer, 1989). Special education classes had assistants or specialists who facilitated teaching-learning. Surveys conducted on the contribution of co-teaching to children in special education focused mainly on a specific objective: determining possible links between the number of learners and number of teachers in a class. Other issues of interest were various learning-related aspects, such as academic achievements and the improvement of social, motor, and affective skills (see Murawski, & Swanson, 2001; Scruggs, Mastropieri, & McDuffie, 2007; Weiss, 2004). What emerged very clearly from these studies was that more research is needed to verify the assumption that teaching with another adult assisting in the classroom promotes the academic, physical, social and affective abilities of learners, both in special education classes and in inclusive classes encompassing children from special education and general education together. Moreover, some studies contended that the complexity of two adults working together in a class called into question the ability to achieve the intended goal (Scruggs et al., 2007).

In general education, in both elementary and high school, co-teaching has also been found to be implementable in classes of children with regular developmental characteristics (e.g., Kroeger et al., 2012; Mandel, & Eiserman, 2015; McDuffie, Mastropieri, & Scruggs, 2009). Countries such as Finland, Britain, Ireland, Canada, South Korea and Singapore, as well as a number of states in the United States have adopted this strategy as a teaching model, with two teachers working in the same class. Reports about such efforts indicated that the strategy contributed to the attainment of several objectives: allowing experienced teachers to mentor young teachers, increasing learning time by facilitating work in several groups at the same time, inclusion through heterogeneous classes, providing alternative teaching approaches adapted to learners by working in stations, providing alternative tasks and, of course, increasing personal attention to each pupil.

Unlike special education in which classes have one certified teacher and a paraprofessional assistant, the trend in general education is to assign two certified teachers to teach in one class. Although the objectives for implementing co-teaching in general education are similar to those in special education, much more preparatory planning is required for two teachers to succeed in working together. This includes a well-defined division of roles and a coordinated approach to co-teaching in practice (Murawski & Dieker, 2004). For example, co-teachers must decide about the level of cooperation; which teaching approaches to use; their objectives, hopes and expectations; and the specific areas of responsibility for each teacher.

Co-teaching includes the five critical elements of cooperative learning: (1) positive interdependence exists when both teachers' efforts are required and are indispensable for the teaching success, and each makes a unique contribution (Johnson and Johnson, 2009), (2) face to-face interaction: teachers are in close proximity to one another, (3) individual accountability: each one of the teachers takes responsibility for completing his/her task or their portion of the task. It is the key to ensuring that both teachers are strengthened by the co-teaching framework, (4) interpersonal and small group skills require mutual trust, positive communication, acceptance, support, and problem solving, and (5) group processing includes reflection about the co-teaching process that occurred during the cooperative work experience (Johnson, Johnson, & Holubec, 1993).

Efforts have been made to use co-teaching as a strategy for fostering development in the teaching staff (Bauwens, & Hourcade, 1991; Orlander et al., 2000). For example, Orlander and colleagues reported the contribution of co-teaching to teaching staff learning, including improved decision making and problem solving. They report that following the success of their method, it was implemented for many years as a means of enriching professional teaching staff development.

Researchers who have investigated ways of implementing co-teaching in regular classes mention several elements that require attention in order to increase its efficacy. These include developing effective communication skills between the cooperating teachers, pre-planning teaching materials and ways of transmitting them, varying teaching methods to accommodate different learners' needs, using alternative assessment methods and evaluating the effectiveness of the co-teaching. The benefits of co-teaching can be extensive, enabling teachers to address variance between learners and to use the very act of co-teaching as a means of demonstrating tolerance for other opinions and for accepting a variety of approaches and abilities (see, e.g., Dieker, & Murawski, 2003; Friend & Cook, 2000).

Co-teaching in teacher education

Co-teaching is also a potential aid for teacher education. Academic studies are often described as being cut off from the field (e.g., Newton, Poon, Nunes, & Stone, 2013). As part of the effort to promote a partnership between higher education and schools, many teacher education programs have included co-teaching between cooperating teachers and student teachers. The rationale underlying this approach is that co-teaching can encourage reciprocal learning, in which both sides are beneficiaries of the process. Student teachers bring a fresh new spirit of optimism and innovation to teaching, while veteran teachers bring their experience and familiarity with the learners (e.g., Davies et al., 2013; Newton et al., 2013). Additional mutual benefits could include better preparation of future teachers and improved certification models and programs.

In order to facilitate the partnership between higher education and schools and to maximize mutual benefits, a clear commitment by all parties is essential, as is joint financing. Both sides have to develop a shared vision of quality teaching and joint responsibility for training quality teachers. They must also demonstrate mutual respect for information gleaned from research and from practical work.

Co-teaching has become an established element in the partnership between higher education and schools, and a variety of types of tandem teaching have been established. In their book, Friend and Cook (2000) present a model that offers six ways of co-teaching:

1. One teaches and the other observes – while one teacher delivers instruction, the other observes the learners and evaluates their understanding.
2. One teaches and the second assists – one teacher takes the lead in the lesson, bearing overall responsibility, and the colleague moves among the learners and assists them as needed.
3. Parallel teaching – both teachers teach the same lesson separately, at the same time, to two different groups of learners.
4. Station teaching – each teacher is actively involved in instructing specific material to part of the class, and when this is completed the learners rotate so that each teacher receives another group and teaches the same material again. The teachers arrange in advance who will teach what material.
5. Alternative teaching – one teacher works with a small group using an alternative method while the other teacher instructs the larger group.
6. Team teaching – the two teachers divide instruction of the same lesson, working with all the learners.

Another form of co-teaching in teacher education is collaboration of lecturers from different disciplines with the student teachers, as described by Altieri, Colley, Daniel, and Dickenson (2015). Such a collaboration required the lecturers to continually revisit how they worked together in co-planning, co-teaching, co-supervision, and co-assessment. The student teachers reported that they were committed to becoming full teaching partners. Delvin-Scherer and Sardone (2013), who also examined co-teaching among university staff in teacher education,

claimed that co-teaching widened teachers' knowledge, added to the teaching repertoire, and created new projects and assignments. Additionally, co-teaching led to reflection on teaching, co-developing, and co-writing. Along the process reporting on learning how to co-teach, the authors followed several stages that were suggested by others (e.g., Frey et al., 2006; Gajda, 2004; Peterson, 1991), and described the milestones on the way to co-teaching. These included: coexisting, communicating, cooperating, coordinating, partnering, collaborating, and co-adapting. They joined Gajda (2004) in emphasizing the need for positive personal relations and effective emotional connections between partners in facilitating higher stages of effective collaboration.

In Israel a recently-introduced program called Academia-Class aims to change the teacher education process and to promote partnership between higher education and the schools. In this program, the orientation in the first two years of teacher education is mainly theoretical, with an emphasis on specialization in the specific subject area and in education studies. Exposure to student teaching in schools and kindergartens expands and develops gradually, until in the third year the center of gravity shifts to student teaching in the field and to specialization in teaching. The pedagogical instructors from the colleges and universities monitor both the students and teaching staff in classes where students and novice teachers are engaged. The pedagogical instructors can also oversee the professional development of the entire staff of the educational institution concerning issues that are relevant to each school they collaborate. Didactic and internship workshops are held mainly in the schools, with the participation of the co-teaching partners from the schools. The co-teaching process also has partners at the community level – district supervisors, education departments of the local authorities and teaching staff professional development centers which, together with the academic institutions, are expected to formulate a unique, joint teaching-learning concept to strengthen the quality of learning.

This program was developed in response to two developments. The first was the distress created by overcrowded classrooms; the second was the need to attract pre-service teachers to schools, so that they would seek employment as teachers and reduce their rate of attrition. The overarching aim of the program is to establish and anchor the partnership between teacher education academic institutions and educational institutions in Israel, in order to improve the quality of teacher education, induction into teaching, actual teaching and teachers' professional development, as well as to promote meaningful learning in educational institutions. Within these parameters, secondary objectives include a greater personal connection between teachers and learners by assigning more teaching staff to the classrooms, upgrading quality learning in schools through cooperation with academic institutions, positioning teaching as a practical and reflective profession which requires constant learning, and encouraging innovation in teaching and learning through co-teaching models.

Co-teaching is among the salient teaching strategies for integrating students in schools. The rationale for implementing this strategy in teacher education is based on previous research findings, according to which co-teaching in schools is best achieved if it is demonstrated, practiced and learned as one of the teaching options during the training stage of future teachers (e.g., Bakir, 2016; Niess, 2008; Thomas, Herring, Redmond, & Smaldino, 2013). In other words, people are more likely to use a particular strategy if they have learned it and seen it in practice during their training.

Unlike co-teaching by two certified teachers, co-teaching involving an experienced teacher and a student teacher has unique characteristics: the teachers are on their own turf, as it were, and they are well acquainted with the school environment and learners as well as the teaching staff and management. This is their "natural habitat." The student teachers, in contrast, visit the school for several days and/or hours a week, they do not bear direct or sole responsibility for the learners and in essence they are learners more than teachers. In the academic year 2015-2016, the first model program was launched in physical education teacher education (PETE). To the best of our knowledge, this experiment in physical education is innovative in scope and complexity, not only in Israel but on the international level as well.

Over the school year, 10 physical education student teachers visited a high school three times a week and were mentored by 10 teachers. This teaching experience was implemented after the students had successfully completed their student teaching in elementary school classes in the preceding year. The uniqueness of this experimental teaching model was that co-teaching was conducted within the expanded teaching staff. In other words, teaching mentors and student teachers working together constituted a community of knowledge. They attended a regular weekly in-service workshop that dealt with issues determined in consultation and cooperation with the participants. The workshops focused on discussions, both in pairs and as a group, concerning issues of importance to them in their work, such as how to facilitate teacher-learner acquaintance at the beginning of the year, ways of dividing classes into learning groups, introducing new materials into the teaching program such as the use of total resistance exercise (TRX) or gymnastics in small and large groups, raising motivation for physical activity during leisure hours, etc.

Moreover, each teacher-student pair constituted an independent unit that planned, implemented and assessed their own teaching. The innovation in this type of training was the view of co-teaching as a source of empowerment – both by each individual teacher and by the pair, which saw itself as creating added value. Furthermore, tandem teaching and its benefits were also transferred to the learners through "modeling". Children saw how people could actually cooperate in order to attain specific goals and products. The practical message was that when each member of a pair gives and receives, progress and work processes improve.

While interviewing the program's participants in recent months, the mentoring teachers expressed high hopes about their progress, both in pairs and as a group of pairs within the program. They expressed these expectations openly and clearly to the students, which had the effect of increasing the students' motivation to be involved in education and of eliciting higher levels of responsibility and concern.

The following report was submitted by a teacher-student pair after co-teaching together for approximately four months:

"As a teacher, I feel that two are better than one when it comes to planning and problem solving. Two teachers observe how pupils function in the class. The pupils have an extra person they can turn to, someone closer to them in age. They benefit from teachers with a greater variety of skills and types of information. Co-teaching makes more personal teaching possible. Cooperation between the teacher and student also sets an example of cooperation for the pupils. At any time one of us can be free to provide immediate help if needed. Pupils see the professional image of the teacher in a better light. They see that at the end of the lesson the teacher and the student analyze what was done." (The teacher)

"At first I sat and observed the teacher as she taught the lesson. She directed my observation through questions she asked, such as how does she empower the learners, how can the focus of a disturbance in the lesson be identified, and other things. Later on I conducted the warm-up and now I already teach whole parts of the main segment of the lesson. She is the one who taught me how to conduct a lesson by observing how she solves problems, how she brings the class to attention, how she interests them." (The student teacher)

Co-teaching in physical education

Physical education as a subject that is taught in school is characterized by being multi-branches subject matter. It is demonstrated in traditional curriculums that are consisted of activities such as ball games, gymnastics, track and field, swimming, and dancing, or more refreshed nowadays programs that are consisted of dozens of sport and leisure time physical activity branches which are assimilated into the school physical education curriculum (such as, Parkour, adventure navigation, cycling, rollerblades, Pilates, yoga, hip-hop dance, fitness room).

Self-determination theory (SDT) (Deci & Ryan, 1985), Self-Determination Theory (SDT) suggests that within the educational domain, opportunities to fulfil the three basic needs: autonomy, competence, and relatedness are critical in promoting satisfaction and optimal learning (Deci & Ryan, 2000). According to SDT, autonomy refers to the need to perceive one's behavior as self-endorsed or volitional (Deci & Ryan, 2000). Relatedness is the need to develop secure relationships and feeling of belonging with others, and competence is the need to experience satisfaction in exercising and extending one's capabilities (Deci & Ryan, 2000).

In the extent to which these psychological needs are fulfilled, self-determination theorists propose that an individual's behavior can be categorized as lying at some point on an intrinsic-extrinsic continuum. This continuum reflects the degree of behavioral autonomy perceived by the individual (Deci & Ryan, 2000). Behaviors engaged in spontaneously, only for enjoyment and interest, without external reinforcement or perceived contingency, are characterized as intrinsically motivated. Behaviors that are acted as a result of significant others forcing the action, are characterized as externally motivated. These behaviors stem from the perception that one must or should participate in an activity. Ryan and Deci (2016) and Ryan, Ryan, Di Domenico, and Deci (2019) suggested that students who perceive greater autonomy (self-determination) show better school behavior and more intrinsic motivation than those who find these needs thwarted. SDT makes important assumptions about the nature of social contexts. Social environmental factors such as family, peers, school, and community, which meet the needs for autonomy, competence, and relatedness, will enhance perceived need satisfaction, while social environment factors that prevent the expression of those needs will jeopardize satisfaction (Standage et al., 2003).

Indeed, SDT has been applied in physical education (PE) to better understand students' motivation. Researchers have found that students who perceive a high degree of self-determination in PE demonstrate positive class behavior, report intrinsic motivation (Standage, Duda, & Ntoumanis, 2005), and exhibit strong leisure-time physical activity intentions and physical activity behaviors (Standage, Duda, & Ntoumanis, 2003). Based on this theory, physical education teachers adopted the principle of learning from choice. In other words, teachers whose educational beliefs correspond with SDT will enable their students to autonomously choose while they are learning. They will provide their students with the opportunity to independently choose what to learn, how, where, what, and with whom.

Using co-teaching can improve the likelihood of free choice to exist in PE lessons, which can increase the likelihood of developing intrinsic motivation for physical activity in these lessons, and in their leisure, free, extra-curricular time. Moreover, enable students to choose in physical education lessons, among several possibilities, is a way of inclusion. By doing so teachers have the power to create a motivational climate for physical activity. Two or more teachers working in parallel can create several working stations that addresses at least six differences among the students such as the following: (1) Level of students' physical abilities – advance drills and tasks for students who are willing for challenges, and basic tasks for beginners or less skilled students, (2) Stage of skill learning – one teacher can teach the skills and the other do the training, refining, correcting

mistakes, and improving physical performance, (3) Need for learning aids and scaffoldings – each child make his/her own progress using different means as learning scaffoldings, (4) Preferences of subject matter – themes and branch of sport, (5) Doing activities with social emphasize, in small groups, as opposed to individualistic activity, and by doing so to fulfill their relatedness need, and increase their intrinsic motivation for the activity, (6) Challenging emotional aspects of the activity, such as persistence on performance of difficult tasks, overcoming feelings of fear or anxiety of performance of task that requires courage, dealing with body image while working in a class with mirrors with and without facing the mirror, in the front line or in the back, using activities to increase strength, flexibility, and balance concerning posture cultivation. Such challenge will probably fulfill their need for improving their competence and increase intrinsic motivation for the activity.

Conclusions

To summarize, based on the experience in co-teaching amassed thus far in the education system and in teacher education, and keeping in mind that the Academia-Class program in physical education is still in its infancy, the use of co-teaching seems to have many positive elements. The efficacy of the cooperative teaching model in PETE needs to be clarified in controlled studies in the future.

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