

ADVANTAGES AND DISADVANTAGES OF CO-TEACHING

PhDr. Martin Kursch, Ph.D.; prof. PhDr. Jaroslav Veteska, Ph.D.

ORCID: <http://orcid.org/0000-0003-1215-7956>

Charles University, Faculty of Education, Prague, Czech Republic

Contact: jaroslav.veteska@pedf.cuni.cz

ABSTRACT

The study is based on the implemented methodological analysis, which focused on an overview of approaches to the co-teaching method, its contents and forms. A by-product of this study was the gathering of information, aspects and insights about the pros and cons of co-teaching, collected from 19 long-term co-teaching studies as well as virtual co-teaching. The aim was to summarize the determinants of co-teaching success, its advantages and disadvantages, which we encountered during our methodological analysis. Thanks to the long-term approach in selected studies to the co-teaching method, it was possible to name the beneficial aspects of co-teaching in various educational contexts and to highlight shortcomings in the form and content of the use of this teaching approach. Articles in 2005-2020 were analysed, published in recognized scientific databases such as ERIC, Scopus®, Complementary Index etc. As a result, 19 studies were found that fit the long-term and co-teaching criteria. Among the main determinants of success based on the articles examined, we included joint preparation, support from the school management and technical readiness. The main advantages of co-teaching were better reliability in the transmission of information and problem solving, intensification of teacher cooperation, their mutual enrichment and education, higher efficiency in teaching, better atmosphere in the classroom, better recording of observations during lessons, higher motivation of pupils or students, innovative environment and enabling the use of a wide range of teaching methods. Furthermore, easy recruitment of experts or auxiliary teachers. On the contrary, among the disadvantages we include higher preparation requirements, its complexity in terms of co-teacher coordination, higher financial and logistical costs. In the virtual component, the shortcomings of the technical equipment and the failure of the human factor. The study is the starting point for further research work within the project Technology Agency of the Czech Republic (TL03000133) entitled *New Method of Education for the 21st Century: Virtual-Co-Teaching* solved in the period 2020-2023. This project focuses on virtual co-teaching and its effectiveness.

KEYWORDS

Co-teaching, further teacher education, co-teaching efficiency, co-teaching advantages and disadvantages, determinants of successful co-teaching.

1. Introduction

Co-teaching is a proven method that increases the efficiency of the educational process, if applied correctly. It is an innovative method and currently, especially in correlation with the development of distance teaching, co-teaching is given significant attention on the international stage. Co-teaching is engaged in several professional studies and research projects. The focus of research is mainly on the benefits of co-teaching, its form, methodological support, other possibilities of professional development of teachers in relation to specific educational needs, the development of social interactions, active learning, reflective thinking, cooperation and joint learning, with the aim of effective learning of pupils and acquisition of competences needed for active civic, professional and personal life.

Co-teaching as joint planning and teaching of two or more teachers (Bacharach et al., 2010) uses various strategies of teacher involvement in teaching, their mutual cooperation, scenario planning, appreciation and continuous improvement of the co-teaching model. The original collaboration between teachers (Friend, 2014, 2015) has developed into a sophisticated process supported by various methodologies that result in many practical applications, see Ricci & Fingon (2017). The long-term implementation of co-teaching revealed many other advantages of such teaching (Friend, 2015; Ricci and Fingon, 2017; Sanchez et al., 2019; Walsh, 2012). Examples include easier group learning, the possibility of individualization of teaching, the use of many methods (e.g. controlled dialogue in teaching between co-teachers), the involvement of a virtual component. Cooperation between teachers also leads to an improved atmosphere in school environments and mutual learning between teachers (Baeten and Simons, 2014; Fraser and Watson, 2013; Rabin, 2020). Some research on cooperation between teachers in general education in co-teaching has shown better consolidation of knowledge and better learning outcomes of students (Eckardt and Giouroukakis, 2018; Ronfeldt et al., 2015; Vescio et al., 2008). Effects are also targeted by some experiments and case studies of virtual co-teaching (Chan, 2012; Puttonen, 2014; Takala and Wickman, 2019; Wilson and VanBerschoot, 2014).

According to Rexroat-Frazier and Chamberlin (2019), the success of the co-teaching method is the two most important factors, namely the selection of a teaching partner and a clear definition of the purpose of joint teaching. Co-teaching uses various effective teaching strategies and effective practices in its practice. Of all the research carried out, this is primarily a practical method aimed at improving teaching efficiency.

The aim of our article is to highlight the advantages and disadvantages of co-teaching, which we have revealed as a by-product in our thematic analysis in the field of co-teaching. Our thematic analysis, which summarizes the most important findings on selected topics of co-teaching, is published in another scientific journal¹. All our findings are the starting points for further research work within the project TAČR (TL03000133) entitled *New Method of Education for the 21st Century: Virtual-Co-Teaching* solved in the period 2020-2023. This project focuses on virtual co-teaching and its effectiveness.²

¹ In submission: see Veteska, J., Kursch, M. et al. (2020).

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2. Body of paper

2.1 Methods

As part of our thematic analysis, we came across many interesting factors that focused on the pros and cons of co-teaching. We have categorized, summarized, and presented these factors as suggestions for further investigation. Our primary thematic analysis helped us identify these factors, even if they were not primarily intended to do so. In addition to be a product of this analysis, we have prepared a complete overview of all the reported advantages and disadvantages of co-teaching, which resulted from 19 long-term studies, dealing with co-teaching or virtual co-teaching and their effects. For the sake of completeness, we briefly present the Scoping Review methodology, which has been selected as a frequent, valid and reliable method appropriately addressing research questions, but only very briefly, as our entire scoping review has already been described in previous publications (Kursch, M, Veteska, J. et al. 2020).

The Scoping Review methodology was selected as a frequent, valid and reliable method appropriately addressing research questions. The basis for our methodology was the work of Arksey and O'Malley (2005), according to which we proceeded.

The word “co-teaching” was used as a basic search term. More than 2000 studies were conducted. After an advanced search, together with the term “long-term”, the results from the study were used in 12 studies. After adding and adding another term “longitudinal”, it was the result of another 17 studies. Another combination of “co-teaching” and at the same time “virtual” produced another 10 studies. In addition, additionally we used Google Scholar, where a new 10 articles were found after entering the direct phrases “virtual co-teaching” and “virtual” and “co-teaching”.

For our search, we used scientific databases (ERIC, Complementary Index, Academic Search Ultimate, Scopus®, Supplemental Index, APA PsycInfo, Social Sciences Citation Index, Directory of Open Access Journals, Gale eBooks, Springer Nature Journals, ScienceDirect, MEDLINE, JSTOR Journals, Library, Information Science & Technology Abstracts, Business Source Ultimate, Humanities Source Ultimate) and as a supplement to the before mentioned Google Scholar System. The selected search period was 1990-2020, the search tool was the System of Charles University UKAZ and the search engine Google Scholar³. Table 1 lists the search results.

After manual selection, we selected a methodology for quality evaluation Mixed Method Appraisal Tool (MMAT), version 2018⁴. In the end, 19 studies met our criteria. These resulting studies were long-term, and their main subject of investigation was the effects of co-teaching and its effectiveness. All co-teaching studies were included in our sample. Figure 1 describes the systematic algorithm used, based on the PRISMA systematic evaluation methodology (Moher et al, 2009).

³ Link On System SHOW THAT That Has Approaches To All Above Referred Databases: <http://eds.b.ebscohost.com/eds/search/advanced?vid=7&sid=b259143b-4e01-42db-8c7c-22f94f9d499f%40pdc-v-sessmgr04>.

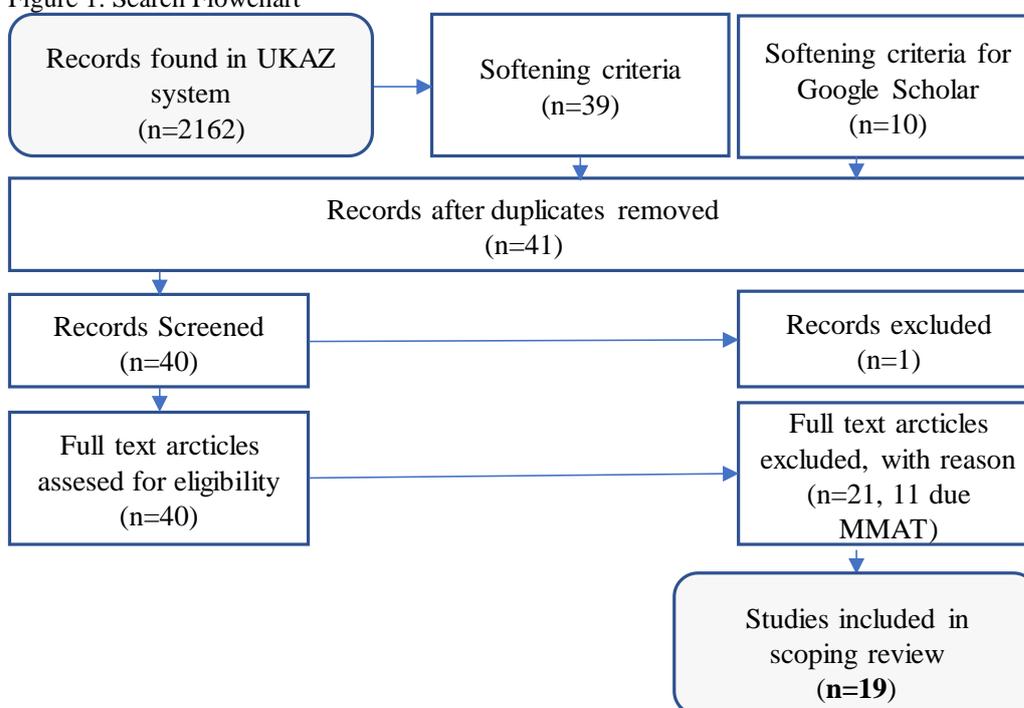
⁴ See http://mixedmethodsappraisaltoolpublic.pbworks.com/w/file/attach/127916259/MMAT_2018_criteria-manual_2018-08-01_ENG.pdf.

The method of inductive thematic analysis (Corbin, Strauss, 2008) was then applied to data analysis. Categorization of articles and their subsequent synthesis was carried out according to key topics.

Table 1: Exact search string results in indexed databases with exact search string

Databases	Search String	Records Identified
ERIC, Complementary Index, Academic Search Ultimate, Scopus®, Supplemental Index, APA PsycInfo, Social Sciences Citation Index, Directory of Open Access Journals, Gale eBooks, Springer Nature Journals, ScienceDirect, MEDLINE, JSTOR Journals, Library,	co-teaching	2162
	co-teaching AND virtual	10
	co-teaching AND long-term	12
	co-teaching AND longitudinal	17
Google Scholar	"vital co-teaching"	5
Google Scholar	allintitle:: virtual co-teaching	5

Figure 1: Search Flowchart



2.2 Results

The result of our thematic analysis was the identification of six key topics. For completeness, we list the following topics: (1) “co-teaching effectiveness”, (2) “problems and obstacles”, (3) “methods of and with co-teaching”, (4) “teachers' role and relationships”, (5) “teachers' cooperation”, and (6) “special educational needs”. We discuss all these topics in detail or discuss them in our other publications (Kursch, M, Veteska, J. et al. 2020). The aim of this publication was to highlight the theme of “advantages and disadvantages of co-teaching”. This topic has not been explicitly selected but is a cross-sectional intersection common to all studies examined. Therefore, we tried to analyse this topic and categorize the

advantages and disadvantages of co-teaching (including virtual component), found across all long-term researches that met the criteria set by us by the thematic analysis. We divided our findings into three categories: determinants of co-teaching success, advantages of co-teaching, disadvantages of co-teaching. In all three categories, we also included findings regarding the virtual folder.

2.2.1 Determinants of co-teaching success

As a result of our analysis, the determinant for the success of co-teaching was revealed. According to our findings, across the studies examined, the necessary conditions for successful co-teaching are:

- **Joint preparation of co-teachers.** A quantitative study has shown very positive and orthodox results while joint teaching is planned, carried out and evaluated together with a partner involved in teaching. (Jurkovsky and Müller, 2018; Takala and Uusitalo-Malmivaara, 2012).
- **Support from the school management.** Authors Takala and Wickman (2018, p. 231) identified several obstacles in the research. One of these obstacles was the lack of support from school principals. The decision to start co-teaching at the school depended on the school head, not the teachers themselves.
- **Technical readiness.** Especially for the virtual component of co-teaching, this determinant is essential. Chan et al. (2012) highlights, for example, the need for HD resolution of the co-teacher's and class's image (high-quality video shows the details very well), LED television sensing the entire classroom (students felt that the other group was not working), the use of two cameras and two TVs, showing teachers as well as students in the classroom. Mobile camera to the classroom (where students could see details, including peer students and their work), better surround TV settings, 2 additional wireless microphones installed in a remote classroom. The added HD technology eliminated the synchronization problem and allowed the head teacher to control the understanding of the substance in all students and all its steps, the HD camera (mobile, enabled the staring from the faces of students, which was a problem of teachers) and microphones allowed the learning of “peer” students (allowing communication between students, which led to greater learning efficiency).

2.2.2 Advantages of co-teaching

The advantages of co-teaching are a summary of the fundamental factors selected from qualitative and quantitative research based on the analysis of our 19 long-term studies. The advantages are presented in the context of comparison with normal teaching.

Summary of the benefits found:

- **Greater reliability of teaching** (Eckardt and Giouroukakis, 2019). When taught by two teachers, students have answers from two different sources, consider them more reliable, discuss everything better, and absorb knowledge much

better. There is also greater information sharing, better quality of discussion and more stimulating situations to deepen the substance.

- **Better pedagogical dimension** (Eckardt and Giouroukakis, 2019). Collaboration between teachers is not only effective, but also moves them forward in techniques and teaching methods. There is also a much better possibility of improvisation if taught by two teachers. With good preparation, co-teaching is also a breeding ground for creative environments in the classroom.
- **Mutual education of co-teachers.** Rexroat-Frazier and Chamberlin (2019, p.181) state that the effectiveness of joint teaching is further influenced by teaching practices, together with the use of effective teaching strategies, effective practices and their balance. Research focuses mainly on teaching practices, lacking a focus on student outcomes. An interesting aspect of co-teaching can be reducing the workload for both teachers because they have a partner who shares responsibility for the class (Bouck, 2007). Once teachers have found out their shared beliefs about teaching, philosophy, goals, they can begin to identify roles and responsibilities and how they will share them.
- **Positive effect of mentoring.** Rabin (2020) points to the application of an ethical dimension in the context of relations between co-teachers and preparation through educational workshops. In relations between co-teachers, the balance of power, collegiate, achieving the same goal at the same level with each other, the feedback on teaching should be maintained. Co-teaching serves as a model in creating the teaching practice of novice teachers, through the involvement of a mentor teacher they have the opportunity to develop a professional level and strong relationships of cooperation. The mentor becomes a partner in joint teaching, there is listening, mutual learning. This cannot be fully applied to the classic mentoring model. Research has shown that results translate into professional potential for candidates and mentors, co-teaching in this form brings new ideas, strengthens mutual relations, ethics of relationships, as well as the resilience of teachers and their professional satisfaction.
- **Better intensification of mutual relations and atmosphere in the classroom.** Neifeald and Nissim (2019) agreed that co-teaching made a significant contribution to pupils and contributed to the emergence of relationships between kindergarten teachers and early childhood students. Co-teaching enables the application of a wide range of teaching practices, including partnerships between students of teaching and teachers, shared planning and evaluation of teaching. Without co-teaching, these procedures would be very difficult to implement, even completely unfeasible. Based on the findings of the research, the study authors recommend: expanding the scope of the program and continuing it for several more years, expanding the program's research and monitoring what other impact it might have, introducing co-teaching in a structured and managed manner through complementary courses, and expanding research to address other issues that result from clinical practice.
- **Create an innovative environment and share ideas more effectively.** Ricci and Fingon (2017) states that the greatest benefit for postgraduate students was: “sharing and exchanging ideas”, “seeing co-teaching modelling in practice” and

being “open to new ideas for the benefit of pupils and for teaching planning...”. The data obtained indicate a positive contribution to higher education across programmes and the possibility of application for postgraduate students in the fields of teaching (incl. special pedagogy).

- **More meaningful transfer of experience.** Montgomery and Akerson (2019) found that pairing colleagues as co-teachers and implementing teaching models allowed future teachers to have more meaningful field experience. Participation in joint teaching also creates more opportunities for cooperation between peers. The findings from our research suggest that participants found value in common teaching models and that collaboration was taking place between them, especially when planning lessons for joint teaching. Future educators expect broader cooperation at team level on joint teaching with other educators, special educators, etc. The ultimate goal of each educational preparatory programme is to prepare teachers who are able to meet the needs of the students they teach, provide more positive feedback, small group learning and individual support. Involving future teachers as co-teachers in practice brings them practical experience that can help them more easily implement co-teaching into their teaching after completing their studies.
- **Faster professional development and consolidating pedagogical competences.** Bilican et al. (2020) stresses that the use of co-teaching has contributed to the professional development of educators in many ways. For example, making it easier to use professional terminology, improving the teaching strategy for more effective teaching planning. In Bilican et al. (2020), both members of the co-teaching team reported mutual support and better mediation of teaching content to pupils. The authors of the study note that the professional development of teachers for teaching can be effectively based on a co-teaching strategy (in this case, on team teaching by a “normal” teacher and a university teacher – an expert in special pedagogical competences).
- **Higher efficiency of co-teaching as a method of education compared to classical teaching.** The effectiveness of co-teaching is a central identified topic, which in a way contains all the articles. It includes, on the one hand, a view of effectiveness on the part of the teacher (e.g. Wilson and VanBerschoot, 2014; Jurkowski and Müller, 2018; Neifeald and Nissim, 2019; Rabin, 2020) as well as student perspective (e.g. Puttonen, 2014; Strogilos, 2018). The view of effectiveness by teachers is usually the basis for revision of the methods used or modification of a new co-teaching course. On the basis of a pilot study, the teachers reflect the entire teaching process, finding out the positives and negatives on which it is based when adjusting the course or educational activity to its final form (Kim et al., 2007; Wilson and VanBerschoot, 2014; Neifeald and Nissim, 2019). In view of the research question asked, “What role does virtual environment play in co-teaching?” quality technical readiness for this method is essential in terms of efficiency (Chan et al., 2012; Wilson and VanBerschoot, 2014). The technical readiness factor is a view (Chan et al., 2012) on the border between efficiency and problems, because with technical complications it is impossible to teach effectively in two people, the benefit of the method decreases

and complications and negative impact on results dominate. This aspect is also essential from the point of view of students who perceive the readiness of a co-teaching pair (whether technical or human). It is essential for students to know how teacher's work together and to be able to navigate this well, and there is no chaos in teaching (Rabin, 2020; Jurkovsky and Müller, 2018). If teacher cooperation is teeming (Jurkovsky and Müller, 2018), the effective impact and positive impact on students decreases.

- **More varied scalability of learning methods.** In the analysed texts we encountered various used forms of co-teaching method: One teach – one support (Park, 2014; Chan et al. , 2012; Eckardt et al., 2018; Takala and Wickman, 2018; Löhmus et al., 2019; Montgomery, 2019; Duran et al., 2020; Rabin, 2020); Alternative Teaching (Ricci and Fington, 2017; Strogilos, 2018; Jurkovsky and Müller, 2018; Kim et al., 2007); Team teaching (Wilson and VanBerschoot 2014; Puttonen, 2014; Thomson and Dow, 2017; Campbell et al., 2018; Neifeald and Nissim, 2019; Sanchez et al., 2019, Bilican et al. 2020).
- **Extended Perspective** (Eckardt and Giouroukakis, 2019). The differences in teachers' experience cause students to see the problem from multiple perspectives, points of view and constructive discussion. There is also a more creative environment thanks to more perspectives.
- **Wider support for teachers** (Eckardt and Giouroukakis, 2019). Faster, more efficient, faster response, better responses, confrontational styles, synergy effects.

From the analysis of research with the virtual component used, we add:

- **A true active merging of two worlds representing two distant classes** (Chan et al., 2012).
- **The synergic effect of using peer learning among students.** Research suggests that if virtual co-teaching is technically handled well, it can lead to truly positive effects (Chan et al., 2012).
- **Time saving effect** (Chan et al., 2012).

2.2.3 Disadvantages of co-teaching

The disadvantages of co-teaching are also a summary of the fundamental factors selected from qualitative and quantitative research based on our analyses of 19 long-term studies. Disadvantages as well as advantages are presented in the context of comparison with normal teaching. We summarize the found disadvantages:

- **Different interpretation of co-teaching between teachers.** Takala and Wickman (2018, p. 230), who took part in the research states that it was not a way of teaching with two teachers in the same class, but rather it was two different concepts of teaching teachers who taught a group of pupils with different levels of ability in different rooms. In some cases, the instruction was given to assistants. Overall, there was inefficiency in teaching and counterproductive results.

- **Longer time to prepare and rehearse synchronization.** Löhmus (2019) summarises that the results of the analysis showed that motivation, sufficient interpersonal and social skills (such as openness, communication and self-reflection) and sufficient time were the most important factors in successful team learning. However, teachers do not have sufficient time available (Park, 2014; Jurkovsky and Müller, 2018) and therefore cannot devote themselves to preparation and reflection to the extent necessary. The lack of time factor was reported by most studies as the most fundamental and most affecting overall effectiveness of co-teaching (Takala and Wickman, 2018; Jurkovsky and Müller, 2018; Ricci and Fington, 2017; Sanchez et al., 2019).
- **More complex logistics.** For example, you can indicate transportation to the site, installation techniques. However, Ricci and Fington (2017) states that it is through identifying and sharing stories with other professors who have been successful in joint teaching that, despite logistical challenges or additional workloads, momentum and inspiration for faculty cooperation within and between interdisciplinary courses is encouraged.
- **Financial cost.** Sanchez et al. (2019) point to the necessary co-educational experience at postgraduate level, combined with the increased need to improve basic preparatory programmes and limited scholarship in teaching, supporting the possible expansion of co-teaching in this area. Tsai and Wang (2017) stated that this is a different approach to teaching with the pros and cons of the co-teaching model, i.e. higher costs. At Dickey's et al. (2016) scientists hypothesize that the introduction of new teaching models could help graduates remain competitive elsewhere. Most importantly, each finding in this study reflects the co-creator's deep commitment to joint teaching to improve the aspirational performance of school leaders. Persons with the ability to transform scholarship in teaching and learning in any field of study should not shy away from opportunities to explore co-guarantee in higher education, especially at graduate level.
- **Negative effects in the lack of co-teacher qualifications.** For example, when teaching languages, the problem of a native speaker, not being able to handle the role of head teacher and non-head teacher (Park, 2014). For improvement, it is advisable to use a very interesting chosen method of post-analysis of video recordings from hours, which leads to a real trace of possible patterns of behaviour of teachers in the process of their cooperation.
- **A more challenging search for the harmony of the human factor, including the management of the school.** If cooperation does not work, teachers do not plan and evaluate joint teaching, there are significant shortcomings and the method does not have the necessary benefits (Jurkovsky and Müller, 2018). Takala and Wickman (2018) have identified the role of the headmaster as a significant obstacle in the implementation of co-teaching, since its implementation is directly dependent on the decision of the headmaster and not on the teachers, which logically leads to the fact that the headmaster who is not inclined to it at the school will not support and implement it.

From research with the virtual component used, we add:

- **More difficult communication with the remote workplace.** If the student failed one instruction or got lost, it was very difficult to get back to the pace and the right step. Hard to interrupt a head teacher when asking questions. Complex communication with students in a remote workplace. Harder to compare the progression of a remote group (peer comparison of progression). Chan et al., 2012 recommends that the assistant teacher focus on the “progression” of students and try to synchronize them if the problem was in the loss of some steps.
- **Possible lack of communication peer** students (Chan et al., 2012).
- **Technical complexity.** Freezing of technology thanks to robust setup, etc. (Chan et al., 2012).

3. Conclusion

The study points to the main determinants of the success of co-teaching. Without these prerequisites determining success, quality of co-teaching cannot be run at all. An interesting finding is the emphasis on the crucial importance of technical equipment for the use of the virtual co-teaching method. According to the studies examined, this determinant plays an important role in the effectiveness of teaching results and has an impact on future expectations from such a form of education.

The main advantages of co-teaching include better reliability in information transmission and problem solving, intensification of teachers’ cooperation, their mutual enrichment and education, higher learning efficiency, better classroom atmosphere, better recording of observations during teaching, higher motivation rates of pupils or students, innovative environment and enabling the use of a wide range of teaching methods. Furthermore, easy recruitment of experts or auxiliary teachers.

On the contrary, among the disadvantages we include higher preparation requirements, its complexity in terms of co-teacher coordination, higher financial and logistical costs. In the virtual folder then the shortcomings of the technical equipment and the failure of the human factor.

In general, the advantages of co-teaching are likely to outweigh its disadvantages. The whole concept of co-teaching therefore contributes to increasing learning efficiency, teacher efficiency (Wilson and VanBershot, 2014; Jurkowski and Müller, 2018; Neifeald and Nissim, 2019; Rabin, 2020), and the effectiveness of the pupils or students themselves (Puttonen, 2014; Strogilos and King-Sears, 2019). Technical readiness and technical background are essential for virtual co-teaching, together with the hard preparation of teachers and the selection of suitable teaching methods including multimedia equipment.

We also provide recommendations for future research topics, which are exploring co-teaching models, teaching strategies, and identifying the most effective strategies in relation to student outcomes. It would also be interesting to find out how teachers have become part of this partnership, what the philosophy of teaching should be, what are the attitudes of teachers and the perception of joint teaching, and what are the areas of their support e.g. from the point of view of education.

For the sake of completeness, we also mention the limitations resulting from literary research, on which this research was built: the absence of a consistent definition of what effective teachers are; the difficulty of generalisation of results, if more than one teacher is involved in the study and the effectiveness of their practice is not established, the results of joint teaching may vary within classes; whether teachers have been trained in advance or not can also have an impact; lack of outputs with student results.

English articles were included in the overview study. This can affect the overall validity of the results found and their portability into local education systems, which are shaped in accordance with each country's education policy strategy (subsidiarity principle). Grey literature was not included in the review.

References

- Arksey, H. and O'Malley, L., 2005. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, Vol. 8, Iss. 1, pp. 19-32.
- Bacharach, N. et al., 2010. Changing the face of student teaching through co-teaching. *Action in Teacher Education*, Vol. 32, Iss. 1, pp. 3-14.
- Baeten, M. and Simons, M., 2014. Student teachers' team teaching: Models, effects, and conditions for implementation. *Teaching and Teacher Education*, Vol. 41, pp. 92-110.
- Bilican, K. et al, 2020. Learning by Teaching: a Case Study of Co-teaching to Enhance Nature of Science Educators, Successes, and Challenges. *International Journal of Science and Mathematics Education*, Vol. 18, Iss. 1, pp. 1-20.
- Bouck, E. C., 2007. 'Co-teaching... not just a textbook term: implications for practice.' *Preventing School Failure: Alternative Education for Children and Youth*, Vol. 51, pp. 46-51.
- Campbell, E. L. et al., 2018. Better Together: Co-Teaching in Undergraduate Applied Psychology Courses. *Psychology Teaching Review*, Vol. 24, No. 2, pp. 3-11.
- Chan, B. et al., 2012. Case study: Affordances of using multi-HD technology for distanced co-teaching in Hong Kong secondary schools. *2012 World Congress on Information and Communication Technologies, Information and Communication Technologies*, Trivadrurum, 2012, pp. 162-166.
- Corbin, J., M. and Strauss, A. L., 2008. *Basics of qualitative research: techniques and procedures for Developing grounded theory*. Sage Publication, Los Angeles, USA.
- Dickey, G., Kline, J., & Lindsteadt, G., 2016. The role of educators in preparing the confident graduate student. *InSight: A Journal of Scholarly Teaching*, Vol. 11, pp. 59-72.
- Duran, D. et al., 2020. Student teachers' perceptions and evidence of peer learning through co-teaching: improving attitudes and willingness towards co-teaching. *European Journal of Psychology of Education: A Journal of Education and Development*, Vol. 35, pp. 1-16.
- Eckardt, P. and Giouroukakis, V., 2018. The Impact of Co-Teaching on Pedagogical Approaches and Student Conceptual Understanding in a Graduate, Adolescent Literacy Course. *Journal for Leadership and Instruction*, Vol17, No. 2, pp. 40-43.
- Fraser, J. and Watson, A., 2013. Bring student teaching into the 21st century. *Phi Delta Kappan*, Vol. 94, Iss. 7, p. 25, 2015, New York.

- Friend, M., 2014. *Co-teach! Building and sustaining effective classroom partnerships in inclusive schools*. 2nd ed. Author, Greensboro, USA.
- Friend, M., 2015. Co-teaching versus apprentice teaching: An analysis of similarities and differences. *Teacher Education and Special Education*, Vol. 38, No. 2, pp. 79-87.
- Jurkowski, S. and Müller, B., 2018. Co-teaching in inclusive classes: The development of multi-professional cooperation in teaching dyads. *Teaching and Teacher Education*, Vol. 75, pp. 224-231.
- Kim, A. et al., 2007. Facilitating Co-Teaching for Literacy in General Education Classrooms through Technology: Focus on Students with Learning Disabilities. *Reading*, Vol. 22, No. 3, pp. 269-291.
- Lõhmus, E. et al., 2019. Lecturer's and assistant's views on collaborative teaching at the university. *Estonian Journal of Education / Eesti Haridusteaduste Ajakiri*, Vol. 7, No. 2, pp. 231-233.
- Moher, D. et al., 2009. Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement. *PLoS Med*, Vol. 6 No. 7: e1000097. <https://doi.org/10.1371/journal.pmed.1000097>.
- Montgomery, M. and Akerson, A., 2019. Facilitating Collaboration through a Co-Teaching Field Experience. *Networks: An Online Journal for Teacher Research*. Vol 21, Iss. 1, pp. 1-21.
- Neifeald, E. and Nissim, Y., 2019. Co-Teaching in the "Academia Class": Evaluation of Advantages and Frequency of Practices. *International Education Studies*, Vol. 12, No. 5, pp. 86-98.
- Park, J. 2014. English co-teaching and teacher collaboration: A micro-interactional perspective. *System*, Vol. 44, No. 1, pp. 34-44.
- Puttonen, K., 2014. Information Specialist and ICT Lecturer Co-Teach an Online Course: A New Way and What Students Think About It. *Nordic Journal of Information Literacy in Higher Education*, Vol 6, No. 1, pp. 52-64.
- Rabin, C., 2020. Co-Teaching: Collaborative and Caring Teacher Preparation. *Journal of Teacher Education*, Vol. 71, No. 1, pp. 135-147.
- Rexroat-Frazier, N. and Chamberlin, S., 2019. Best Practices in Co-Teaching Mathematics with Special Needs Students. *Journal of Research in Special Educational Needs*, Vol. 19, No. 3, pp. 173-183.
- Ricci, L. A. and Fingon, J. C., 2017. Faculty Modeling Co-Teaching and Collaboration Practices in General Education and Special Education Courses in Teacher Preparation Programmes. *Athens Journal of Education*, Vol 4, No 4, pp. 351-362.
- Ronfeldt, M. et al., 2015. Teacher collaboration in instructional teams and student achievement. *American Educational Research Journal*, Vol. 52, Iss. 3, pp. 475-514.
- Sanchez, J. et al., 2019. Exploring the Co-Teaching Experience in a Graduate-Level, Principal Preparation Course. *InSight: A Journal of Scholarly Teaching*, Vol 14, pp. 99-112.
- Strogilos, V. and King-Sears, M., 2019. Co-Teaching Is Extra Help and Fun: Perspectives on Co-Teaching from Middle School Students and Co-Teachers. *Journal of Research in Special Educational Needs*, Vol. 19, No. 2, pp. 92-102.

- Takala, M. and Wickman, K., 2019. Collaborative Case-Based Virtual Learning in Higher Education: Consultation Case in Special Education. *Journal of Digital Learning in Teacher Education*, Vol. 35, No. 4, pp. 236-248.
- Takala, M. and Uusitalo-Malmivaara, L., 2012. A one-year study of the development of co-teaching in four Finnish schools. *European Journal of Special Needs Education*, Vol. 27, No 3, pp. 373-390.
- Thompson, K. W. and Dow, M. J., 2017. Co-Teaching to Improve Control Variable Experiment Instruction in Physical Sciences Education. *Electronic Journal of Science Education*, Vol 21, No. 5, pp. 36-52.
- Tsai, P. S. and Wang, N. M., 2017. Biomedicine English curriculum design: Co-teaching between a biomedical profession and an English instructor. Retrieved from <http://ir.lib.cyut.edu.tw:8080/bitstream/310901800/33733/1/13.pdf>.
- Vescio, V. et al., 2008. A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, Vol. 24, Iss. 1, pp. 80-91.
- Veteska, J., Kursch, M. et al., 2020. Longitudinal co-teaching projects – scoping review. In *17th International Conference on Cognition and Exploratory Learning in Digital Age 2020*. Portugal, Lisboa: IADIS (in submission process).
- Walsh, J., 2012. Co-teaching as a school system strategy for continuous improvement. *Preventing School Failure*, Vol. 56, pp. 29-36.
- Wilson, B. G. and VanBershot, J. L., 2014. Co-Teaching an Online Action Research Class / Co-enseignement et classe de recherche-action en ligne. *Canadian Journal of Learning and Teaching*, Vol. 40, No 2, pp 1-18.