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To cite this article: D. Fluijt, C. Bakker & E. Struyf (2016) Team-reflection: the missing link in co-teaching teams, European Journal of Special Needs Education, 31:2, 187-201, DOI: [10.1080/08856257.2015.1125690](https://doi.org/10.1080/08856257.2015.1125690)

To link to this article: <http://dx.doi.org/10.1080/08856257.2015.1125690>



Published online: 05 Feb 2016.



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Team-reflection: the missing link in co-teaching teams

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ABSTRACT

In literature, co-teaching is mostly defined as an instrumental and pedagogical means delivered by collaborating special and regular teachers, from which students with and without special educational needs benefit in regular schools. The importance of a shared vision on the part of members of co-teaching teams as to what they consider as good education for students is not mentioned in definitions of co-teaching. The authors argue that sense-making by reflection about what can be considered as good education – good teaching and good learning – is essential when co-teachers want to understand or change their practice or relationship with their partner. We reviewed 17 articles about co-teaching teams' professional development and identified that challenges to co-teachers' professionalisation mostly were directed to interpersonal and normative aspects of development in co-teaching teams. We elaborate on five distinguished movements that can bring about change in teacher professionalism. These movements correspond to the challenges retrieved from the literature review and can be used to contribute to move toward a new perspective on professionalism of co-teachers. A contemporary definition of co-teaching is proposed because former definitions do not suffice to express the value of constructing a shared vision on good teaching and learning. We argue that team-reflection is the missing link in terms of enhancing normative professionalism of co-teaching teams and recommend that further research should be conducted to value team-reflection as a means to overcome challenges of co-teaching teams.

ARTICLE HISTORY

Received 22 June 2015

Accepted 6 November 2015

KEYWORDS

Co-teachers; co-teaching; team-reflection; normative professionalism

Context of co-teaching

In many countries, co-teaching is seen as an instrumental and pedagogical model for handling diversity from which students with and without special educational needs can benefit (Friend et al. 2003; Hang and Rabren 2009; Scruggs, Mastropieri, and McDuffie, 2007; Wilson and Michaels 2006). Teachers' expertise can be used effectively while they use each other's qualities (EADSNE 2012; Friend and Cook 2010; Work Programme 2015 2014). In recent decades, legislators in Europe (e.g. Austria, England, Denmark), Canada, Australia and the United States have focused on the rights of children in terms of inclusion, and have mandated or

supported collaboration between teachers and special educators (EADSNE 2012; No Child Left Behind Act 2001; Salamanca Statement 1994). Recent legislation in Belgium and the Netherlands (M-Decreet 2014; Wet op Passend Onderwijs 2014) aims at the reduction of segregated education in favour of inclusive education. This should lead to a reduction in the outflow of students to forms of special education. These political contexts in favour of inclusive education have led to a broad field of research about co-teaching because co-teaching can be seen as a means for teachers to cope with the diversity of students (Scruggs, Mastropieri, and McDuffie 2007). However, more knowledge about ‘what works’ is needed for realising co-teaching practices in inclusive classrooms (Conteh 2012; Flem, Moen, and Gudmundsdottir 2004; Florian 2008; Lebeer et al. 2010; Murawski and Swanson, 2001; Nilholm and Alm 2010). This knowledge about ‘what works’ and ‘why certain practices work’ can be learned within co-teaching teams when they become used to reflecting and to sharing their experiences.

Co-teaching defined

Co-teaching can be defined in various ways (Arguelles, Hughes, and Schumm 2000; Friend and Cook 1996; Dieker 2015; Friend 2015; Gately and Gately 2001; Murawski and Swanson 2001; Murawski and Lochner 2011; Sileo 2011; Villa, Thousand, and Nevin 2004) in which similarities and differences can be distinguished (Table 1).

Table 1. Chronological overview of co-teaching definitions.

Co-Teaching definitions
‘An educational approach in which two teachers work in a coactive and coordinated fashion to jointly teach academically and behaviourally heterogeneous groups of students in an integrated setting’ (Bauwens, Hourcade, and Friend 1989)
‘When two or more professionals jointly deliver substantive instruction to a diverse, or blended group of students in a single physical space’ (Cook and Friend 1995)
‘Co-teaching can be defined as one general educator and one special educator who share physical space, actively instruct a blended group of students, including those with disabilities’ (Friend and Cook 1996)
‘Co-teaching is an instructional delivery model used to teach students with disabilities and those at risk of educational failure in the least restrictive, most productive, integrated classroom settings, where both general and special educators share responsibility for planning, delivering and evaluating instruction for all students’ (Arguelles, Hughes, and Schumm 2000)
‘A collaboration between general and special education teachers who are responsible for educating all students assigned to a classroom’ (Gately and Gately 2001)
‘An instructional delivery approach in which general and special educators share responsibility for planning, delivery, and evaluation of instructional techniques for a group of students’ (Sileo 2003)
‘The sharing of instruction by a general education teacher and a special education teacher or another specialist in a general education class that includes students with disabilities’ (Friend et al. 2003)
‘A co-teaching team is a general and a special educator who teach the general education curriculum to all students and who implement Individual Education Plans (IEPs) for students with disabilities’ (Villa, Thousand, and Nevin 2004)
‘Two teachers (teacher candidate and cooperating teacher) working together with groups of students; sharing the planning, organization, delivery, and assessment of instruction, as well as the physical space’ (Bacharach, Heck, and Dank 2004)
‘Two or more professionals delivering substantive instruction to a diverse or blended group of students in a single physical space’ (Murawski and Swanson 2001)
‘General and special educating teachers work collaboratively within the general education setting to teach students with disabilities and those at risk for academic difficulty’ (Murawski and Lochner 2011; Sileo 2011)
‘Co-teaching is a service delivery mechanism. Two or more professionals with equivalent licensure and employment status are the participants in co-teaching. Co-teachers share instructional responsibility and accountability for a single group of students for whom they both have ownership. Co-teaching occurs primarily in a shared classroom or workspace. Co-teachers’ specific level of participation may vary based on their skills and the instructional needs of the student group’ (Friend 2015)
‘Co-teaching is a model that emphasizes collaboration and communication among all members of a team to meet the needs of all students’ (Dieker 2015)

The definitions share five similarities. First, students are generally taught by two or more teachers in a co-teaching team. Second, teachers are affiliated to the teaching of students with and without disabilities. Third, these teaching teams mostly consist of a special and a general teacher. Fourth, co-teaching is generally described as a form of collaboration. Fifth, co-teaching commonly takes place in a classroom within a general education setting.

Three differences in the definitions can be found. The first difference is found in the description of the composition of the student group: in some definitions, students with special educational needs are addressed as persons with disabilities (Arguelles, Hughes, and Schumm 2000), while in other definitions, as students at risk due to academic difficulty (Arguelles, Hughes, and Schumm 2000; Murawski and Lochner 2011). In some definitions, reference is made to a heterogeneous group of students in an integrated setting (Bauwens, Hourcade, and Friend 1989), a diverse or blended group (Cook and Friend 1995) or a general education class that includes students with disabilities (Friend et al. 2003). Two definitions refer to all students in the group (Dieker 2015), including students with Individual Education Plans (Thousand, Villa, and Nevin 2007). Friend (2015) finally addresses students as persons with educational needs. The second difference is that collaboration sometimes is described as sharing responsibilities (Friend 2015; Gately and Gately 2001; Sileo 2003) or sharing physical space (Friend and Cook 1996), but at other times as a way of sharing instruction delivery or sharing an instruction technique (Friend 2015; Murawski and Swanson 2001; Sileo 2003). The third difference refers to co-teaching as a model. Bauwens, Hourcade, and Friend (1989) regard co-teaching as an educational approach. Arguelles, Hughes, and Schumm (2000), Friend and Cook (1996), Friend (2015), Murawski and Swanson (2001), Sileo (2003), Thousand, Villa, and Nevin (2007) define co-teaching as an instructional delivery model, while other definitions regard co-teaching in the first place as a collaborative model (Dieker 2015; Murawski and Spencer 2011). A closer exploration of the definitions reveals three observations. Co-teaching can be regarded as a means of practice that focuses on the rights of children for inclusion. The Salamanca Statement declares that each child has unique qualities, interests, possibilities and educational needs, and that regular schools should work in an open community in which prejudices are countered (Salamanca Statement 1994).

In most definitions, however, students are not described as persons with educational needs as members of a heterogeneous group. Talents, strengths and virtues for learning of all students (Seligman 2002), including highly gifted students as well as students with special educational needs, are not mentioned in the definitions or described in their explanation. Furthermore, the definitions, with the exception of that of Friend (2015), do not mention the collaboration between two equally qualified regular or special teachers or other professional collaboration partners such as therapists, peripatetic teachers, teaching assistants or trainee teachers. The third observation is that the definitions do not include the importance of a shared vision on the part of the co-teachers by team-reflection. Co-teaching takes place in diverse and dynamic environments that require clear points of view from co-teachers to diversity of learners they are responsible to, but also knowledge about how they can sustain as a co-teaching team in such a dynamic field. Definitions, however, do not mention the value of a shared vision to acting in a diverse and dynamic field of education as a team. This last observation will be explained in more detail from a theoretical point of view in the following paragraph.

Reflecting co-teachers

The central question is what co-teachers need to improve their teaching and their students' learning, but also how to sustain in a dynamic field of diverse education. We do know reflections influence co-teachers' acting in a positive way (Conderman, Johnston-Rodriguez, and Hartman 2009; Petrick 2014; Sileo 2011). Biesta (2012) even argues that it is essential for a teacher to feel competent in order to determine what is desirable in concrete educational pedagogical situations. Therefore, co-teachers should focus on challenges in their professionalism in order to be able to achieve mutual desired and constructed educational pedagogical goals. Research indicates that sense-making through the use of teachers' reflections is essential when teachers want to understand or change their relationships or practice (Coburn 2001, 2006), but also that collaborative sense-making, more than individual teachers' thinking (Clark and Peterson 1986; Richardson and Placier 2001), helps to explicate underlying thoughts and assumptions (Coburn 2006; Seashore Louis et al. 2009). The word 'team-reflection' refers to a team of co-teachers who reflect upon themselves and their performance, and who organise supportive networks that can help them to sustain in their job. This works best when they can do this in a non-hierarchical, non-judgemental, private and personal environment (Bottery et al. 2009). Team-reflection provides private developmental space. Therefore, co-teachers do not only need to know how to reflect and communicate about their beliefs and values (Kohler-Evans 2006), but also be able to address challenges for their professional development. Especially when starting a co-teaching team, it is important to reflect frequently in team-reflections in order to understand underlying motives for pedagogical choices, to prevent misunderstanding, and to become confident on each other's reliability (Conderman, Johnston-Rodriguez, and Hartman 2009; Murawski and Swanson 2001; Pratt 2014; Pugach and Winn 2011; Sileo 2011). Through this reflective practice in terms of team-reflection, teachers become normative reflective practitioners (Bolhuis 2004). Bakker and Wassink (2015) argue that normative professionalisation can be regarded as the dialogical professional development of the teacher, in which the teacher becomes aware of existential aspects of his/her work. That means that he/she recognises the uniqueness of the appeal that is done on him/her by the other (e.g. a student, a fellow co-teacher or a parent). In this situation, co-teaching teams cannot be seen as apart and static, but their development should be seen as part of a dynamic (class or school) community (Roth, Robin, and Zimmerman 2002) in which the co-teacher tries, with recognition of the uniqueness of self and of the other for whom he/she is responsible, to act in a good way. To stimulate such a view on professionalism of co-teachers, Bakker and Wassink (2015) mention five movements that can be distinguished to support teachers to take position about what they consider as good education (e.g. good teaching and good learning). These movements are explained in Table 2.

Team-reflection and challenges

Considering the importance of the third observation in which the reflections of co-teachers are needed to develop a shared vision in response to the challenges co-teaching teams have to face, two key questions come to mind:

Table 2. Five movements to move toward normative professionalism.

Five movements

1. From 'dolor complexitatis' to 'amor complexitatis'. This movement starts with the emotional pain (dolor) we feel when we realise we cannot control complex situations and experience that existing systems fail. It is the acceptance that we are used to seeing problems as issues that should be solved as soon as possible, and in which we avoid a search for deeper meaning (Kahneman 2012; Kunneman 2013). The search for this deeper meaning may lead to an understanding of the complexity of problems in which the individual possibilities of the student are leading, and labels or assumptions may not be used as an excuse for not trying to find how to meet these individual needs. When we are able to embrace complexity as a challenge for growth, we experience 'amor complexitatis'
2. From being accountable to taking responsibility. This movement not only refers to the accountability of teachers for the results of students by tests, but also to their responsibility to develop a normative conception on the individual development of their students as a person
3. From a narrow vision to a broad, layered vision on teacher competences/the teaching job. Being a teacher can be defined in terms of various lists of competences (narrow vision), but although teachers may seem to possess more or less the same competences, they can act differently. What does it mean to be a good (co-) teacher in a dynamic educational field? What skills, attitudes and talents can (co-) teachers use for good teaching and learning?
4. From yields to values, from results to development. Teachers should be encouraged to discuss how they value the yields of their students from the perspective of future prospects. Students should not be seen as objects that should leave the educational system with a certificate as soon as possible, but as responsible persons with possibilities, who use their creativity and who have learned to react proactively on issues
5. From a result-driven school to a value-driven school community. When teams, supported by their administrators, discuss the way they legitimate their professional acting thoroughly, this will lead to a view on humanity. By this view, teams have consensus on what they accept as morally right or what should be accepted as important values. This consensus is necessary for teachers to feel competent in order to determine what is desirable in educational pedagogical situations in daily practice

- (1) Is reflection or team-reflection used as a method for collecting data on co-teaching teams' professional development in research articles? Which methods/tools are used for reflection or team-reflection in research articles and what do they describe?
- (2) Which challenges for the co-teaching teams' professional development can be abstracted from the research articles, and how can these challenges be addressed?

First we will describe how we conducted the article review and secondly what results were found. A deductive analysis (De Lange, Schuman, and Montessori 2010) by literature research was conducted. The Boolean database, in which Science Direct, CINAHL, ERIC, Business Source Elite, Communication and Mass Media Complete, was searched and limited to cover the period 2004–2015. We have taken this period because since 2004 co-teaching research has become more widely implemented, as a result of the No Child Left Behind Act (2001). A search using the descriptors 'co-teaching' or 'team teaching' showed 8708 articles, of which 4741 had been peer reviewed and were published in academic journals. Then the search was narrowed down using the descriptors 'assessment tools', 'assessment', 'reflection', 'co-review', 'co-review teaching', 'co-teaching appraisal' and 'co-teaching observation'. This resulted in 273 articles, which had been peer reviewed. It is notable that 89% of these research articles were conducted in the United States, 11% of the articles in Great Britain, other European countries, Australia and China. A hand search was done on the 273 articles that identified the descriptor 'professional development' in the title or abstract, as well as those which indicated activities (training programmes to develop skills, attitude) to these descriptors, and these were analysed. Finally, this resulted in 17 articles, in which a total of 191 studies have been processed (Appendix 1: list of numbered articles).

Search procedure

The purpose of the thematic coding search procedure (Montesano Montessori 2009) was to identify research articles that described the development of co-teaching teams by team-reflection, and tools that were used for the team-reflection of co-teaching teams. The internal validity of this research was ensured by choosing focused search descriptors and a systematic analysis of the results found in the articles (Peet and Everaert 2006). To increase the reliability, this literature research was reviewed by two colleague researchers separately who used the Audit Trail Procedure (Akkerman et al. 2006) as a review method for qualitative research.

The analysis consisted of two phases. In the first phase, the articles were screened whether a tool for team-reflection was used, and whether this tool was used to collect data. In the second phase, each study was coded by author and date of publication, including a description of the type of research, and challenges for development were identified. It remained difficult to synthesise research studies because they were set in different national and/or systemic educational contexts (USA, Europe, China) with own cultural aspects.

Results of the analysis

Phase one

The results of the analysis in phase one indicated that 16 of the 17 articles did not retrieve direct data from team-reflection, but from research methods including literature reviews, individual interviews, surveys and observations (see Appendix 2). Most of the results were described as observable behaviour in terms of experiences, skills and attitudes. This analysis indicates that researchers in these studies mainly use observable data that mostly were interpreted by researchers themselves. The studies did not include data of reflections of co-teachers in which they discuss their values about what they consider as good education. Three articles (Graziano and Navarrete 2012; Pratt 2014; Scruggs, Mastropieri, and McDuffie 2007) contained data that were retrieved from team-reflection of co-teaching teams using group interviews, interpersonal behaviour questionnaires, classroom observations, individual interviews and literature reviews and contained mainly data that described experiences, skills and attitude (Table 3). We argue whether the conceptualisation of co-teaching as an instrumental means is influenced by the way researchers collect data and present their results. When researchers primarily ask and look for observable data as experiences, skills and attitudes, and pay less or no attention to the 'why' of co-teaching in which underlying values and motives are explained, co-teaching is regarded more as an instrumental means to reach a certain goal instead of considering co-teachers as subjects with own responsibilities and values, having a broad layered vision on professionalisation, who work in a value-driven school community (see Table 2, movements 2, 3, 4 and 5).

Two articles (Conderman and Hedin 2012; Murawski and Dieker 2004) propose tools for team-reflection, but no data were found on the effectiveness of these review tools. The first tool, designed by Conderman and Hedin (2012), is called a 'Checklist for Purposeful Co-Assessment'. The authors state the Co-Assessment tool should result in more accurate and informative data than one teacher can collect alone as a member of the co-teaching team. The Co-Assessment tool is a checklist containing 15 items that can be used to plan purposeful co-assessment, in which attention is paid to the start of the collaboration of co-teaching teams and to the assessment of the way lessons have been prepared, and instruction

Table 3. Challenges for co-teaching teams, individual co-teachers, administrators.

	Article numbers
<i>Challenges for co-teaching teams</i>	
Normative professional development related to virtues/strengths:	1, 3, 4, 6, 8, 10, 13, 15, 17 (N = 9)
<ul style="list-style-type: none"> • Be compatible with your co-teacher • Display a high level of effort, flexibility and compromise • Develop interpersonal skills such as willingness and collaborative ability • Seek for what engages you as a co-teaching team; use individual expertise • Have fun, enjoy working together 	
Normative professional development related to content: thoughts about good education	1, 2, 5, 6, 7, 8, 10, 12, 13, 14, 17 (N = 11)
<ul style="list-style-type: none"> • Reflect and discuss beliefs about learning and teaching • Create time for deep professional learning and knowledge construction • Discuss inclusive pedagogy • Create in-depth knowledge of the curriculum and how it should be taught • Become more dynamic and innovative 	
Normative discussions related to practice of the co-teaching team:	4, 6, 9, 10, 12, 14, 15, 17 (N = 8)
<ul style="list-style-type: none"> • Discuss roles, relationships and (professional) responsibilities • Avoid inequality between co-teachers; discuss equality • Take care of flexible role changes and extend each other's comments on instruction. This leads to diverse and differentiated instruction 	
Contributing strategies to professional development:	2, 6, 8, 9, 10, 16, 17 (N = 7)
<ul style="list-style-type: none"> • Train skills such as: active listening, empathy, assertiveness, questioning, negotiating • Use strategies to overcome difficulties and conflicts: (a) being open minded, (b) using open communication, (c) finding common ground: the same goals in mind, (d) using humour, (e) being selfless, and (f) asking for help • Use proactive strategies to minimise conflict: 1. Discuss instructional-related issues before beginning the collaboration; 2. Ask your co-teacher how she or he wants to address conflict; 3. Put plans in writing; 4. Address issues early; 5. Use effective communication skills; 6. Do not expect perfection • Be aware of the influence of your beliefs on students' learning. Be aware that teachers' beliefs are likely to influence teachers' motivation and thus the quality of their practice in terms of collaboration models 	
Global normative perspective on educational professionalism:	3, 4, 12, 13, 14 (N = 5)
<ul style="list-style-type: none"> • Create tolerance for diverse perspectives and worldviews regarding diversity • Preserve the educational and civil rights of students and address moral and ethical dilemmas • Be aware of own conscious or unconscious prejudices towards students with physical and sensory impairments, and those with learning and behavioural disabilities 	
Effective co-teaching strategies:	1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 17 (N = 12)
<ul style="list-style-type: none"> • Focus directly on student learning goals • Train effectively for the implementation of inclusion and co-teaching models. Create common planning time • Facilitate peer-to-peer discussion and instruction, and create positive peer models • Work in heterogeneous groups for better cooperation and social benefits • Know what each student has learned and has to learn: measure student progress over time • Organise co-planning, co-instructing and co-assessment • Organise time for team-reflection to use the SHARE worksheet • Organise time to listen, to ask and to observe co-teaching • Organise different kind of assessments to work on interpersonal and instrumental challenges • Develop understanding of typical learning and behaviour patterns • Provide more appropriate and specially designed and planned instruction • Practice parity • Be able to manage a large group of students through various activities 	

(Continued)

Table 3. (Continued).

	Article numbers
<i>Challenges for individual co-teachers</i>	
Challenges for starting co-teachers: <ul style="list-style-type: none"> • Use individual strengths to overcome challenges • Feelings of hesitation in anticipating beginning a new co-teaching relationship are usual • Choose to begin co-teaching voluntarily • Invest in getting to know each other; work at a professional relationship 	1, 2, 5, 6 (N = 4)
<i>Challenges for administrators</i>	
Challenges with regard to implementation of co-teaching: <ul style="list-style-type: none"> • Feel responsible for implementing the co-teaching process. Be aware: implementing co-teaching is a long-term change, sometimes a cultural change • Select teams carefully: seek volunteers for new co-teaching programmes; offer potential co-teachers choices • Make staff (co-teaching teams) development meaningful; offer appropriate training 	1, 4, 5, 6, 8, 11, 12, 13, 14 (N = 9)
Challenge with regard to normative professionalism worldwide: <ul style="list-style-type: none"> • Create tolerance for diverse perspectives and worldviews regarding problems and issues 	11, 12 (N = 2)
Challenges with regard to normative professionalism in the school community: <ul style="list-style-type: none"> • Create an adequate level of trust and autonomy on the part of co-teachers • Create a school community with common commitments and values. Use school characteristics that are helpful for all students 	3, 7, 12 (N = 3)

has been delivered and evaluated. The second tool, the 'SHARE Worksheet', is designed by Murawski and Dieker (2004), and can be used by co-teachers for reflections on a regular basis. The letters of the word 'share' refer to sharing hopes, attitudes, responsibilities and expectations. The intention of the SHARE Worksheet is to discuss responses of co-teachers and to decide whether to agree, to compromise or agree to disagree. The authors state that by using this worksheet, co-teachers can demonstrate to their administrators that they have jointly determined their discipline, homework and class work policies. Comparison of these two tools showed that both tools focus on observable behaviour, but differ in focus: effective collaboration between co-teachers (Murawski and Dieker 2004) and learning results of students (Condermann and Hedin 2012).

Phase two

By thematic coding, it became clear that the challenges co-teachers are facing were related to co-teaching teams, individual co-teachers and their administrators. Most challenges referred to co-teaching teams, followed by challenges to administrators and individual co-teachers. Further analysis showed that these challenges could be divided in terms of two leading codes that describe inner processes and observable processes: interpersonal challenges (for example: be compatible with your co-teacher) and instrumental challenges (for example: organisation of co-planning, co-instructing and co-assessment). Interpersonal challenges were mentioned three times more than instrumental challenges. In summary, it can be stated that most challenges were addressed to co-teaching teams in which interpersonal aspects of co-teaching teams as well as co-teachers can be seen as most important.

Table 4. Relation between the movements to normative professionalism and the challenges identified in the literature review.

Five movements to normative professionalism of co-teachers	Normative codes from the literature review
From dolor complexitatis to amor complexitatis	<ul style="list-style-type: none"> • Normative professional development related to content: thoughts about good education • 'Global normative perspective on educational professionalism'
From being accountable to taking responsibility	<ul style="list-style-type: none"> • 'Challenges to normative professionalism in the school community' • 'Normative professional development related to content: thoughts about good education' • 'Normative discussions related to practice of the co-teaching team'
From a narrow vision to a broad, layered vision with regard to solutions	<ul style="list-style-type: none"> • 'Discussions related to practice of the co-teaching team' • 'Contributing strategies to normative professional development'
From yields to values, from results to development	<ul style="list-style-type: none"> • 'Normative development relating to the content: thoughts about good education.' • 'Effective Co-Teaching strategies'
From a result-driven school to a value-driven school or society	<ul style="list-style-type: none"> • 'Global normative perspective on educational professionalism' • 'Challenges to normative professionalism in the school community'

Table 3 offers an overview of the challenges mentioned in the articles and the most common codes. The thematic coding procedure (Montesano Montessori 2009) resulted in codes that described the content of the challenges.

For co-teaching teams, six leading codes could be distinguished, in which aspects were found about what is needed for being a good co-teacher or ensuring good education is described in the codes: (1) development relating to virtues/strengths; (2) development relating to the content: thoughts about good education; (3) discussions related to the practices of the co-teaching team; (4) contributing strategies to normative development; (5) global normative perspective on educational professionalism, and (6) effective co-teaching strategies. Further analysis showed that the most frequently mentioned challenges facing co-teaching teams were related to the codes 'development relating to virtues and strengths' and 'development relating to the content: thoughts about good education'.

For individual co-teachers, only one code was described: challenges for starting co-teachers, concerning their personal development related to the collaboration.

For administrators, three codes were found concerning: (1) matters of implementation, (2) normative professionalism worldwide and (3) normative professionalism in the school community. The leading code 'challenges for implementation' was mentioned as being the most important. The analysis points out that administrators feel challenged to facilitate the co-teaching process at different levels in and outside the school, and to develop normative and substantive knowledge about co-teaching.

Conclusion and discussion

The purpose of this research study was to find out whether co-teaching teams use team-reflection and which challenges co-teachers are facing. In the articles, we found almost no data were collected by team-reflection. Most of the data were interpreted and described as

observable experiences, skills and attitudes (Appendix 2). This confirms the co-teaching survey of Hang and Rabren (2009), in which the same focus on skills and observable behaviour towards experiences and attitude was found in the research considered. In two studies, a tool (the SHARE Worksheet and the Checklist for Purposeful Co-Assessment) was developed/mentioned that can be used for team-reflection in co-teaching teams.

Looking for the challenges co-teachers are facing, it appeared that most challenges were addressed by co-teaching teams. Most of these challenges referred to personal issues and few to issues that were related to skills or instrumental needs. These results indicate that more attention should be paid to personal issues of co-teaching teams, and that a tool for team-reflection should be developed that is more aligned to explore and discuss challenges co-teachers indicate.

Co-teaching redefined

The literature research with regard to co-teaching definitions shows that little attention has been paid to the importance of a shared vision. A shared vision can be achieved by active learning, reflective thinking and collective participation (Darling, cited by Rytivaara and Kerstner 2012; Fluijt 2014) in which experiences from daily practice serve as most important source and reference for a dialogue. In this process, co-teachers should not only be focusing on finding the best solutions, but also work at collaborative sense-making. In parallel studies, we cited on five earlier distinguished movements that are in line with most of the challenges that were distilled from the article reviews. In Table 4, the relation between the movements and the challenges are made visible. When team-reflection may be the key to awareness of challenges and problems to co-teachers' professional development, the five movements may function as a bridge toward a new perspective on professionalism in which co-teachers take position about what they consider as good teaching and good learning.

Taking into account these movements, and the way challenges identified from the literature review correspond, co-teaching can principally not be seen as a technical instruction-delivering model, but as a value-driven education model by which members of co-teaching teams act as responsible actors to ensure development of their students in three educational domains: qualification, socialisation and subjectification (Biesta 2014). Biesta (2014) argues that the domain of qualification refers to acquiring knowledge, skills, values and attitudes. The second domain of socialisation addresses the way education can contribute in becoming aware of existing educational practices and (national) traditions, including ways of doing and being. Finally, the third domain of subjectification describes the value of the subject or the subjectivity of the one that is being taught (or teaches) in its specific environment.

This leads to three important conditions for success. First, co-teaching teams should develop a shared vision with regard to what they consider as good teaching and learning, and the way they take shared responsibility for practice in the classroom. Second, based on their vision, inclusion should not only be addressed to persons with special educational needs, but to all students in the classroom, in which each student is seen as a person with his/her own individual possibilities for development and future prospects. The third consequence is that students and co-teachers should be able to work together over an extended period in which they can build a trusting and caring relationship and can show their responsibility for the movement 'from yields to values' that also includes the organising of student, parent voice or dissenting voice, and the movement 'from results to development'. The definitions

in which co-teaching mostly is proposed as an instrumental means, do not match with the findings in the articles in which co-teachers do not consider co-teaching as an instrumental means, but indicate most challenges they have to face are interpersonal. When co-teaching is not considered as an instrumental means, sense-making is needed about the challenges of good learning and good teaching in a dynamic field. Therefore, reflection in a team can be considered as the missing link to that sense-making. The five movements, in which many challenges found in the literature review can be recognised, offer a framework that encourages discussion of points of view considering good teaching and good learning. In this light, former co-teaching definitions do not suffice to express normative-driven education by vision. Therefore, a contemporary definition of co-teaching is suggested. We prefer co-teaching to be defined as:

Multiple professionals working together in a co-teaching team, on the basis of a shared vision, in a structured manner, during a longer period in which they are equally responsible to good teaching and good learning to all students in their classroom.

Team-reflection: the missing link

Through team-reflection, co-teaching teams learn not only to accept the complexity in their work as a fact to be dealt with, but they also develop an attitude in which they welcome this complexity as a challenge for professional growth. Based on their vision, co-teaching teams can formulate their own challenges for development in favour of their learners and professionalism as a co-teaching team. These goals contribute to the ownership of co-teaching teams in which these teams are not only accountable for results, but also take shared responsibility for students that are trusted to their care. Team-reflection that supports the exploration of underlying moral and ethical dilemmas can be the missing link to the development of personal components, and may contribute to enhance normative professionalism in co-teaching teams. Tools aimed at supporting team-reflection should meet the leading codes identified in the articles. Whether or not the tools, SHARE Worksheet and the Checklist for Purposeful Co-Assessment, are able to address these challenges can be questioned. Friend and Cook (2010) stated ‘... data are important, but at the same time, the educational and civil rights of students must be preserved and posed moral and ethical dilemmas must be addressed’. The authors of this article recognise the importance of collecting data but, based on the results of the article research, recommend that further research should be conducted to value of team-reflection with regard to challenges of co-teaching teams.

Disclosure statement

No potential conflict of interest was reported by the authors.

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- (2) Pratt, S. (2014). Achieving symbiosis: working through challenges found in co-teaching to achieve effective co-teaching relationships. *Teacher and Teacher Education*, 41, 1–12.
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Appendix 2. Data retrieved from team-reflection in 17 articles

Articles including data from team-reflection of co-teaching teams

	References	Experiences	Skills	Attitude	Team-reflection
1	Pugach, M., and A. Winn. (2011)	x	x	x	Absent
2	Pratt, S. (2014)	x	x		Yes
3	Dufour, R. (2009)	x			Absent
4	Friend, M. (2008)	x			Absent
5	Scruggs, T.A., M.A. Mastropieri, and K.A. McDuffie. (2007)	x	x	x	Yes
6	Rytivaara, A., and R. Kershner. (2012)	x			Absent
7	Takala, M., and M. Uusitalo-Malmivaara. (2012)	x	x	x	Absent
8	Solis M., S. Vaughn, E. Swanson, and L. MCCulley. (2012)	x	x	x	Absent
9	Conderman, G. (2011)	x	x		Absent
10	Conderman, G., and L. Hedin. (2012)	x	x	x	Absent
11	Duke, S. (2004)	x	x	x	Absent
12	Kohler-Evans, P. A. (2006)		x	x	Absent
13	Friend, M., L. Cook, D. Hurley-Chamberlain, and C. Shamberger. (2010)	x	x	x	Absent
14	Conderman, G., S. Johnston-Rodriguez, and P. Hartman. (2009)	x	x	x	Absent
15	Graziano, K., and L. Navarrete. (2012)	x	x	x	Yes
16	Petrick, P. (2014)	x	x	x	Absent
17	Murawski, W., and W. Lochner. (2011)	x	x	x	Absent