European Journal of Special Needs Education

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rejs20

Teaching assistants and teachers providing instructional support for pupils with SEN: results from a video study in Swiss classrooms

Franziska Vogt, Annette Koechlin, Annina Truniger & Bea Zumwald

To cite this article: Franziska Vogt, Annette Koechlin, Annina Truniger & Bea Zumwald (2021) Teaching assistants and teachers providing instructional support for pupils with SEN: results from a video study in Swiss classrooms, European Journal of Special Needs Education, 36:2, 215-230, DOI: 10.1080/08856257.2021.1901373

To link to this article: https://doi.org/10.1080/08856257.2021.1901373

EUROPEAN JOURNAL OF SPECIAL NEEDS EDUCATION
2021, VOL. 36, NO. 2, 215–230
https://doi.org/10.1080/08856257.2021.1901373

Routledge
Taylor & Francis Group

ARTICLE

Teaching assistants and teachers providing instructional support for pupils with SEN: results from a video study in Swiss classrooms

Franziska Vogt, Annette Koechlin, Annina Truniger and Bea Zumwald

Institute of Research in Teaching and Learning, St. Gallen University of Teacher Education, St.Gallen, Switzerland

ABSTRACT

The reliance on teaching assistants (TAs) for inclusion is discussed in relation to the quality of instructional support. Swiss policy stipulates two distinct models for TAs working in mainstream classes: they can either be employed to work with a particular pupil with special educational needs (SEN) or be employed as a general aide to provide support for the whole class. This article describes a study investigating teachers' and TAs' interactions with pupils during individual seatwork based on observational video data and examining how these reflect the roles foreseen for TAs. The analysis is based on videos of 90 minutes in each of the 31 primary school classes with TA and teacher being present. Results of the video analysis of individual seatwork demonstrate that TAs interact longer with pupils with SEN and pupils with lower attainment levels than teachers do. The analysis of the content of instructional support reveals that TAs often use transmissive approaches, i.e. telling a pupil how to tackle a task or even provide the correct answer, whereas co-constructive support, such as scaffolding, is less prevalent. The findings are discussed regarding their relevance for policy and the development of practice.

KEYWORDS

Teaching assistants; inclusion; special educational needs; video study; shared class; instructional support

Introduction: policy background

Whereas teaching assistants (TAs) have been part of school provision in mainstream schools in some countries for a more than two decades (Webster et al. 2010), the employment of TAs in mainstream schools in Switzerland was unknown until 10 years ago. Within the wider context of policy changes for special educational needs (SEN) education, TAs were introduced at the local level in school in the last decade. Two different models are stipulated. Swiss schools explicitly distinguish between TA employment for supporting the whole class as a general aide and TA employment for a specific pupil with SEN. The paper therefore begins with a discussion of the policy context and the regulations regarding the two models in Switzerland.

CONTACT Franziska Vogt Franziska.vogt@phsg.ch

Recent introduction of TAs in mainstream schools in Switzerland

Switzerland has a long tradition of flat hierarchies in schools (Vogt 2003) with the teacher mostly being the only adult in the classroom. In the last two decades a variety of forms of professional cooperation between teachers and SEN-teachers have emerged (Baumann 2019). However, TAs are a more recent phenomenon.

Compared to other European countries, Switzerland continues to have high numbers of pupils with SEN attending fully separate educational settings (either special schools or separate classes within schools). 3.86% of all pupils are in separate provision compared to the 1.55% average in more than 23 European countries (EASIE 2020; indicator 2.3b.5). Inclusion of pupils with SEN in mainstream classrooms is supported through SEN-teachers, generally qualified with a specialist Master's degree. They prepare materials and programmes tailored to the needs of the SEN pupils in defining an 'individual educational plan' (Paccaud and Luder 2017). On average, SEN-teachers are present during three lessons per week in a given class, team-teaching with the main classroom teacher. Much of the time, the teachers are responsible for teaching the whole class without the support of the SEN-teacher. The challenges of meeting diverse students' needs, especially the needs of pupils with SEN, together with the need to work together with a specialist, are perceived as burdensome by some teachers (Sandmeier et al. 2017). TAs in contrast are often regarded as welcome support for teachers (PHSG 2020). The increasing establishment of inclusive classrooms in Switzerland since the 2010's has led to the rapid growth in the number of TAs in mainstream schools. This trend is comparable to the rise of TAs in mainstream classrooms in the UK more than a decade earlier (Webster et al. 2010).

Within Switzerland, policy and practice regarding TAs vary widely as cantons (comparable to counties) are responsible for education policy. TAs are not required to have a professional pedagogical qualification. Most Swiss cantons list general criteria for TA recruitment such as good skills in the language of schooling, patience, the ability to cope with pressure and having attained an occupational qualification of some sort. The cantonal recommendations on the employment of TAs emphasise that TAs should provide administrative and organisational support, but that they should not take on instruction, as they are not qualified. Within Switzerland, the employment of TAs continues to attract strong criticism and public debate. The Teachers' Association fears that the increase in TAs might lead to the 'deprofessionalisation' and replacement of SEN teachers (LCH 2017).

Two models: TAs supporting either the whole class or a specific pupil with SEN

TAs are either employed 'for the whole class', as a general aide or are deployed to support the inclusion of a specific pupil with SEN. It is left to the discretion of the individual schools to decide how TAs, as general aides, are to be employed. No regulations exist as to qualifications, scope of work time, or joint preparation time. It is up to the teacher and the decision of the head teacher as to whether or not a class is supported by a TA and for how many lessons per week. TAs are also deployed to support the inclusion of a specific pupil with SEN. These TAs are also employed by the local school and their work is equally unregulated. Compared to other countries, the model of TA employed for the whole class

corresponds to the 'class support model' and the model employed for a pupil with SEN is similar to the 'one-on-one-model' (Butt 2016, 997).

The role of the TA in both models is embedded with tensions: TAs need to be effective and invisible helpers in often precarious, hourly paid employment (Heinrich and Lübeck 2013). Their role often involves emotional labour within the context of contradictory expectations (Zumwald 2014), i.e. supporting learning but not taking a similar role to the teacher: they should not 'teach', as they are not to substitute the teacher, but provide support in the classroom.

Research on TAs' instructional support and effects on pupils with SEN

A study involving a large sample of classes across school years in the UK raised concerns about the negative effects of TAs on pupils' learning (Blatchford, Russell, and Webster 2012). Those pupils who received the most support by a TA made less progress in English and Mathematics than pupils not supported by a TA. As for science, no effects or negative effects were found (Webster, Blatchford, and Russell 2012, 324). Interestingly, there was a positive effect of TAs noted on pupils' time-on-task (Blatchford et al. 2009). This could be interpreted as the TA providing instructional support in attention guiding. However, the increased time-on-task did not result in higher learning gains (Blatchford, Russell, and Webster 2012). The negative effects may be due to: (i) the quality of instructional support provided by the TAs and teachers, and (ii) the risk of insular relationships between TA and pupil.

Instructional support during individual seatwork

The co-constructivist theory of learning with its emphasis on learners actively constructing understanding within a social process led to a focus on how teachers provide instructional support in such ways that individual pupils be enabled to actively build up understanding (Pauli, Reusser, and Grob 2007). Constructivist teaching would, for example, involve scaffolding, whereby the teacher highlights the relevant characteristics of a task and models the problem-solving in such a way that the pupil is able to solve the task (Wood, Bruner, and Ross 1976; Van De Pol, Volman, and Beishuizen 2010). As Radford et al. (2015, 9) puts it: 'the ultimate aim … is for learners to be able to self-scaffold'. Constructivist teaching can be distinguished from transmission, which involves 'telling how to' and 'giving verbal explanations' (Kleickmann, Vehmeyer, and Möller 2010). In order to provide individual support in such a way that constructivist learning is possible, teaching adaptively to the diverse learning needs of the pupils is essential (Vogt 2013; Bruehwiler and Vogt 2020).

Such individual support often occurs during individual seatwork. A large-scale study in secondary schools revealed that phases of individual seatwork are more extensive in Switzerland than in other countries (Krammer, Reusser, and Pauli 2010, 108). Individual seatwork is highly relevant for the role of TAs. Swiss policy document state that TAs should neither take on the role of teachers nor provide instruction but solely assist. During individual seatwork, it is common practice, however, that both TAs and teachers provide support for pupils. The question arises about the quality of support provided by TAs and teachers for pupils during individual seatwork.

By using conversation analysis the main differences between the instructional support provided by teachers and that of TAs could be pinpointed: the support provided by teachers includes more 'opening up', that is providing open invitations to elicit pupils' thoughts on a particular topic and enhance understanding, whereas TAs tend to 'close down', i.e. ask closed questions and supply answers (Radford, Blatchford, and Webster 2011, 625). Furthermore, TAs' quality of interactions with pupils has been described as focusing on task completion rather than on understanding (Rubie-Davies et al. 2010). Webster et al. (2011) argue that pupils with SEN should have more access to teachers' support, as teachers' qualifications are higher than TAs'.

Impact on inclusion for pupils with SEN

The international research literature shows that the deployment of TAs for pupils with SEN often leads to an increase of one-to-one instruction between TA and pupil with SEN, thereby undermining both the inclusion and independence of the pupils with SEN (Sharma and Salend 2016). TAs are often employed to give direct support to these pupils (Egilson and Traustadottir 2009; Lacey 2001). Pupils with SEN experience fewer interactions with their teacher when assisted by a TA (Butt 2016; Webster et al. 2010). Wendelborg and Tøssebro (2010, 712) use the term 'covert segregation process' to describe the practices of delegating responsibilities to special education teachers or TAs.

TAs sitting next to a pupil and providing support is described as 'excessive proximity' which can lead to an insular relationship between TA-supported pupils and their TAs (Giangreco 2013, 6). Insular relationships result in reduced interactions with the teacher (Butt 2016), as well as with peers: Malmgren and Causton-Theoharis. (2006) observed the interactions of TA-supported pupils with their classmates and found that peer interactions occur almost exclusively (i.e. 90% of the interactions) when the pupils were not in proximity to their TA. Tews and Lupart (2008) interviewed TA-supported pupils who reported that they mainly interact with their assigned TA, but rarely with their classmates. However, the marginalisation of pupils with SEN is also found in studies where no TAs are involved (Asbjørnslett, Engelsrud, and Helseth 2015; Simeonsson et al. 2001). Rubie-Davies et al. (2010) report that TAs interact more often with pupils of lower attainment, whereas teachers support medium to high attainment levels.

Research questions

The research hitherto discussed highlights the importance of the quality of interactions for learning, i.e. scaffolding interactions during individual seatwork, as well as the risk of pupils with SEN, who are supported by TAs, having fewer interactions with their teacher and peers during class. The purpose of the study presented in this article is to examine the teachers' and TAs' interactions with pupils based on observational data in order to analyse how these interactions compare and how they reflect the roles foreseen for TAs and teachers in the two models. Drawing on research, which reveals that the continuous presence of a TA at the side of a pupil with SEN can hinder the inclusion of that pupil (Butt 2016; Giangreco 2013) by creating an insular relationship, this paper, focuses on individual seatwork. In these sequences, the apparent roles of the TAs and teachers are found to be more similar,

whereas during whole class teaching sequences, the teacher is clearly more active and the TA assumes a more passive role, observing and waiting (Koechlin et al. 2019).

The article addresses the overall research question: How do teachers' and TAs' interactions with pupils during individual seatwork compare, in relation to support provided for the class as a whole and for pupils with SEN? In order to address the overall research question, the following three sub-questions are posed:

(i) How do the types of individual support provided by the TA and the teacher during individual seatwork compare in relation to the two models common in Switzerland? The first research sub-question is posed against the background of Swiss education policy, which distinguishes TAs as support for the whole class and TAs as support for pupils with SEN and insists that TAs are there to assist with organisational matters and not teach. Research has, however, raised concerns about the role of non-qualified staff providing instructional support.

(ii) How does the content of instructional support given to pupils with SEN by TAs and the teachers compare? The second research sub-question takes into account, that international research has highlighted that pupils with SEN often experience insular relationships with the TA, thus receive lower quality of instructional support (for example, focused on task completion rather than scaffolding) from the TA and less support from their teacher. Therefore, the content of the support for pupils with SEN needs to be examined in detail in order to assess the role of TAs for inclusion in Swiss mainstream schools.

(iii) How do TAs and teachers share the instructional support amongst higher, medium and lower attaining pupils? The third research sub-question is informed by international research findings, stipulating that TAs interact more with lower achieving pupils and teachers with medium to high achieving pupils. As Swiss policy foresees a model whereby the TA is employed as a general aide to the class, it is of interest, who the TA and teacher support when the TA is employed for the whole class.

Methods

Research design

These questions are at the centre of the research project 'the cooperative practices of teaching assistants and teachers'. It is the first research project in Switzerland to focus on TAs and teachers working together in mainstream primary school classrooms. Data-gathering took place between January 2017 and June 2018 and included (i) a video recording of 90 minutes shared classroom practice; (ii) individual semi-structured interviews with TAs and teachers after the video-recording; and (iii) a short written questionnaire on demographic information and information about the class (SEN-status, attainment levels, etc). This article focuses on video data of teachers' and TAs' classroom interactions while both support pupils during individual seatwork at the same time in class.

Sample

Thirty-one classes in 31 different primary schools in German-speaking Switzerland took part in the research. Participants were recruited through newsletters, mailing lists and professional contacts. The two models for deployment of TAs suggested in Swiss education policy were represented in the sample: 16 classes were following the model of the TA being deployed as a general aide for the whole class and 15 classes had TAs deployed for one specific pupil with SEN. The lessons per week in which the TA worked in the participating class and with the participating teacher varied: On average, TAs were working during 8.5 lessons per week in the participating class (min = 3, max = 30). All classes were primary school classes, grade 1 to 6, with children's aged between six and 12 years. Classes video graphed included an average of 18.3 pupils per class, similar to the average Swiss class size in primary school of 19.2 pupils (bfs 2020). Teachers, TAs and pupils' guardians were asked to give informed consent to participating in the research and to being video graphed, all 31 teachers and 31 TAs, as well as 91.4% of pupils (n = 529) took part.

Data collection

Video observation

The video observation was carried out using two cameras in order to observe classroom interactions from two different angles: one camera taking in the whole of the classroom, being linked with the wireless microphone of the teacher, the second camera being moved when needed to capture the TA and being linked to the wireless microphone of the TA. Two consecutive lessons, a total of 90 minutes per class were observed in order to ensure that for each teacher and TA, different settings such as individual seatwork and whole-class-teaching could be observed.

Using a photograph of the class, teachers were asked to identify the pupils with SEN the TAs were employed to support, and to indicate pupils' attainment level in German and mathematics. Three very basic categories were provided, 'lower-attaining', 'average-attaining', and 'higher-attaining', thus representing a basic ranking (Schrader 2013). As this was given at the time of data collection, it represents the teacher's judgement of the pupil's attainment levels at that moment in time and it is likely, that they would also provide support according to their judgement. Teachers rated 24.5% of the pupils as lower-attaining', 51.9% as 'average-attaining', and 23.5% as 'higher-attaining'. The identifications of SEN and attainment level were referred to during the coding of the videos.

Data analysis

The two audio and video recordings were combined to one video with split screen and two audio lines so that the coding of any given moment could be assessed for both, the activity of the TA and the teacher. Using MAXQDA (VERBI Software, 2018), the 31 videos (average length = 91.5 minutes, min = 72.5 minutes, max = 112 minutes) were coded throughout, thus enabling codes to be analysed regarding frequency and duration (Appel and Rauin 2016). The setting was coded first. Settings differentiated between whole class

instruction (i.e. teacher addressing the whole class collectively), group work and individual seatwork. For this article, all recordings of individual seatwork are used for data analysis.

Interrater reliability between the three raters was examined for all the codings in a random selection of a minimum of a quarter of the videos using MAXQDA's features, performing an examination of the percentage match. Percentage match overall was good (>70%); the analysis of interrater differences revealed that the interrater match was difficult in particular for very short sequences (i.e. shorter than 5 seconds).

Coding individual support regarding type

Within sequences of individual seatwork, all observable and audible individual interactions of TAs and teachers with all pupils were coded as 'individual support'. For each of the sequences of individual support the coding differentiated between organisational, attention-guiding and instructional support. This differentiation was adapted from coding schemes used by Krammer, Reusser, and Pauli (2010), Radford et al. (2015) and Rubie-Davies et al. (2010). Descriptions of these types of support as well as coding examples are listed in Table 1.

This coding scheme was used for analysing all instructional support during individual seatwork with all pupils. Further, these codes were examined in relation to pupils' attainment levels in classes where the TA is employed for the whole class.

Coding the content of instructional support for pupils with SEN

In order to compare the kind of instructional support provided by TAs and teachers during individual seatwork, a coding scheme was developed based on established coding schemes used to elicit teacher–pupil interaction in primary school regarding cognitive apprenticeship, scaffolding and co-construction. The coding scheme developed by Krammer (2009) was used for mathematics lessons whereas Schnebel and Wagner (2016) developed their scheme to rate instructional support in physics. As subjects varied in this study, these coding schemes were adapted to be less subject-specific. Further, the coding scheme used for TA-pupil and teacher–pupil interaction by Rubie-Davies et al. (2010) also was consulted. Table 2 provides the codes used to analyse the content of individual instructional support, aiming at distinguishing instructional support of a more transmissive character from a co-constructivist support.

Table 1. Types of individual support, coding scheme and examples (adapted from Krammer, Reusser, and Pauli 2010; Radford et al. 2015; Rubie-Davies et al. 2010).

Type of support	Description of interaction focus	Coding examples (translated from German)
Organisational	Solely on organisational aspects	Helping a pupil to find materials for work: 'You need a blue pen for this. Look, here it is' Opening a book on the right page for a pupil: 'It's on page 31'
Attention-guiding	Fostering on-task behaviour or discipline	'Keep on working, please' 'Shh … listen carefully now'
Instructional	Relating to the learning task (explanations, hints, strategies, questions, evaluation of the task)	'How do we write the first word in a sentence?' 'Look, when subtracting, you always have to put the bigger number first' 'That's correct, well done'

Table 2. Content of instructional support, coding scheme and examples, adapted from Rubie-Davies et al. (2010), Schnebel and Wagner (2016) and Krammer (2009).

Content of instructional support	Description	Coding examples (translated from German)
Explanations oriented towards understanding	Focus on supporting understanding though providing an explanation, without involving the pupil deeply	'The beaver gets branches to build a nest' 'You need to put glue at three places in order for it to hold'
Dialogic explanations	Focus on building understanding with eliciting the pupil's explanations (co-constructivist teaching)	'What do you already know about . . . ?' 'How do you approach solving the task today?'
Transmission of facts	Knowledge, keywords, hints, step by step procedures	'Write . . . here again, come on' 'next we need to know, whether . . . '
Transmission: solving the task for the pupil	Telling the correct result, write for the pupil	Writes on the pupil's work sheet, uses scissors instead of pupil
Feedback related to the task	Task and content is referred to, the evaluation is related to the content of the task.	'Watch closely' 'Focus on this calculation task. Do you notice anything?'
General feedback	General praise or critique regarding the solution provided	'good', 'well done' 'mmmh' (approving) 'stop it!'
Motivation related to task	Motivating to solve or complete the task	'Just this one task, after that we play' 'You will succeed'
General motivation	Motivating, showing understanding for the pupil	'I am coming to help you right after this' 'Are you tired?'
Observing, listening, waiting	Observe, what the pupil does, listening to the pupil,	sits next to the pupil and waits, listens to the pupil reading aloud
No allocation	Categories do not fit	

This coding scheme was applied to all instructional support provided by either teacher or TA for the pupil with SEN in those classes, where the TA was deployed for this specific pupil with SEN.

Statistical analysis

All codes from the video analysis in MAXQDA (VERBI Software, 2018) were exported regarding duration (seconds of a code) or occurrences (how often was this code given). The tool MAXQDA also allows for data retrieval combining several categories (i.e. organisational support for higher attaining pupils by the teacher). Codes were exported to SPSS 25 (IBM Statistical Package for Social Sciences) for quantitative data analysis. In the analysis, non-parametric tests were used, as the variables did not meet the criteria of normal distribution. For comparing the two models, the Mann-Whitney-U-Test was used. For the comparison between the instructional support by the TA or the teacher, Wilcoxon for paired samples was chosen.

Results

In order to investigate the support provided by TAs and teachers during individual seatwork, the analysis focuses on the three research sub-questions. First, an overview is

provided of the type of support given during individual seatwork in the whole sample (N = 31 classes), comparing TAs and teachers in the two models. Second, the focus is on the content of the instructional support provided by TAs and teacher for pupils with SEN. To this end, 15 classes with TAs being employed for a specific pupil with SEN will be used. Third, it is investigated, whether the TAs being deployed for the whole class (n = 16) provide instructional support for all pupils regardless of their attainment levels during individual seatwork, or whether there are differences between TAs and teachers regarding the pupils they support.

Individual support during individual seatwork

Individual seatwork occurred on average two-thirds of the time video graphed, on average 63 minutes per class. Table 3 shows the overall mean length of individual support provided by TAs and teachers, as well as the duration for the three different types of support: organisational, attention-guiding support and instructional.

From the three types of individual support distinguished, instructional support is by far the most common for both, teachers and TAs. TAs have longer interactions than teachers providing individual support (total) and instructional support. This is the case for both models. Furthermore, in the model where the TA is deployed for a specific pupil with SEN, the teacher is providing more organisational support than the TA.

Instructional support for pupils with SEN during individual seatwork

In order to describe the kind of instructional support which pupils with SEN receive from the TA and the teacher, all interactions which were coded as instructional support were analysed in more detail, taking the content, i.e. explanations, transmission of facts, feedback, into account. Table 4 provides the descriptives for TAs and teachers.

The pupils with SEN receive significantly more often and longer instructional support from the TA than from the teacher, the difference between TA and teacher using the Wilcoxon test for paired sample is significant for occurrence and duration for all the codes, except for the duration of dialogic explanation, with only a tendency. The mean of the total duration of instructional support for pupils with SEN during individual seatwork is for TAs at 25.54 minutes, for teachers at 1.86 minutes. The teachers in general have very short interactions of instructional support with the pupils with SEN, whilst the TAs more often stay in the interaction, with more time observing, listening and waiting. When providing

Table 3. Individual support distinguished in minutes by type and TA versus teacher in the two models and in total (significant differences between TA and teacher mean duration * $p < .05$; *** $p < .001$ Wilcoxon for paired sample).

Mean duration (minutes) per type of individual support	Model TA for SEN n = 15 classes		Model TA as general aide for the class n = 16 classes		Total sample N = 31 classes	
	TA	Teacher	TA	Teacher	TA	Teacher
Organisational	3.62*	7.69*	5.72	5.89	4.71	6.76
Attention- guiding	0.38	0.50	0.33	0.53	0.35	0.52
Instructional	35.32*	15.78*	27.68*	17.33*	31.37***	16.58***
Total	39.33*	23.97*	33.73*	23.75*	36.43***	23.85***

Table 4. Content of instructional support for pupils with SEN, descriptives and differences: all comparisons between TA and teachers using the paired Wilcoxon test were significant, with the exception of dialogic explanations, which showed a tendency (p = .055).

	TA (n = 15)		Teacher (n = 15)	
Content of instructional support for pupils with SEN during individual seatwork	Mean Occurrence	Mean Duration minutes	Mean Occurrence	Mean Duration minutes
Explanations oriented towards understanding	4.79	1.25	.53	0.15
Dialogic explanations	2.00	1.75	.67	0.37
Transmission of facts	32.33	8.47	2.53	0.47
Transmission: solving the task for the pupil	10.87	2.89	.40	0.06
Feedback related to the task	6.67	1.07	1.20	0.29
General feedback	7.33	0.85	.93	0.08
Motivation related to task	4.33	0.95	.13	0.02
General motivation	1.60	0.31	.07	0.01
Observing, listening, waiting	26.07	7.83	2.27	0.41
No allocation	1.07	0.17	.00	.00
Total	97.06	25.54	8.73	1.86

instructional support, TAs on average wait, listen and observe the pupil during 7.83 minutes with an occurrence of 26.07 times.

The TAs are transmitting facts most of the time when providing instructional support: Transmitting facts occur on average 32.33 times with a mean duration of 8.47 minutes – approximately a third of the time of their support. Quite often, on average 10.87 times, the TA tells the pupil the correct result or solves the task for the pupil. Teachers are providing the correct results much less than the TA. When comparing the type of instructional support, a more transmissive way of instructional support provided by the TAs becomes apparent.

The analysis of the content of instructional support provided for the pupil with SEN by the TA and the teacher shows very clearly, that the teacher only has very few very short interactions with the pupil with SEN, whilst the TA provides much instructional support and stays in interaction with the SEN pupil longer. The content of the TAs' instructional support focusses on transmission. Indeed, they very often just provide the result, or tell facts. Explanations focused on understanding and dialogue are relatively rare.

Instructional support provided in classes with TAs employed as general aide

For the classes where TAs are employed for the whole class it is analysed as to whether TA and teacher also differ regarding the instructional support they provide for pupils. A proximate indication of the attainment level of the children is used: the teachers were rating the overall performance in school of the pupils as either low, average or high. Table 5 provides the results of the instructional support provided for pupils in relation to the three attainment levels by TAs and teachers.

During individual seatwork, higher attaining pupils receive little instructional support from TA and teacher, as they might not have any problems with the tasks they are given to work on. Lower attaining pupils receive significantly longer instructional support from TAs than from teachers. With regard to the average attaining pupils, who generally form the largest group within the class, the instructional support provided by TAs and teachers is of similar duration.

Table 5. Instructional support provided by TA and teacher for different attainment groups during individual seatwork in classes where TAs are employed for the whole class (* significant Wilcoxon paired sample $p < .05$).

	Mean Duration (minutes)	
Instructional support during individual seatwork provided for	TA (n = 16)	Teacher (n = 16)
Lower attaining pupils	14.02*	7.32*
Average attaining pupils	16.13	10.14
Higher attaining pupils	2.35	2.49
Total	32.50*	19.95*

Discussion

The research study aimed at examining the teachers' and TAs' interactions with pupils based on observational data in order to analyse how these interactions compare and how they reflect the roles foreseen for TAs and teachers in the two models. In the results presented, comparisons between TA-pupil interactions and teacher–pupil interactions are made, as well as comparison of the two models.

The first research sub-question sought to discern whether TAs and teachers support differs, as is foreseen in Swiss policy. The analysis of the support provided by TAs or teachers during individual seatwork reveals that instructional support is more prevalent than organisational and attention-guiding support. The focus on instructional support does not differ between the two models of deployment of TAs nor between TAs and teachers. The findings tie in with research results showing that TAs are as much engaged in instruction as teachers (Webster, Blatchford, and Russell 2012). Clearly, this contradicts policy claims that TAs should provide administrative support to the teacher but not 'teach' (LCH 2017). The high amount of instructional support provided by both TAs and teachers during individual seatwork compared with the low amount of organisational and attention-guiding support raises the question as to whether the distinction implied in policies on TA deployment is appropriate. Heinrich (2016) claims, based on theoretical considerations, that pedagogical and non-pedagogical activities can never be totally separated. Further research could, therefore, examine whether the support required during individual seatwork is above all instructional and in what ways pupils' learning could best be supported. Regarding policy development, it needs to be discussed, whether policy claims to distinguish the type of support provided by TAs and teachers are feasible.

The second research sub-question focused on pupils with SEN, comparing the content of the instructional support they receive by the TA and the teacher. The analysis revealed that TAs who were deployed to support inclusion of a specific pupil with SEN provided instructional support far more extensively for the specific pupil than the teachers were. Not only did teachers engage considerably less with the pupil with SEN, some of the observed teachers had no individual interaction with the pupil with SEN during individual seatwork. This finding mirrors results from other research, raising concerns that the reliance on TAs for inclusion of pupils which SEN can lead to insular relationships and a reduction of learning support through the teacher (Butt 2016; Giangreco, Broer, and Edelman 2001; Webster et al. 2011).

The detailed analysis of the content of instructional support provided to the pupil with SEN reveals that TAs provide instructional support in a more transmissive way. On average, 11 interactions of a total of 97 are such that the TA gives the correct result or does the task for the pupil. This could be interpreted as a concern of the TA to help the pupil of SEN to fulfil the task somehow (Radford, Blatchford, and Webster 2011; Rubie-Davis et al. 2010) and as an indicator of the delegation of the teacher's responsibility for the learning processes of pupils with SEN to the TA (Wendelborg and Tøssebro 2010). The rare occurrence of dialogic explanation shows that scaffolding is difficult for TAs to provide, possibly due to a lack of diagnostic competencies needed to provide contingent learning support (Van De Pol, Volman, and Beishuizen 2010). However, from a co-constructivist perspective, scaffolding and learning aimed at understanding are very important for learning. This raises questions about the quality of learning support, as pupils with learning difficulties have an enhanced need to receive support from a qualified professional (Webster et al. 2011). Based on international research (Demmer, Heinrich, and Lübeck 2017; Giangreco 2021) it has to be assumed that the problem cannot be met by an increase of TAs' training but that it should be understood as a structural problem of relying on TAs for inclusion.

The third research sub-question focused on the model of deployment of a TA as a general aide to the whole class, examining whether the TA is providing instructional support to all pupils regardless of their attainment-level. The results show that when a TA is not employed for a specific pupil with SEN but for the class as a whole, the TA nonetheless spends more time providing instructional support for the lower attaining pupils than the teacher does. This raises concerns whether lower attaining pupils are as a result receiving less support from the teacher. Whilst it has been advised that TAs could be deployed to support the class as a whole to free up the teacher to provide focused support for lower-attaining pupils (Zumwald 2014), this practice has not been implemented in the classes participating in this study. The results reported here reveal that the problem of insular relationships arises not only when TAs are deployed for a specific pupil with SEN but also when TAs are deployed as a general aide to the whole class.

The use of observational data on the cooperation of TAs and teachers has proved very advantageous as the method allowed the simultaneous comparison of the activities of TAs and the teachers. It has, however, to be noted, that the audio quality was such that only the utterances of the TAs and teachers could be analysed, but not that of the pupils. In order to evaluate the effects of the type and content of instructional support provided by the TAs and teachers on the learning process of the pupil, research focusing on the co-constructive learning process is needed.

Conclusion

The findings of this study lead to the conclusion that the deployment of TAs in general and the reliance on TAs for the inclusion of pupils with SEN in particular is not unproblematic. The analysis of the content of instructional support provided for pupils with SEN revealed long durations provided by the TAs with a more transmissive rather than co-constructivist approach, thus raising concerns about insular relationships and excessive proximity (Giangreco 2013). As Zumwald (2015) suggests, professional development for the teachers is needed for the teachers concerning the

effective deployment of TAs in order to reduce these negative effects. There are also repercussions for policy development. Whilst the deployment of TAs as general aides for the whole class might reduce some of the negative effects, the research presented here reveals that the difference between the two models is not considerable. Also, TAs deployed as a general aide provide more instructional support to the lower-attaining pupils than the teachers. In conclusion, the heavy reliance on TAs for inclusive education needs to be fundamentally questioned. Despite formulating policies such as 'TAs should not teach' and differentiating between two models of TAs' deployment, the same problems of insular relationships and more transmissive instructional support have been identified in this study, in line with international research. As Giangreco (2021) argues, too often the underlying assumption goes unchallenged that the deployment of TAs is *the* answer to inclusion-related pedagogical challenges. As Switzerland has only recently introduced TAs into mainstream schools, it could be questioned as to whether the employment of TAs is the optimal policy to enhance inclusion.

Acknowledgments

We are very grateful to the teachers, teaching assistants, and the pupils who gave their time to take part in this research.

We also wish to thank the reviewers of the European Journal of Special Needs Education for their most valuable remarks.

Disclosure statement

We wish to confirm that there are no known conflicts of interest associated with this publication.

Funding

The present study is based on the research project 'The cooperative practices of teaching assistants and teachers' funded by the Swiss National Science Foundation (Project number 165967, PI Bea Zumwald). The Open Access Publication of this chapter was funded by the Open Access Publication Fund of the St.Gallen University of Teacher Education (PHSG).

Notes on contributors

Franziska Vogt, Prof. Dr., leads the Institute of Research in Teaching and Learning at St.Gallen University of Teacher Education. Her research interests encompass professionalization and teacher collaboration, as well as quality in early childhood education and care, centering on play, language, mathematics and gender. She specializes in mixed-method approaches.Address for correspondence: Prof. Dr. Franziska Vogt, Institute of Research in Teaching and Learning, St.Gallen University of Teacher Education, Notkerstr.. 27, 9000 St.Gallen, Switzerland. franziska.vogt@phsg.ch

Annette Koechlin, M.A., M.Sc, has conducted her doctoral research at the St.Gallen University of Teacher Education and continues as a senior lecturer at the University of Teacher Education in Special Needs in Zuerich, Switzerland. Her research interests are inclusion, participation, professionalisation, and videoanalysis.

Annina Truniger, M.A., is a PhD candidate at the University of Tubingen, Germany and the St Gallen University of Teacher Education. Her main research interests include research on heterogeneity and inclusion as far as inequality in and through educational institutions.

Bea Zumwald, Prof. Dr., is a professor at the St.Gallen University of Teacher Education. Her research interest concerns multiprofessional collaboration in inclusive schools, special education, inclusive teaching, and qualitative research methods.

ORCID

Franziska Vogt http://orcid.org/0000-0002-2023-0431
Bea Zumwald http://orcid.org/0000-0002-6558-3783

References

Appel, J., and U. Rauin. 2016. "Quantiative Analyseverfahren in der Videobasierten Unterrichtsforschung." In *Videoanalysen in der Unterrichtsforschung: Methodische Vorgehensweisen und Anwendungsbeispiele*, edited by U. Rauin, M. Herrle, and T. Engartner, 130–152. Weinheim: Beltz Juventa.

Asbjørnslett, M., G. H. Engelsrud, and S. Helseth. 2015. "Inclusion and Participation in Everyday School Life: Experiences of Children With Physical (Dis)abilities." *International Journal of Inclusive Education* 19 (2): 199–212. doi:10.1080/13603116.2014.916353.

Baumann, B. 2019. "Integrativen Unterricht gemeinsam planen, durchführen und reflektieren: Unterrichtsbezogene Kooperation zwischen Regellehrpersonen und Schulischen Heilpädagoginnen und Heilpädagogen." *Schweizerische Zeitschrift für Heilpädagogik* 25 (10): 28–33.

bfs (2020) "Klassengrösse." Accessed 24.02.2021 https://www.bfs.admin.ch/bfs/de/home/statistiken/bildung-wissenschaft/bildungsindikatoren/themen/ressourcen-betreuung/klassengroesse.assetdetail.12527161.html

Blatchford, P., A. Russell, and R. Webster. 2012. *Reassessing the Impact of Teaching Assistants. How Research Challenges Practice and Policy*. London: Routledge.

Blatchford, P., P. Bassett, P. Brown, and R. Webster. 2009. "The Effect of Support Staff on Pupil Engagement and Individual Attention." *British Educational Research Journal* 35 (5): 661–686. doi:10.1080/01411920902878917.

Bruehwiler, C., and F. Vogt. 2020. "Adaptive Teaching Competency. Effects on Quality of Instruction and Learning Outcomes." *Journal for Educational Research Online* 12 (1): 119–142.

Butt, R. 2016. "Teacher Assistant Support and Deployment in Mainstream Schools." *International Journal of Inclusive Education* 20 (9): 995–1007. doi:10.1080/13603116.2016.1145260.

Demmer, C., M. Heinrich, and L. Anika. 2017. "Rollenklärung als zentrale Professionalisierungsherausforderung im Berufsfeld Schule angesichts von Inklusion: Zur Gegenstandsorientierten Konzeption einer Lehrerfortbildung am Beispiel von Schulbegleitungen." *Die Deutsche Schule* 109 (1): 28–42.

EASIE, 2020. "European Agency Statistics on Inclusive Education: 2018 Dataset Cross-Country Report." Odense, European Agency for Special Needs and Inclusive Education (EASIE). Accessed 24.02.2021 https://www.european-agency.org/sites/default/files/easie_2018_dataset_cross-country_report.docx

Egilson, S. T., and R. Traustadottir. 2009. "Assistance to Pupils with Physical Disabilities in Regular Schools: Promoting Inclusion or Creating Dependency?" *European Journal of Special Needs Education* 24 (1): 21–36. doi:10.1080/08856250802596766.

Giangreco, M. F. 2013. "Teacher Assistant Supports in Inclusive Schools: Research, Practices and Alternatives." *Australasian Journal of Special Education* 37 (2): 93–106. doi:10.1017/jse.2013.1.

Giangreco, M. F. 2021. "Maslow's Hammer. Teacher Assistant Research and Inclusive Practices at Crossroads." *European Journal of Special Needs Education* 36: 2.

Giangreco, M. F., S. M. Broer, and S. W. Edelman. 2001. "Teacher Engagement with Students with Disabilities: Differences between Paraprofessional Service Delivery Models." *Journal of the Association for Persons with Severe Handicaps* 26 (2): 75–86. doi:10.2511/rpsd.26.2.75.

Heinrich, M. 2016. "Unpädagogische Schulbegleitung? Professionstheoretische Interpretation der Befunde zur Nicht-Professionalisierbarkeit einer pädagogischen Tätigkeit." In *Schulbegleitung im Professionalisierungsdilemma. Rekonstruktionen zur inklusiven Beschulung*, edited by A. Lübeck and M. Heinrich, 129–143. Münster: Monsenstein und Vannerdat.

Kleickmann, T., J. Vehmeyer, and M. Kornelia. 2010. "Zusammenhänge zwischen Lehrervorstellungen und kognitivem Strukturieren von Unterricht am Beispiel von Scaffolding-Massnahmen." *Unterrichtswissenschaft* 38 (3): 210–228.

Koechlin, A., A. Truniger, B. Zumwald, and F. Vogt. 2019. "Koordination von Lehr- und Assistenzpersonen im gemeinsamen Unterricht." Paper presented at DGfE Jahrestagung der Kommission Professionsforschung und Lehrerbildung. Göttingen, September, 23–25.

Krammer, K. 2009. *Individuelle Lernunterstützung in Schülerarbeitsphasen*. Münster: Waxmann.

Krammer, K., K. Reusser, and C. Pauli. 2010. "Individuelle Unterstützung der Schülerinnen und Schüler durch die Lehrperson während der Schülerarbeitsphasen." In *Unterrichtsgestaltung und Unterrichtsqualität*, edited by K. Reusser, C. Pauli, and M. Waldis, 107–122. Münster: Waxmann.

Lacey, P. 2001. "The Role of Learning Support Assistants in the Inclusive Learning of Pupils with Severe and Profound Learning Difficulties." *Educational Review* 53 (2): 157–167. doi:10.1080/00131910124783.

LCH. 2017. "Kein missbräuchlicher Einsatz von Assistenzpersonal an Schulen. Positionspapier." Dachverband Lehrerinnen und Lehrer Schweiz. Accessed 24.02.2021. https://www.lch.ch/themen/thema/detail/kein-missbraeuchlicher-einsatz-von-assistenzpersonal-an-schulen–1

Malmgren, K. W., and J. Causton-Theoharis. 2006. "Boy in the Bubble: Effects of Paraprofessional Proximity and Other Pedagogical Decisions on the Interactions of a Student with Behavioral Disorders." *Journal of Research in Childhood Education* 20 (4): 301–312. doi:10.1080/02568540609594569.

Paccaud, A., and R. Luder. 2017. "Participation versus Individual Support: Individual Goals and Curricular Access in Inclusive Special Needs Education." *Journal of Cognitive Education and Psychology* 16 (2): 205–224. doi:10.1891/1945-8959.16.2.205.

Pauli, C., K. Reusser, and U. Grob. 2007. "Teaching for Understanding And/or Self-regulated Learning? A Video-based Analysis of Reform-Oriented Mathematics in Instruction in Switzerland." *International Journal of Educational Research* 46 (5): 294–305. doi:10.1016/j.ijer.2007.10.004.

PHSG 2020. "Klassenassistenz: Ihr Einsatz muss gut überlegt sein." Medienmitteilung der Pädagogischen Hochschule St. Gallen (2.7.2020) Accessed 24.04.2021. https://www.phsg.ch/sites/default/files/cms/Ueber-uns/Medien/Downloads/Medienmitteilungen/2020/E_Thema%203_Klassenassistenzen.pdf

Radford, J., P. Blatchford, and R. Webster. 2011. "Opening up and Closing Down: How Teachers and TAs Manage Turn-Taking, Topic and Repair in Mathematics Lessons." *Learning and Instruction* 21 (5): 625–635. doi:10.1016/j.learninstruc.2011.01.004.

Radford, J., P. Bosanquet, R. Webster, and P. Blatchford. 2015. "Scaffolding Learning for Independence: Clarifying Teacher and Teaching Assistant Roles for Children With Special Educational Needs." *Learning and Instruction* 36: 1–10. doi:10.1016/j.learninstruc.2014.10.005.

Rubie-Davies, C. M., P. Blatchford, R. Webster, M. Koutsoubou, and P. Bassett. 2010. "Enhancing Learning? A Comparison of Teacher and Teaching Assistant Interactions with Pupils." *School Effectiveness and School Improvement* 21 (4): 429–449. doi:10.1080/09243453.2010.512800.

Sandmeier, A., D. K. Heim, B. Windlin, and A. Krause. 2017. "Negative Beanspruchung von Schweizer Lehrpersonen. Trends von 2006 bis 2014." *Schweizerische Zeitschrift für Bildungswissenschaften* 39 (1): 75–94. doi:10.24452/sjer.39.1.5000.

Schnebel, S., and S. Wagner. 2016. "Muster im Handeln von Lehrpersonen – Eine videobasierte Untersuchung von Lernunterstützung auf Mikroebene." *Lehrerbildung auf dem Prüfstand* 9 (2): 157–178.

Schrader, F.-W. 2013. "Diagnostische Kompetenz von Lehrpersonen." *Beiträge zur Lehrerinnen- und Lehrerbildung* 31 (2): 154–165.

Sharma, U., and S. Salend. 2016. "Teaching Assistants in Inclusive Classrooms: A Systematic Analysis of the International Research." *Australian Journal of Teacher Education* 41 (8): 118–134. doi:10.14221/ajte.2016v41n8.7.

Simeonsson, R. J., G. S. Dawn Carlson, J. S. M. Huntington, and J. Lytle Brent. 2001. "Students with Disabilities: A National Survey of Participation in School Activities." *Disability and Rehabilitation* 23 (2): 49–63. doi:10.1080/096382801750058134.

Tews, L., and J. Lupart. 2008. "Students with Disabilities: Perspectives of the Role and Impact of Paraprofessionals in Inclusive Education Settings." *Journal of Policy and Practice in Intellectual Disabilities* 5 (1): 39–46. doi:10.1111/j.1741-1130.2007.00138.x.

Van De Pol, J., M. Volman, and J. Beishuizen. 2010. "Scaffolding in Teacher–Student Interaction: A Decade of Research." *Educational Psychology Review* 22 (3): 271–296. doi:10.1007/s10648-010-9127-6.

VERBI Software. 2018. MAXQDA 2018 [Computer Software]. Berlin, Germany: VERBI Software.

Vogt, F. 2003. "New Managerialism and Primary Teachers' Collegiality and Teamwork." In *Leading People and Teams in Education*, edited by L. Kydd, L. Anderson, and W. Newton, 245–260. London: Paul Chapman.

Vogt, F. 2013. "Kompetenzen für eine adaptive Didaktik." In *Jahrbuch für Allgemeine Didaktik*, edited by K. Zierer, 196–202. Baltmannsweiler: Schneider Verlag Hohengehren. doi:10.18747/PHSG-coll3/id/750.

Webster, R., P. Blatchford, and A. Russell. 2012. "Challenging and Changing How Schools Use Teaching Assistants: Findings from the Effective Deployment of Teaching Assistants Project." *School Leadership & Management* 1–19. doi:10.1080/13632434.2012.724672.

Webster, R., P. Blatchford, P. Bassett, P. Brown, C. Martin, and A. Russell. 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. doi:10.1080/08856257.2010.513533.

Webster, R., P. Blatchford, P. Bassett, P. Brown, C. Martin, and A. Russell. 2011. "The Wider Pedagogical Role of Teaching Assistants." *School Leadership & Management* 31 (1): 3–20. doi:10.1080/13632434.2010.540562.

Wendelborg, C., and T. Jan. 2010. "Marginalisation Processes in Inclusive Education in Norway: A Longitudinal Study of Classroom Participation." *Disability & Society* 25 (6): 701–714. doi:10.1080/09687599.2010.505744.

Wood, D., J. S. Bruner, and G. Ross. 1976. "The Role of Tutoring in Problem Solving." *Journal of Child Psychology and Psychiatry* 17 (2): 89–100. doi:10.1111/j.1469-7610.1976.tb00381.x.

Zumwald, B. 2014. "Spannungsfelder beim Einsatz von Klassenassistenzen." *Schweizerische Zeitschrift für Heilpädagogik* 20 (4): 21–27.

Zumwald, B. 2015. "«Professionalisierung von Lehrpersonen und Fachpersonen Sonderpädagogik für den Einsatz von Assistenzpersonal in inklusiven Schulmodellen»." In *Veränderungen und Beständigkeit in Zeiten der Inklusion. Perspektiven sonderpädagogischer Professionalisierung*, edited by H. Redlich, L. Schäfer, G. Wachtel, K. Zehbe, and V. Moser, 44–54. Bad Heilbrunn: Klinkhardt.