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## **General and special education teachers' perceptions of teamwork in inclusive classrooms at elementary and secondary schools**

### **Abstract**

*In inclusive classrooms teamwork and collaboration between general teachers and special education teachers are among the most important factors for student achievement. Yet, to date, little evidence exists on how teacher collaboration is implemented and whether general and special education teachers value their collaboration equally. The current study analyzes teacher collaboration in inclusive classrooms at elementary and secondary school levels. Participants were 191 general teachers and 130 special education teachers. The results suggest that all teachers were satisfied with their teamwork; differences between general and special education teachers were non-significant. Elementary school teachers had more positive perceptions than secondary school teachers. These findings are discussed in terms of their theoretical significance and their practical relevance for teacher education in inclusive classrooms.*

### **Keywords**

*Teamwork; Inclusion; Special needs education; Education system; Individual educational planning*

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## **Wahrgenommene Zusammenarbeit von KlassenlehrerInnen und SonderpädagogInnen in inklusiven Klassen in Grund- und Mittelschulen**

### **Zusammenfassung**

*In inklusiven Klassen ist die Zusammenarbeit und Kollaboration von KlassenlehrerInnen und SonderpädagogInnen einer der wichtigsten Faktoren für den Lernerfolg aller SchülerInnen. Bisher gibt es jedoch kaum Studien, welche die Zusammenarbeit von verschiedenen LehrerInnen in inklusiven Klassen untersuchen. Im Rahmen der vorliegenden Studie wurden 191 KlassenlehrerInnen und 130 SonderpädagogInnen in inklusiven Klassen zu ihrer Wahrnehmung der Zusammenarbeit in Grund- und Mittelschule befragt. Die LehrerInnen schätzten insgesamt die Zusammenarbeit als zufriedenstellend ein und es fanden sich keine signifikanten Unterschiede zwischen KlassenlehrerInnen und SonderpädagogInnen in der Einschätzung ihrer Zusammenarbeit. Jedoch hatten Lehrkräfte in der Grundschule insgesamt eine signifikant positivere Wahrnehmung der Zusammenarbeit im Team als LehrerInnen der Mittelschulen. Diese Ergebnisse werden in Bezug auf die Theorien zum inklusiven Unterricht und der praktischen Bedeutsamkeit für die LehrerInnenausbildung für inklusive Klassen diskutiert.*

### **Schlagworte**

*Zusammenarbeit; Inklusion; Sonderpädagogik; Schulsystem; Förderplanung*

## **1. Introduction**

Inclusive classrooms integrate pupils with and without special educational needs. Teaching in inclusive classrooms can offer challenges for teachers (Moen, 2008; Vehkakoski, 2008). One way to deal with those challenges for individual teachers is collaboration between general teachers and special education teachers (Kloo & Zigmond, 2008; Pihlaja & Holst, 2013). Although teacher collaboration can be useful for improving special education, collaboration does not work per se (Gegenfurtner, Veermans, & Vauras, 2013). Rather, its success is contingent on a number of determinants. A significant determinant is the perception of teacher collaboration, that is, how well general teachers and special education teachers think their collaboration works. In the present study, we present the case of Austria in order to examine how teachers perceive their collaboration practices in inclusive classrooms in elementary and secondary school levels.

## 1.1 The case of Austria

Historically, the Austrian special education school system was developed similarly to other European systems, such as Germany (Werning, Löser, & Urban, 2008). However, during the last two centuries the school system in Austria was explicitly shaped into the direction of inclusive education of pupils with special educational needs (SEN). Today, 51.2 % of all children with SEN are educated in inclusive settings in regular schools. Austria's integration rate is, thus, comparable to the rates of England (50.3 %), Finland (53 %) and Poland (53.2 %) (European Agency for Development in Special Needs Education, 2010). However, it is important to note that the integration rate differs considerably between Austria's nine federal states. This is due to the organizational freedom of parents and school authorities provided by educational legislation and the results of educational policies in the individual federal states (Feyerer & Prammer, 2003). In Styria, for example, the integration rate is about 80 %, whereas in lower Austria it lies only around 20 % (Statistik Austria, 2011). The Austrian system differentiates primarily between pupils with and without SEN. In contrast to Germany, the distinction between different types of SEN is only made on the basis of different curricula for the concerned pupils (Bucher & Gebhardt, 2011; Klicpera, 2005).

The number of pupils with SEN has a significant impact on the available resources for a regular class and also for the concerned school in Austria. In regular classes with three to five pupils with SEN an additional special education teacher is employed full-time. If there are less than three pupils with SEN in a regular class an additional support teacher is employed on an hourly basis. The average working time of the support teacher depends on the type of disability of the students for whom the teacher takes care. In case of learning disability and behavioral difficulties the support teacher can spend four hours per week in class per pupil with SEN. In case of physical disability the teacher spends six hours (as long as the physical disability goes along with an impairment of educability), for children with sensory disability eight hours and for children with cognitive disability 10 hours per week.

The aim of the school system is to establish an inclusive setting with five students with SEN per class. In this desired setting, all pupils are educated by a general teacher and a special education teacher 23–25 hours per week by using team teaching (Specht, Pirchenegger, Seel, Stanzel-Tischler, & Wohlhart, 2007). Finally, the class size of inclusive classes differs in the federal states of Austria. In Carinthia, for example, the maximum class size is 19 pupils in elementary and 21 pupils in secondary school. In contrast, in Styria the recommended number of pupils per class lies at 24 in elementary and 25 in secondary school (Buchner & Gebhardt, 2011; Landesschulrat für Steiermark, 1998).

## 1.2 Teaching in inclusive classrooms

In general, the attitudes of Austrian teachers towards the inclusion of students with disabilities were positive; and, moreover, improved over time (Gebhardt et al., 2011; Schwab et al., 2012). These findings were similar to the results of international studies, which pointed out that the attitude toward inclusion is determined by the type of disability and the teacher experiences in inclusive settings (Avramidis & Norwich, 2002; de Boer, Pijl, & Minnaert, 2011). Along these lines, it is certainly not wrong to say that general educators with less experience of inclusive settings were afraid to be overburdened.

Soodak, Podell, and Lehman (1998) found that teachers' perception of teaching efficacy is a strong predictor of their attitudes towards inclusion. Furthermore, the teachers' perception of teaching efficacy correlated in a negative way ( $r = -.22$ ) with the anxiety of teaching students with SEN. But as before, the type of disability plays an important role. The general teachers were more refusing towards the integration of students with intellectual disabilities and behavioral disorders than of students with physical disabilities. However, they were only anxious about the inclusion of students with intellectual disabilities and students with physical disabilities.

Nevertheless, the refusing attitude and the anxiety of general teachers are comprehensible, since the teacher role model changed in the last decades. In the understanding of the traditional teacher role, the special education teacher only cares about the students with SEN and the general teacher educates the children without SEN. The traditional teacher model is especially common in secondary schooling tracks, because these schools have the task to qualify the students for the job market. In contrast, inclusive teachers should value learner diversity, support all students and foster collaboration and teamwork in class (European Agency for Development in Special Needs Education, 2012). This new culture of education in compulsory schooling encourages team-teaching and collaboration, and it fosters a supportive climate by the school administration. All these factors are important for the success of an inclusive schooling system and new challenges for teachers (Moen, 2008; Soodak et al., 1998). Additional barriers to successfully implement inclusive practices can occur by the decentralized position of special education teachers within their school networks and communities (Tuomainen, Palonen, & Hakkarainen, 2012), which seems surprising given their high reflective potential (Pihlaja & Holst, 2013).

A questionnaire based on the "Index for Inclusion", by Moliner, Sales, Ferrandez, and Traver (2011), examined Spanish teachers in inclusive classrooms in secondary education. Significant differences between the rating of general teachers and special education teachers were found in the dimension "Developing Inclusive Practices". In contrast, both teacher groups rated similarly positive in the dimensions "Creating Inclusive Culture" and "Organization in the Teaching-Learning Context". This result showed that the main issue is in the inclusive practice, in which significant differences emerged between teachers who teach in spe-

cific contexts and those who teach in ordinary contexts. Moliner et al. (2011) concluded that the special education teachers are more sensitive to diversity and more aware of inclusive pedagogic strategies.

Nevertheless, it is important to note that the “Index for Inclusion” is constructed as a school development instrument and not as a psychometric questionnaire. Therefore, Moliner et al. (2011) only analyzed the items and calculated t-tests. Another instrument was developed by Sharma, Loreman, and Forlin (2012). They constructed the “Teacher Efficacy for Inclusive Practices”-scale (TEIP). The scale contains the factors “Efficacy to use Inclusive Instructions”, “Efficacy in Collaboration” and “Efficacy in Managing Behavior”, which were empirically evaluated in a sample of pre-service teachers in Australia, Canada, India and Hong Kong. The scale is based on the belief that teaching students with different abilities in regular classrooms requires specific strategies. The instrument measured a self-assessment of efficacy. Therefore, one problem of this measurement is the social desirability bias. The teachers in Austria know that inclusion is a main purpose of the school system. If they rate it in a highly negative way, they are often afraid that it may have negative consequences. The second problem of self-ratings/self-measurements is that it only represents the perception of the concerned person. We do not know anything about interaction and collaboration in the teams. This is also the main problem in the Austrian inclusive school system (Specht et al., 2007). Professionals have to work together in teams and teach in teams, but no teacher was educated for team-teaching so far. Austrian research pointed to the fact that teachers rated themselves quite high in collaboration and teaching (Gebhardt et al., 2013; Specht, Pirchenegger, Seel, Stanzel-Tischler, & Wohlhart, 2006), but it is hard to imagine that collaboration and teamwork are well established.

### 1.3 Teacher teamwork in inclusive classrooms

In the English literature a two teacher system is called co-teaching (Kloo & Zigmund, 2008). This method includes a general teacher and a special education teacher: Both teachers plan, teach and take responsibility of the class together. Lessons with a teaching assistant, which are performed by paraprofessional assistants and can have negative effects, should be defined differently from co-teaching (Webster et al., 2010). According to Cook and Friend (1995) the term team-teaching can only be used if two teachers work as a perfect team in class. Generally, in the literature, a differentiation between the terms team-teaching and co-teaching is not always clearly used; rather these terms are used mostly synonymously (as well as in this study). Altogether the relationship between general teachers and special education teachers implies the interactive role as consultants, which goes far beyond the scope of mere school lessons (Kilanowski-Press, Foote, & Rinaldo, 2010). Besides that, it has to be ascertained that the number of empirical studies on co-teaching is low even in the English literature (Volonino & Zigmund, 2007). Actually, there is one quantitative meta-analysis by Murawski and Swanson (2001).

Nevertheless, the authors could use only 6 out of 31 studies, which were published between 1989 and 1999. This was caused by different methodical problems. In comparison to classes without co-teaching there was an average moderate effect for co-teaching (overall around  $d = .40$ ), which was highest in reading ( $d = 1.59$ ) and weakest in the social domain ( $d = .08$ ). The social domain was measured by peer-acceptance, quality of friendship, self-concept and social competence. Scruggs, Mastropieri, and McDuffie (2007) compared 32 qualitative studies of co-teaching. The conclusion of this meta-analysis was that special education teachers mostly take a back seat in teaching dyads. Their activity in the framework of the dominant teaching style consisted mainly of assisting (“one teach, one assist”). This also corresponds to the results of Kilanowski-Press et al. (2010), in which they surveyed 71 teachers in inclusive classes in New York. When asked about their most common activity only eight teachers reported co-teaching. A total of 17 teachers indicated to teach a small group of students, 16 teachers answered individualized lesson and 17 teachers replied teaching preparation. But the average time of co-teaching even in the works of the eight teachers was only 52.20 minutes a day. Moreover, Magiera and Zigmond (2004) reported that co-teaching improved neither the student-teacher interaction nor the time students spent on learning, nor the social participation of the students. In general, team teaching does not work by itself if you let two teachers educate in one room and ask them to cooperate. It is a complex task whose success is determined by a variety of influences (Kloo & Zigmond, 2008).

#### **1.4 Research questions**

The aim of the present study was to examine perceptions of teamwork in inclusive teaching settings between special education teachers and general teachers. In inclusive classrooms special education teachers and general teachers collaborate in all aspects of instruction, including their team teaching practices in the classroom and their planning of how to meet the educational needs of individual children (European Agency for Development in Special Needs Education, 2012). Moreover, teamwork between special education teachers and general teachers is influenced by factors at school level (Ruijs & Peetsma, 2009). However, to date, little evidence exists on how teacher collaboration is implemented and whether general and special education teachers value their collaboration equally. Moreover, little is known whether teachers in elementary schools and in secondary schools differ in their appraisal of inclusive teamwork. To help narrow these research gaps, the present study addresses two research questions. The first research question examines if the assessment of teamwork differs between special education teachers and general teachers. Inclusive Teamwork is assessed on three planes for an inclusive school (Heimlich, 2004): (a) teaching practices in classroom, (b) the planning to meet the educational needs of individual pupils, and (c) factors at a school level. The second research question addresses whether the assessment of teamwork differs between elementary and secondary school.

## 2. Method

### 2.1 Participants

Participants in the study were 321 teachers (191 general teachers and 130 special education teachers). The mean age of all participants was 45.88 years ( $SD = 9.39$ ). General teachers ( $M = 48.05$  years;  $SD = 9.09$ ) were older than special education teachers ( $M = 42.32$  years;  $SD = 8.81$ ). A total of 88.40 % of all participants was female; differences in gender between general teachers (84.70 %) and special education teachers (93.80 %) were non-significant, ( $\chi^2 = 6.34$ ,  $df = 1$ ,  $ns.$ ). Participants had 21.90 years of experience in teaching ( $SD = 11.50$ ) and 9.68 years of experience to teach in inclusive classrooms ( $SD = 6.26$ ). The number of inclusive classes they taught was 1.51 ( $SD = 1.01$ ). A total of 134 teachers worked in elementary schools (grades 1–4) and 179 worked in secondary schools (grades 5–8). All teachers worked in inclusive settings. The sample was organized with the help of the 19 special education centers (*Sonderpädagogisches Zentrum* (SPZ)) in all school districts of Styria, which are responsible for the integrative care of students with SEN. The questionnaires were distributed by the directors of the SPZ. A direct contact to the schools was not possible because there are strict rules regarding anonymity in the Austrian school system. Due to this reason, it is unfortunately not possible to estimate the response rate of the participants. Nevertheless, it can be assumed that the sample is representative for Styria/Austria, because of the fact that all school districts were covered, including schools in rural school districts as well as schools in more urban school districts. Moreover, this circumstance is also reflected in the above mentioned statistics for gender differences and mean age which are comparable to the gender differences and mean age for all elementary and secondary school teachers in Styria (Statistik Austria, 2014). Participation in the study was voluntary. 88 % (83 schools out of 95) of the schools which received the questionnaire from the directors of the SPZs took part in the survey across all 19 school districts of Styria. A cover letter guaranteed anonymity and confidentiality associated with all responses. The teachers sent back the questionnaire separately, so an assignment of teachers to schools or classrooms was not possible.

### 2.2 Measures

A multi-item questionnaire was used to assess the extent to which participants considered the quality of teamwork within their teams. The questionnaire was a modified version of the scales developed by Holzinger et al. (2011), who used a mixed method approach to examine a single inclusive school district; in their project the teachers were asked to answer the questions in reference to themselves. By contrast, the present study examined a total of 19 inclusive school districts; teachers were asked to rate the whole team or the teamwork in their classroom. Unless

otherwise indicated, a 5-point response scale was used, ranging from 1 = poor; 2 = fair, 3 = acceptable, 4 = good, and 5 = very good. All items are presented in tables 1, 3 and 5.

*Teaching practices in classroom.* A nine-item scale was used to assess which practices of team teaching had been implemented in the inclusive classrooms. A sample item is “What do you use in your team and in your classroom? – Cooperative planning of the instruction”. Cronbach’s Alpha was 0.82.

*Teamwork in individual educational planning.* A six-item scale was used to assess the level of teamwork shown when the teachers engage in planning to meet the educational needs of individual pupils. A sample item is “The teachers in the subjects of mathematics, German, and English are involved when the goals of individual educational planning are defined”. Cronbach’s Alpha was 0.95.

*Factors at school level.* A six-item scale was used to assess factors at school level that concern team teaching in inclusive classrooms. A sample item is “Which factors at school level were implemented in your school? – Right of co-determination of the team partners”. Cronbach’s Alpha was 0.80.

*Background variables.* The teachers were asked to indicate their experience in inclusive classrooms (in years) and the numbers of inclusive classes they taught. Moreover, teachers were asked to categorize the type of SEN as (a) students with intellectual disability, (b) students with sensory disability, (c) students with learning disability, (d) students with autism, and (e) students with SEN who are taught in correspondence with the regular curriculum (mild learning disability) in their classrooms. Even if the official reports on which the SEN is based are established by the special education centers and this information is not automatically transferred to the teachers, one can assume that the teachers are often informed by the parents or through collaboration with the SPZ.

### 3. Results

#### 3.1 Psychometric properties of all scales

Analyses included, first, a test of the psychometric properties of the scales and, then, analyses of variance to test differences between general teachers and special education teachers in elementary and secondary schools. Firstly, a principal components analysis with varimax rotation was chosen to extract the variance of the data set (Tabachnick & Fidell, 2012). Concerning the scale “*Teaching practices in the classroom*” the principal component analysis (KMO = .84; Bartlett’s Test  $p < .001$ ) indicated that the scale consisted of two factors: the first factor explained 57.48 % of variance and the second factor explained 14.09 % of variance. The individual factor loadings and the low eigenvalue of the second factor suggested a one-factorial solution. Concerning the scale “*Teamwork in Individual Educational Planning*” the principal component analysis (KMO = .90; Bartlett’s Test  $p < .001$ )

indicated one factor that accounts for 81.65 % of variance. Finally, concerning the scale “*Factors at school level*” one factor with 49.03 % of explained variance was found ( $KMO = .80$ ; Bartlett’s Test =  $p < .001$ ). The correlations of sum-scores of all scales are moderate and range between 0.45 and 0.58.

After the psychometric properties of all scales have been established, we examined differences between the groups. This study has two fixed effects. The first effect is the type of teachers (general teachers vs. special education teachers) and the second effect is the school level (elementary schools vs. secondary schools). Analyses of variances were used to examine these main effects for each scale. Stepwise regression was used to estimate the influence of background variables.

### 3.2 Teaching practices in the classroom

Results for teaching practices in the classroom signal that all teachers rated the use of inclusive team teaching practices as “acceptable”. Table 1 presents all findings of the scale “*Teaching practices in the classroom*”. In elementary schools, general teachers ( $M = 3.27$ ,  $SD = 0.51$ ) and special education teachers ( $M = 3.31$ ,  $SD = 0.48$ ) had similar ratings of the teaching practices. In secondary schools, general teachers ( $M = 3.27$ ,  $SD = 0.51$ ) and special education teachers ( $M = 3.31$ ,  $SD = 0.48$ ) rated the teaching practices very similarly as well. Looking at the descriptive results, which are presented in Table 1, several patterns can be found. For instance, all teachers in both grades rated the “alternative assessment of performance” as the lowest; indicating that compared to other practices, this one can be relatively much improved. In comparison all groups rated the items “The team is familiar with the individual learning profile of all students” as well as “Differentiated measurement of performance” relatively high.

Regression was used to analyze whether differences between the teacher ratings of teaching practices in classroom were influenced by background variables. The dependent variable was the overall score of the scale “Teaching practices in classroom”. Type of teachers (general teacher vs. special education teacher), school level (elementary school vs. secondary school), age, gender, number of inclusive classes they taught, experience to teach in inclusive classrooms, and the different types of students with SEN were entered as predictors ( $F(10, 287) = 4.234$ ;  $p < .01$ ). School level and experience of teaching in inclusive classrooms emerged as significant predictors. In secondary school, the teaching practices that are reported are less often implemented than in primary school. Furthermore, experience of teaching in inclusive classrooms leads also to a higher implementation of the reported teaching practices. No individual variables of the teaching person itself (e.g., age, gender, being a special educational teacher) or on classroom level (number of SEN students) had an influence on the used practices.

**Table 1:** Mean (and standard deviation) of teacher ratings of “Teaching Practices in the Classroom”

What do you use in your team and in your classroom?	Elementary school		Secondary school	
	General teachers	Special teachers	General teachers	Special teachers
<i>N</i>	71	63	116	67
Cooperative planning of the instruction	3.18 (0.88)	3.33 (0.82)	2.82 (0.89)	2.67 (0.99)
Cooperative team-teaching	3.13 (0.88)	3.21 (0.85)	2.85 (0.97)	2.97 (0.87)
Cooperative reflection of the instruction	3.16 (0.83)	3.22 (0.92)	2.68 (0.85)	2.46 (1.17)
Social learning	3.28 (0.72)	3.24 (0.80)	3.02 (0.83)	3.29 (0.81)
Differentiated measurement of performance	3.42 (0.70)	3.48 (0.74)	3.31 (0.81)	3.52 (0.65)
Alternative assessment of performance	3.02 (1.28)	2.93 (1.2)	2.16 (1.15)	2.00 (1.20)
The team is familiar with the individual learning profile of all students.	3.54 (0.75)	3.52 (0.72)	3.31 (0.75)	3.24 (0.94)
The team supports good student with own tasks.	3.30 (0.80)	3.29 (0.68)	3.00 (0.70)	3.04 (0.95)
The team supports weak student with own tasks.	3.40 (0.80)	3.59 (0.53)	3.15 (0.69)	3.27 (0.90)
Total score	3.27 (0.51)	3.31 (0.48)	2.92 (0.55)	2.94 (0.61)

**Table 2:** Predictors of teacher ratings of “Implementation in the Classroom”

Variable	Model		
	<i>B</i>	95 % CI	$\beta$
Constant	3.77	[3.24, 4.30]	
Age	0.00	[-0.01, 0.00]	-0.08
Male	-0.04	[-0.23, -0.16]	-0.02
Special educational teacher	-0.07	[-0.22, 0.08]	-0.06
Secondary school	-0.32**	[-0.45, -0.19]	-0.28
SEN-ID	0.04	[-0.02, 0.10]	0.07
SEN-VisualD	0.10	[-0.03, 0.23]	0.09
SEN-LD	-0.01	[-0.03, 0.01]	-0.05
SEN-Autism	0.16	[-0.10, 0.42]	0.07
Experience in inclusion	.015**	[0.00, 0.03]	0.17
Number of inclusive classes	0.02	[-0.05, 0.08]	0.03
<i>R</i> <sup>2</sup>	.13		
<i>F</i>	4.23**		
<i>N</i>	298		

\*\**p* < .01

### 3.3 Teamwork in individual educational planning

The findings for the scale “Teamwork in individual educational planning” show that all teachers were satisfied with the level of teamwork when planning for the educational needs of individual students. Table 2 documents all findings. In elementary schools, general teachers ( $M = 4.16$ ,  $SD = 0.94$ ) and special education teachers ( $M = 4.05$ ,  $SD = 0.96$ ) had similarly high ratings of individual educational planning. In secondary schools, general teachers ( $M = 3.08$ ,  $SD = 1.18$ ) and special education teachers ( $M = 3.08$ ,  $SD = 1.16$ ) rated teamwork in educational planning similarly. Furthermore, the different items were rated in a very similar range. The highest difference between the highest and lowest rating items was found in the subgroup of special teachers in secondary schools and was lower than 0.5.

Table 3: Mean (and standard deviation) of teacher ratings of “Teamwork in Individual Educational Planning”

	Elementary school		Secondary school	
	General teachers	Special teachers	General teachers	Special teachers
The teachers in the subjects mathematics, German (and in Sec I English) ...				
<i>N</i>	59	52	106	67
... are involved in the defining of the IEP goals	4.08 (1.21)	3.93 (1.26)	3.01 (1.39)	2.63 (1.42)
... know the IEP of the students with SEN	4.12 (1.13)	4.13 (1.09)	2.90 (1.42)	2.63 (1.36)
... know the special need of the student with SEN	4.32 (0.94)	4.14 (1.00)	3.03 (1.33)	2.94 (1.29)
... work together with colleagues for the methodological and pedagogical implementation of the IEP goals	4.24 (1.06)	3.95 (1.09)	3.22 (1.31)	2.87 (1.43)
... know the pedagogical implementation and discuss this with the special education teacher	4.20 (1.08)	4.03 (0.99)	3.25 (1.33)	2.87 (1.32)
... involve the parents in the IEP work	4.01 (1.11)	4.09 (1.03)	3.06 (1.26)	3.09 (1.38)
Total score	4.16 (0.94)	4.05 (0.96)	3.08 (1.18)	2.83 (1.16)

Regression analyses showed a significant difference between elementary school teachers and secondary school teachers ( $F(10, 257) = 9.838$ ;  $p < .01$ ). Elementary school teachers showed more positive ratings than secondary school teachers. Parallel to the teaching practices in the classroom, school level and teaching experience also predict the assessment of teamwork in individual educational planning. As before, the school level showed the highest influence, teachers working in secondary schools assess the level of teamwork when the teachers engage in planning to meet the educational needs of individual pupils lower than teachers working in primary schools. Further, the experience of teaching in inclusive classrooms has a significant contribution, too. Furthermore, in this analysis it was shown that special education teachers rate the level of teamwork regarding individual educational planning lower.

Table 4: Predictors of teacher ratings of “Teamwork by the Individual Educational Planning”

Variable	Model		
	<i>B</i>	95 % CI	$\beta$
Constant	6.29	[5.11, 7.47]	
Age	-0.01	[-0.03, 0.01]	-0.09
Male	-0.13	[-0.56, 0.29]	-0.03
Special educational teacher	-0.41*	[-0.74, -0.09]	-0.17
Secondary school	-1.14**	[-1.43, -0.86]	-0.45
SEN-ID	-0.05	[-0.17, 0.08]	-0.04
SEN-VisualD	-0.10	[-0.44, 0.24]	-0.03
SEN-LD	-0.01	[-0.06, 0.04]	-0.03
SEN-Autism	0.03	[-0.52, 0.57]	0.01
Experience in inclusion	0.04**	[0.02, 0.07]	0.23
Number of inclusive classes	-0.08	[-0.22, 0.06]	-0.07
<i>R</i> <sup>2</sup>	.24		
<i>F</i>	8.19**		
<i>N</i>	268		

\* $p < .05$ , \*\* $p < .01$

### 3.4 Factors at school level

The ratings of factors at school level suggested moderately positive assessments of all teachers. Table 5 reports all estimates. In elementary schools, general teachers ( $M = 3.59$ ,  $SD = 0.89$ ) and special education teachers ( $M = 3.83$ ,  $SD = 0.69$ ) had comparable ratings. In secondary schools, general teachers ( $M = 3.05$ ,  $SD = 0.92$ ) and special education teachers ( $M = 3.06$ ,  $SD = 1.13$ ) had even more comparable estimates of factors at school level. Looking at the pattern of the means of the single items in table 5, one can see that the factors which are implemented in the schools vary widely. For example, temporally fixed team-meetings are not common in both schools and were rated low by both teachers. In contrast, flexible timing of units of instruction is a common procedure in elementary schools but rarely happens in secondary schools.

Table 5: Mean (and standard deviation) of teacher ratings of “Factors at school level”

Which factors at school level were implemented in your school?	Elementary school		Secondary school	
	General teachers	Special teachers	General teachers	Special teachers
<i>N</i>	70	63	113	67
Temporally fixed team-meetings	2.66 (1.60)	2.87 (1.57)	2.83 (1.53)	2.81 (1.70)
Small teacher teams	4.12 (1.26)	4.47 (0.84)	3.50 (1.27)	3.51 (1.39)
Teacher teams with a lot of common teacher hours	4.13 (1.24)	4.47 (1.03)	3.38 (1.30)	3.47 (1.40)
Right of co-determination of the team partners	3.18 (1.61)	3.52 (1.54)	2.85 (1.31)	2.83 (1.44)
No concentration of children with behavioral disorders comparing to other classes	3.25 (1.25)	3.42 (1.20)	3.16 (1.33)	3.01 (1.29)
Flexible timing of units of instruction	4.20 (1.15)	4.23 (1.07)	2.57 (1.33)	2.71 (1.50)
Total score	3.59 (0.89)	3.83 (0.69)	3.05 (0.92)	3.06 (1.13)

The regression analysis ( $F(2, 284) = 5.242; p < .01$ ) identified school level and the presence of students with autism in class to be significant predictors. All other factors were non-significant. So, in line with the two previous regression analyses, secondary school teachers rated the factors at school level that concern team teaching in inclusive classrooms higher than elementary school teachers. Furthermore, a higher number of students with autism leads to a higher value of factors at school level that concern team teaching in inclusive classrooms. No further teacher or classroom related variables showed a significant contribution to predict the factors at school level.

Table 6: Predictors of teacher ratings of “Factors at school level”

Variable	Model		
	<i>B</i>	95 % CI	$\beta$
Constant	4.07	[3.15, 4.99]	
Age	0.00	[-0.01, 0.02]	0.02
Male	0.02	[-0.32, 0.35]	0.01
Special educational teacher	0.17	[-0.08, -0.42]	0.09
Secondary school	-0.56**	[-0.79, -0.34]	-0.29
SEN-ID	0.10	[0.00, 0.21]	0.11
SEN-VisualD	-0.02	[-0.23, 0.20]	-0.01
SEN-LD	-0.03	[-0.07, 0.01]	-0.08
SEN-Autism	0.45*	[0.00, 0.89]	0.11
Experience in inclusion	-0.01	[-0.03, 0.01]	-0.07
Number of inclusive classes	-0.05	[-0.16, 0.07]	-0.05
<i>R</i> <sup>2</sup>	.16		
<i>F</i>	5.24**		
<i>N</i>	295		

\* $p < .05$ , \*\* $p < .01$

## 4. Discussion

A good inclusive practice requires broad knowledge and the engagement of all teachers (UNESCO, 2005). The present study was designed to examine the teamwork in inclusive settings between special education teachers and general teachers. The concern was that teachers worked in an inclusive setting but had a traditional teacher model. If this were the case, then the special education teachers would rate the teamwork lower than the general teachers.

This was analyzed using three scales (“Teaching Practices in the Classroom”, “Teamwork in Individual Educational Planning” and “Factors at School Level”) which were adapted from a study from Holzinger et al. (2011). The psychometric criteria of these scales were examined; they fit the required standards (Cronbach’s  $\alpha = .80 - .95$ ) and were appropriate to examine how the general and special education teachers perceived their teamwork. Descriptive results showed which items could be focused on to further improve inclusive schooling in Austria. For example, when looking at the teaching practices, the results showed that alternative assessments of performance are not used commonly. When looking at the school level, one can see that temporally fixed team-meetings are rather rarely conducted. Next to descriptive results group differences were also presented.

The results indicate a small difference in the scale “Teamwork in Individual Educational Planning”. Here, the special educational teachers rated the teamwork significantly lower. An explanation of this result can be methodological, given that this scale measures operations well known in special education, but less well known in general education. Therefore, special education teachers may have a more critical view than general teachers (Moliner et al., 2011). In general, we can conclude that the teachers were aware of one teacher model. It can be assumed that this teacher model was inclusive because most scores were between acceptable and good.

The secondary school teachers rated their team on average as acceptable, but in comparison to the elementary school teachers, the secondary teachers differed significantly on all three scales. The biggest effect was measured in the scale “Teamwork in Individual Educational Planning”. There was a large gap between elementary and secondary school teachers. General elementary school teachers teach in one classroom with the support of 23 hours of one special education teacher. So, this team is solid and small, while the teacher teams in secondary schools consist of five or six teachers, due to the different subjects. The general teachers teach only one or two subjects in one class, so that the special education teacher is the only permanent teacher, who is present in all subjects. It is understandable that it is more complicated to arrange meetings and time for discussions between the special education teacher and the general teachers of the different subjects in secondary classrooms (Feyerer & Prammer, 2003; Heimlich, 2003; Vehkakoski, 2008). Nonetheless, “Individual Educational Planning” should not be seen as additional labor (Hauer & Feyerer, 2006) but rather as a way to cooperate in inclusive set-

tings and, moreover, to further individualized instruction. Therefore, all teachers in inclusive settings should know the special needs of the students and the Individual Education Plan (IEP) (Sharma et al., 2012). Although the circumstances were perceived in a negative light in secondary school (Moliner et al., 2011), the teachers assessed the general conditions at school level as acceptable. In secondary school the teachers gave a rather low score to the items of the right of co-determination, flexible timing of units of instruction and temporally fixed team meetings. The assessment of these items showed the organizational problem of inclusive settings especially in secondary schools.

Additional analyses examined how experience in inclusive settings (in years), the number of inclusive classes taught, and the disability type moderated the findings. Firstly, the results suggest that teachers' experience in inclusive settings is a positive moderator of perceptions towards inclusion (Avramides & Norwich, 2002; de Boer, Pijl, & Minnaert, 2011). Secondly, the number of inclusive classes taught can be seen as negative because the teachers have to work with more students and other teachers. However, the findings signal no significant influence. Thirdly, different types of disability did not significantly moderate the study outcomes. The only exception was for the scale factors at school level, where the placement of students with autism had a positive influence. When compared to differences in school level, the effect of other influences was small. This was to some extent expected because different levels of schooling (teamwork in teaching, IEP, and school level) were surveyed in the questionnaire. Thus it was important to get an explorative overview by means of the regression analysis. So far only the influences of teacher attitudes towards inclusion have been examined (Avramidis & Norwich, 2002; de Boer et al., 2011).

To sum up, the results made clear that inclusive practices at teacher, teamwork and school level are stronger implemented in secondary school compared with elementary school. Furthermore, experience with inclusion leads to stronger implementation of inclusive practices on classroom and team-teaching level but not on school level. However, age, gender and SEN seem to be unrelated to the implementation of inclusive practices. This is a bit surprising, because e.g. female teachers are known for having a more positive attitude to inclusion (de Boer et al., 2011). Moreover, regarding to studies dealing with classroom compositions one would imagine that SEN would influence the inclusive practices (which was only the case for SEN-Autism regarding inclusive practices on school level).

This study was designed to provide a representative result of inclusive teamwork in all regions of Styria. Thus the instruments were developed as a means of screening and not to explore school development and inclusive practice. For these questions further research with mixed methods and case studies would be necessary. A further limitation of the study is that teachers' participation was voluntary; the findings may thus include a response bias as teachers with negative attitudes toward inclusion may have minimized their efforts in returning the questionnaire. Due to this bias it could be assumed that the present results showed a too optimistic picture and actual results are less positive.

## 5. Conclusion

The resources for inclusive schooling are generally good in the Austrian school system. In Styria, systematic integration has been in place for over twenty years. Placing students with disabilities in the regular classes is not enough to ensure good inclusive practice. Inclusion is not just the opposite of exclusion. It needs changes in beliefs, attitudes, behavior, and action of teachers and students (Heimlich, 2003). It can be assumed that the teaching role model has evolved into an inclusive model in all schools. Our results indicate that inclusive practices were acceptably implemented from the teacher perspective in elementary schools, but there are several problems within the teamwork of the teachers in secondary schools.

One of the implications for teachers and school policy is that individual educational planning should be implemented carefully. Along these lines it is important that the implementation of IEP's should be monitored and evaluated in daily practice. More guidance and advice for practicing teachers would be very desirable. Training for teachers and students as well as implementation aids should be included in teacher education. Furthermore, all prospective teachers should learn more about inclusive practices, the needs of students with SEN, and the purpose of individual educational planning in their studies. This would help the next generation of teachers to prepare for team teaching in inclusive settings. To implement a good practice in teamwork in inclusive classes it is necessary that every teacher has insight into inclusive work and practice.

## References

- Avramidis, E., & Norwich, B. (2002). Teacher's attitudes towards integration/inclusion: A review of the literature. *European Journal of Special Needs Education, 17*(2), 129–147.
- Buchner, T., & Gebhardt, M. (2011). Zur schulischen Integration in Österreich: historische Entwicklung, Forschung und Status Quo. *Zeitschrift für Heilpädagogik, 62*(8), 298–304.
- Cook, L., & Friend, M. (1995). Co-teaching: Guidelines for creating effective practices. *Focus on Exceptional Children, 28*(3), 1–16.
- de Boer, A., Pijl, S. P. & Minnaert, A. (2011). Regular primary schoolteachers' attitudes towards inclusive education: A review of the literature. *International Journal of Inclusive Education, 15*(3), 331–353.
- European Agency for Development in Special Needs Education (2010). *Special Needs Education Country Data 2010*. Odense, Denmark: European Agency for Development in Special Needs Education.
- European Agency for Development in Special Needs Education (2012). *Profile of inclusive teachers*. Odense, Denmark: European Agency for Development in Special Needs Education.
- Feyerer, E., & Prammer, W. (2003). *Gemeinsamer Unterricht in der Sekundarstufe I: Anregungen für eine integrative Praxis*. Weinheim, Germany: Beltz.

- Gebhardt, M., Schwab, S., Gmeiner, S., Ellmeier, B., Rossmann, P., & Gasteiger Klicpera, B. (2013). Grazer Skala zur LehrerInnenkooperation im integrativen Unterricht (GSLK). *Empirische Pädagogik*, 27(1), 5–21.
- Gebhardt, M., Schwab, S., Reicher, H., Ellmeier, B., Gmeiner, S., Rossmann, P., & Gasteiger Klicpera, B. (2011). Einstellungen von LehrerInnen zur schulischen Integration von Kindern mit einem sonderpädagogischen Förderbedarf in Österreich. *Empirische Sonderpädagogik*, 3(4), 275–290.
- Gegenfurtner, A., Veermans, K., & Vauras, M. (2013). Effects of computer support, collaboration, and time lag on performance self-efficacy and transfer of training: A longitudinal meta-analysis. *Educational Research Review*, 8, 75–89.
- Hauer, K., & Feyerer, E. (2006). *Individuelle Förderpläne für Schüler/innen mit ASO-Lehrplan: Individuelle Förderpläne für Schüler/innen mit ASO-Lehrplan*. Retrieved from [http://qsp.or.at/downloads/Endbericht\\_IFP-Studie\\_8.11.2006.pdf](http://qsp.or.at/downloads/Endbericht_IFP-Studie_8.11.2006.pdf)
- Heimlich, U. (2003). *Integrationspädagogik: Eine Einführung*. Stuttgart, Germany: Kohlhammer.
- Heimlich, U. (2004). Didaktische Konzepte für den zieldifferenten Gemeinsamen Unterricht. *Zeitschrift für Heilpädagogik*, 55(6), 288–295.
- Holzinger, A., Ebner, M., Kernbichler, G., Kopp-Sixt, S., Much, P. & Pongratz, H. J. (2011). *Forschungsprojekt Qualität in der Integration: Projektzeitraum WS 2008/09–WS 2010/11*. Graz, Austria: PH Steiermark.
- Kilanowski-Press, L., Foote, C. J., & Rinaldo, V. J. (2010). Inclusion classrooms and teachers: A survey of current practice. *International Journal of Special Education*, 25(3), 43–56.
- Klicpera, C. (2005). *Integrations- und Heilpädagogik. Elternerfahrung mit Sonderschulen und Integrationsklassen: Eine qualitative Interviewstudie zur Schuwahlentscheidung und zur schulischen Betreuung in drei österreichischen Bundesländern* (Vol. 1). Wien, Austria: LIT.
- Kloo, A., & Zigmond, N. (2008). Co-teaching revisited: Redrawing the blueprint. *Preventing School Failure*, 52(2), 12–20.
- Landesschulrat für Steiermark (1998). *Behördenfibel II: Zum gemeinsamen Unterricht Behinderter und Nichtbehinderter Kinder in Volksschule und Sekundarstufe I (HS + AHS)*. Retrieved from <http://www.sisal.at/is/schule/fibel.pdf>
- Magiera, K., & Zigmond, N. (2004). Co-teaching in middle school classrooms under routine conditions: Does the instructional experience differ for students with disabilities in co-taught and solo-taught classes. *Learning Disabilities Research and Practice*, 20, 79–85.
- Moen, T. (2008). Inclusive educational practice: Results of an empirical study. *Scandinavian Journal of Educational Research*, 52, 59–75.
- Moliner, O., Sales, A., Ferrández, R., & Traver, J. (2011). Inclusive cultures, policies and practices in Spanish compulsory secondary education schools: Teachers' perceptions in ordinary and specific teaching contexts. *International Journal of Inclusive Education*, 15(5), 557–572.
- Murawski, W. W., & Swanson, H. L. (2001). A meta-analysis of co-teaching research: Where are the data? *Remedial and Special Education*, 22(5), 258–267.
- Pihlaja, P. M., & Holst, T. K. (2013). How reflective are teachers? A study of kindergarten teachers' and special teachers' levels of reflection in day care. *Scandinavian Journal of Educational Research*, 57, 182–198.
- Ruijs, N. M., & Peetsma, T. T. D. (2009). Effects of inclusion on students with and without special educational needs reviewed. *Educational Research Review*, 4(2), 67–79.
- Schwab, S., Gebhardt, M., Tretter, T., Rossmann, P., Reicher, H., Gmeiner, S., & Gasteiger Klicpera, B. (2012). Auswirkungen schulischer Integration auf Kinder ohne Behinderung – eine empirische Analyse von LehrerInneneinschätzungen. *Heilpädagogische Forschung*, 38(2), 54–65.

- Scruggs, T. E., Mastropieri, M. M., & McDuffie, K. A. (2007). Co-teaching in inclusive classrooms: A metasynthesis of qualitative research. *Council for Exceptional Children*, 73(4), 392–416.
- Sharma, U., Loreman, T., & Forlin, C. (2012). Measuring teacher efficacy to implement inclusive practices, *Journal of Research in Special Educational Needs*, 12(1), 12–21.
- Soodak, L. C., Podell, D. M., & Lehman, L. R. (1998). Teacher, student, and school attributes as predictors of teachers' responses to inclusion. *The Journal of Special Education*, 31(3), 480–497.
- Specht, W., Pirchenegger, L. G., Seel, A., Stanzel-Tischler, E., & Wohlhart, D. (2006). *Qualität in der Sonderpädagogik: Ein Forschungs- und Entwicklungsprojekt*. Graz, Austria: Zentrum für Schulentwicklung Bundesministerium für Bildung, Wissenschaft und Kultur.
- Specht, W., Pirchenegger, L. G., Seel, A., Stanzel-Tischler, E., & Wohlhart, D. (2007). Individuelle Förderung im System Schule: Strategien für die Weiterentwicklung von Qualität in der Sonderpädagogik. Graz, Austria: Bifie
- Statistik Austria (2011). *Bildung in Zahlen 2009/2010: Schlüsselindikatoren und Analysen*. Wien, Austria: Bundesanstalt Statistik Österreich.
- Statistik Austria (2014). *Bildung in Zahlen 2012/2013: Schlüsselindikatoren und Analysen*. Wien. Retrieved from: [http://www.statistik.at/dynamic/wcmsprod/ideplg?IdcService=GET\\_NATIVE\\_FILE&dID=161303&dDocName=076240](http://www.statistik.at/dynamic/wcmsprod/ideplg?IdcService=GET_NATIVE_FILE&dID=161303&dDocName=076240)
- Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics*. Boston, MA: Pearson.
- Tuomainen, J., Palonen, T., & Hakkarainen, K. (2012). Special educators' social networks: A multiple case study in a Finnish part-time special education context. *Scandinavian Journal of Educational Research*, 56, 21–38.
- Unesco (2005). *Guidelines for inclusion. Ensuring access to education for all*. Paris, France: United Nations Educational.
- Vehkakoski, T. M. (2008). Inclusive education ideal at the negotiating table: Accounts of educational possibilities for disabled children within inter-disciplinary team meetings. *Scandinavian Journal of Educational Research*, 52, 495–512.
- Volonino, V., & Zigmond, N. (2007). Promoting research-based practices through inclusion? *Theory Into Practice*, 46(4), 291–300.
- Webster, R., Blatchford, P., Bassett, P., Brown, P., Russell, M. & Russell, C. (2010). Double standards and first principles: Framing teaching assistant support for pupils with special educational needs. *European Journal of Special Needs Education*, 25(4), 319–336.
- Werning, R., Loeser, J.M., & Urban, M. (2008). Cultural and social diversity: An analysis of minority groups in German schools. *The Journal of Special Education*, 42(1), 47–54.