The Roles of Teaching Assistants in Pre-Kindergarten Classrooms: Consequences of a Demanding Curriculum

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Abstract

Examining the behaviors of teachers and their assistants in 80 prekindergarten classrooms over the course of an academic year, this study investigated the roles of teaching assistants within the context of a larger project evaluating the *Tools of the Mind* curriculum. The amount and context for instruction was compared for teachers and assistants. Additionally, we focused more closely on the behaviors of assistants in the *Tools* classrooms where the assistants are expected to behave more like co-teachers. Teaching assistants in *Tools of the Mind* classrooms delivered more instruction and more often engaged in teaching literacy than assistants in the other early childhood classrooms. Implications for curricula with an increased expectation for the role of assistants are discussed.

In the last two decades, the number of teaching assistants around the world has increased (Cremin, Thomas, & Vincett, 2005; Sosinsky & Gilliam, 2011). In the United States, this increase has been partially driven by the increase in the number of children attending preschool programs, and especially by the increase in state-funded pre-kindergarten programs. In those programs, as the number of children increase, so must the number of adults. Teaching assistants are used to help meet mandated ratio requirements, usually at a lower cost than hiring additional teachers (Jones, Ratcliff, Sheehan, & Hunt, 2012).

The requirements for individuals hired as teaching assistants are usually minimal (Ratcliff, Jones, Vaden, Sheen, & Hunt, 2011; Sosinsky & Gilliam, 2011). For example, lead teachers in most publicly funded pre-kindergarten programs are required to have a college degree and educational courses, while teaching assistants are not. Teaching assistants, therefore, have a broad range of educational and experiential backgrounds.

Historically, teaching assistants were hired to take on clerical and managerial tasks, in order to free up teacher time for more instruction and student support (Gerber, Finn, Achilles, & Boyd-Zaharias, 2001). For those types of tasks, additional education and training were not needed. There is evidence that teaching assistants are no longer limited to supporting instruction in these distal ways.

In the United Kingdom, Webster, Blatchford, and colleagues conducted the Deployment and Impact of Support Staff (DISS) Project, a longitudinal study focused on the patterns and impact of the widespread use of teaching assistants across grade levels(Webster et al, 2011). They found that teaching assistants were spending as much as half of their day in a direct student and instructional support role, as opposed to one of curriculum or teacher support (Blatchford, Bassett, Brown, & Webster 2009). In addition, they found that in their UK sample teachers were more likely to be working in the whole group context, while teaching assistants were most often working with individuals and

small groups of children (Blatchford, Bassett, Brown, Koutsoubou, Martin, Russell, Webster & Rubie-Davies, 2009).

In Australia, Butt and Lowe (2012) examined the responsibilities of teaching assistants in a preschool and primary school, from the perspectives of different stakeholders, including lead teachers and the teaching assistants themselves, finding that each group has a different understanding of the responsibilities of the assistants. Teachers saw teaching assistants as hired to support the teachers and the learning program, and to provide equitable opportunities to students. Teaching assistants, however, saw themselves as saw themselves as primarily responsible for supporting students directly. Both teachers and assistants indicated that it was important for teaching assistants to be able to support literacy and numeracy activities in the classroom.

The majority of the research on behaviors of teaching assistants in the United States has been done in special education and inclusive settings. French (1998) found results similar to Butt and Lowe's Australian group in her examination of paraeducators in inclusive classrooms. Teachers and teaching assistants expressed some confusion about appropriate teaching assistant responsibilities, though most included instruction in their expectations. In his work on teaching assistants (paraeducators), in inclusive settings Giangreco (2003) found that teachers were willing to give instructional responsibility to teaching assistants when they had received only a minimal amount of training. This instruction was usually provided to individual or small groups of students who needed additional support in the curriculum.

According to Curby and colleagues (2012), there is little understanding of the role of teaching assistants in regular education classrooms in the United States. A study of assistants in the early elementary grades demonstrated that teaching assistants were doing instructional tasks, as well as administrative and non-instructional tasks, but offered no comparison to teacher behaviors (Gerber et al, 2001). Sosinsky and Gilliam (2011) collected information about the roles of teaching assistants in the

classroom by surveying teachers, and Fisher and Pleasants (2012) surveyed the teaching assistants themselves. The surveys indicated that teachers and teaching assistants have different views of what defines the role of the teaching assistant. Teachers focused on non-instructional and administrative tasks while teaching assistants saw instruction as their primary role. Two studies in early childhood classrooms included observations of teaching assistants. Ratcliff et al (2011) included a single, forty-minute observation of the assistants they studied. They also found that teaching assistants were engaged in direct instruction, for an average of 7.7 of the 40 minutes. Curby et al, (2012) studied teacher-teaching assistant pairs in Head Start, allowing for comparisons between the two groups. However, they compared teachers and assistants in terms of their performance on the three domains of the Classroom Assessment Scoring System (CLASS; Pianta, LeParo, & Hamre, 2008) and did not analyze observed behaviors of the two groups. There is a gap in the research comparing the behaviors of teachers and teaching assistants in early childhood settings.

With new emphasis on more academically focused curricula in pre-k, evidence is also mounting that teaching assistants are taking on duties for which they may not be adequately prepared or trained (Minondo, Meyer, & Xin, 2001). Little attention has been focused, however, on how these demands may have affected the behaviors of teaching assistants. In fact, few observational data have been collected on assistants in curriculum comparison studies to make it possible to determine if their roles are different with different curricula.

Tools of the Mind (Bodrova & Leong, 2007) is an example of curriculum in which the assistant is expected to play a parallel role to the teacher for many activities, for example, simultaneously conducting his or her own comparable small group. The curriculum as prescribed could not be implemented if the assistant did not move into a co-teacher role for many of the activities.

This study was guided by the following two research questions:

1) How do the classroom behaviors of teaching assistants differ from those of lead teachers in prekindergarten classrooms generally?
2) How do the classroom behaviors of teaching assistants in classrooms using the *Tools of the Mind* curriculum differ from those of teaching assistants in classrooms that use a variety of less demanding curricula?

Method

Sample

This study was conducted as part of a larger randomized controlled trial taking place in public prekindergarten classrooms in two Southeastern states. Eighty classrooms participated in the study, in which classroom teachers were randomly assigned to use *Tools of the Mind*, a comprehensive pre-kindergarten curriculum, or to continue using their existing curriculum. Existing curricula included *Creative Curriculum*, *Opening Worlds of Learning,* and several others used by a smaller number of teachers. Forty-two classrooms were assigned to the *Tools of the Mind* experimental group, and thirty-eight classrooms were assigned to the control group.

All participating teachers had at least a Bachelor's degree, and thirty-eight teachers had completed some coursework at the graduate level. Teacher experience ranged from one to 34 years (one to 22 in Pre-kindergarten), with a mean of 12.3 years (7.4 in Pre-kindergarten). Teaching assistant education levels ranged from high school completion to graduate level degrees. Pre-kindergarten experience among teaching assistants ranged from 0.25 years to 17.5 years, with a mean of 4.9 years. All classrooms in the study served 4 year old students. For all schools, income eligibility for the federal free or reduced-price lunch status was a primary criterion for enrollment. The average number of children per class was 17.1, with a range from 14-20. Most classrooms had only one teaching assistant; fourteen classrooms had two assistants. No significant differences in characteristics were found between *Tools of the Mind* classrooms and comparison classrooms.

Measures

Data were collected on the activities and behaviors of the lead teacher and all teaching assistants in each classroom three times across the school year using an observation tool, the *Teacher Observation in Preschools* (TOP) (Bilbrey, Vorhaus, Farran, & Shufelt, 2007). The TOP depicts the teachers' behaviors in a series of three-second snapshots. The teachers and teaching assistants were observed for a three second window and then immediately coded across nine categories. Teachers were observed for a maximum of 20 separate instances, or sweeps, per school day. Teachers were not coded when the class was out of the classroom (for meals, outdoor time, "specials," fire drills, or hallway bathroom visits) or during nap time. All observers achieved interrater reliability with an experienced anchor observer at each time point. TOP interrater reliability Kappa coefficients ranged from .82 to .86. Observers began the observations when the school day began and stopped when it ended or the only thing left was nap. Observations took place in October, January, and April.

For analysis purposes, the TOP snapshots were aggregated across observations for each teacher to create a comprehensive picture of the overall behavior of each.

Analysis

A descriptive quantitative approach was used to examine the similarities and differences in the classroom behavior of teachers and teaching assistants. Aggregated observational data were used for teachers and teaching assistants to provide a broader picture of each group's classroom behavior. The allocation of time to different classroom tasks was taken as a series of proportions across the day. T-tests were carried out to determine the significance of differences in mean proportions of time spent in different tasks. For comparisons of instructional behavior, the proportion of time spent in an instructional task was further divided into the classroom context (schedule), who was nearby during instruction (audience), and the subject area being taught (focus).

The effect of the *Tools of the Mind* curriculum on the behavior of the teaching assistants was also examined. Analyses parallel to those conducted on the teacher and teaching assistant were used to compare teaching assistants in classrooms using different types of curricula.

Results

Research Question 1: Comparing Lead Teachers and Teaching Assistants

Examining the tasks of teachers and assistants over the course of an observation day revealed that teachers and teaching assistants allocated their time differently. Figure 1 shows the allocation of time for teachers and teaching assistants across tasks. In Figure 1, it can be seen that both teachers and teaching assistants provided instruction. However, the proportion of their day spent on instruction was significantly greater for teachers ($t=19.26$, $df=79$ $p<.001$) compared to assistants. Teaching assistants spent more of their day managing and preparing materials, and monitoring classroom activities ($t=-2.67$ $p=.009$; $t=-9.28$, $p=.000$).

Figure 2 provides information examining the instructional behaviors more closely. When teachers and assistants were providing instruction, the patterns of behavior for teachers and teaching assistants were different. Teachers largely provided their instruction during whole group times (57.4%), though some of their instruction occurred during small group. When assistants instructed, 72.8 % of the time it took place during small group and center times, with very little of their instruction occurring during whole group activities. In addition, teachers were most likely to be observed leading instruction for the whole group of children, while assistants were more likely to observed interacting with a small group. Assistants were twice as likely as teachers to be observed offering their instruction to a single child. When teachers and assistants were instructing, however, the content focus of their instruction was quite similar. The main subject area of instruction was Reading Readiness (48.4% teachers; 44.2% assistants) with considerably less of their instructional time focused on Math (16.8%, 14.1%) or Science/ Social Studies (15.4%, 9.7%).

To get additional information about the instructional interactions in which teachers and assistants were engaged, both the tone and the level of instruction during instruction were examined for teachers and assistants. Neither teachers nor assistants were observed to be extremely negative during instruction, but the most positive ("vibrant") interactions were also very limited. Teachers were found to have more vibrant and pleasant tones during instruction than teaching assistants, as you can see in Table 1. The level of instruction overall was fairly low, with more than 95 percent of both teachers' and assistants' instruction falling in to the low and skills categories.

The earlier results indicated that teachers spent their instructional time working more often with the whole group, while assistants worked primarily with small groups and individual children. We then investigated the types of instruction occurring in small and whole group settings by teachers and assistants. Our observations show that teachers and assistants have similar types of instructional interactions in small groups. The left side of Table 2 shows the level of instruction, tone, and focus of teachers and assistants when working with small groups. One difference is that teachers split their focus more evenly between math, social studies/science, and other activities, while teaching assistants focused primarily on other subject areas such as art, music, and drama. In teaching whole groups, teachers' and assistants' interactions were also similar. The right side of Table 2 shows the patterns of behaviors during whole group instruction (however small that may be for assistants). It is notable that teaching assistants did less literacy instruction in whole groups than teachers. Note that teachers and assistants had similar patterns for levels of instruction across both small and whole groups, but the focus of their instruction was different. A comparison between small groups and whole groups for each position indicates that teachers have a wider range of instructional levels in whole groups, and have a slightly more positive tone working with the whole group. Teaching assistants have a less positive tone in whole group instruction and are more likely to be teaching at a low instructional level.

Research Question 2: Comparing Assistant Sub-Groups

Figure 3 presents comparison data on the tasks enacted by assistants who were in the *Tools of the Mind* classrooms compared to those who were in comparison classrooms. From Figure 3, it is apparent that teaching assistants in the experimental *Tools of the Mind* classrooms spent significantly more time leading instruction throughout the day than teaching assistants were observed to do in the control classrooms(t=4..38, df=78, p=.000). Control group teaching assistants spent more of their time monitoring the activities and the children (t=-2.46, p=.016). Both groups spent equivalent proportions of their day on managing and personal care of the children.

Despite differences in the amount of instruction each group of assistants provided children, when they were instructing, the behaviors of assistants in *Tools* and comparison classrooms were remarkably similar. Both groups of assistants delivered their instruction predominantly during small groups and centers times (73.19% Tools; 72.4% control), and primarily working with small groups of children (75.5%, 62.0%). Teaching assistants in Tools classrooms delivered more of their instruction during small groups, as was required by the curriculum, while comparison classroom assistants were more likely to instruct an individual child. As in the first analysis, both groups focused their instruction most on reading readiness type skills; teaching assistants in Tools classrooms spent more time in literacy instruction than assistants in comparison classrooms (47.91% and 38.28%). Additionally, an examination of the level of instruction indicates a difference between the two groups of assistants. Teaching assistants in Tools classrooms had an average of 5.48% of instruction at the inferential level. While this is still a low level overall, teaching assistants in the Control classrooms were observed instructing at the inferential level approximately .14% of the time. Table 3 shows the distribution of instruction across levels of instruction by teaching assistants in the two groups. There you can see that Tools teaching assistants do considerably less low-level instruction and more skills-instruction as well.

Discussion

With young children, teaching assistants are likely to be as important as teachers in their effect on classroom atmosphere and children's behaviors. Despite that fact, remarkably little is known about what their roles are. Debate exists concerning whether assistants are really "co-teachers." If that is the expectation, it is hard to explain the differences in qualifications and salaries compared to the lead teacher. This study provides detailed information across a large number of classrooms about how teaching assistants divide their time among the various behavioral tasks in the classroom. Moreover, differences in the behaviors of assistants are compared in classrooms with a curriculum that demands more teaching from them than is required from assistants in more typical early childhood classrooms.

Evidence from this study demonstrates that one of the tasks of teaching assistants is to provide instruction, and when they do provide instruction it is in different contexts from teacher. It is interesting to note how little of the instruction provided by the assistants is whole group instruction and how much of instruction by the teacher is. This finding mirrors what Webster and Blatchford found on their study of teaching assistants in the UK. (Blatchford et al, 2009b). One might wonder if the situation should be more balanced. Teachers might well be better instructional leaders for small groups and/or working with individual children.

Teachers' instruction was observed to be at higher level of complexity than teaching assistants' instruction. This difference may be due, at least in part, to the higher levels education and experience of teachers. Another possibility is that teachers have had more previous acquaintance with higher-level instructional strategies.

It is also clear that a curriculum that places more of an instructional expectation on teaching assistants does result in their carrying out that role more often than in standard early childhood classrooms. Interestingly, assistants were rarely included in the professional training sessions for *Tools of the Mind*. It was assumed that the teachers would help their assistants know how to carry out the

instructional activities. Curricula with an increased expectation for the role of assistants may be advised to focus on whether this change can actually work effectively in a classroom, and also develop the professional training to help make it successful.

This study provides the starting point. A crucial next step is to look at the impact of education, experience, and training on the quality of teaching assistant instruction. This step would then continue to develop a path towards connecting teaching assistants behaviors to student outcomes in pre-kindergarten. In addition, research on pre-kindergarten should include both teachers and teaching assistants as key participants in the classroom environment. As more data is collected on teaching assistants in a variety of settings, a more nuanced view of their role in pre-kindergarten classrooms, in comparison to lead teachers and in response to the effects of external demands, will emerge.

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Table 1. Level of Instruction and Tone for Teachers and Assistants During Instruction.

		Teachers	**Assistants**
Level of Instruction			
	High Inferential	0.11	0.00
	Inferential	4.33	3.00
	Skills Based	80.60	71.98
	Low	14.95	24.96
Tone			
	Vibrant	2.10	0.16
	Pleasant	60.16	53.00
	Flat	37.74	46.69
	Negative	0.00	0.15
	Extremely Negative	0.00	0.00

Table 2. Teacher and Assistant Instructional Interactions with Small Groups and Whole Groups

		Small Groups		Whole Group	
		Teachers	Assistants	Teachers	Assistants
Level of Instruction	High Inferential	0.00	0.00	0.25	0.00
	Inferential	3.56	3.15	4.65	4.17
	Skills	81.92	71.99	78.91	57.54
	Low	14.52	24.86	16.20	37.70
Tone	Vibrant	0.93	0.22	2.86	0.00
	Pleasant	57.19	53.64	64.48	49.40
	Flat	41.88	45.90	32.66	50.60
	Negative	0.00	0.24	0.00	0.00
Focus	Reading Readiness	44.96	43.63	50.15	39.48
	Math	18.59	13.52	15.94	9.13
	Social Studies/Science	12.82	8.11	18.26	15.48
	Other	23.47	34.73	15.65	35.91

Table 3. Level of Instruction and Tone During Instruction for Assistants in Tools and Control Classrooms.

		Tools Assistants	Control Assistants
Level of Instruction			
	High Inferential	0.00	0.00
	Inferential	0.14	5.48
	Skills	79.64	63.18
	Low	14.87	36.53
Tone			
	Vibrant	0.30	0.00
	Pleasant	51.93	54.32
	Flat	47.49	45.77
	Negative	0.28	0.00
	Extremely Negative	0.00	0.00

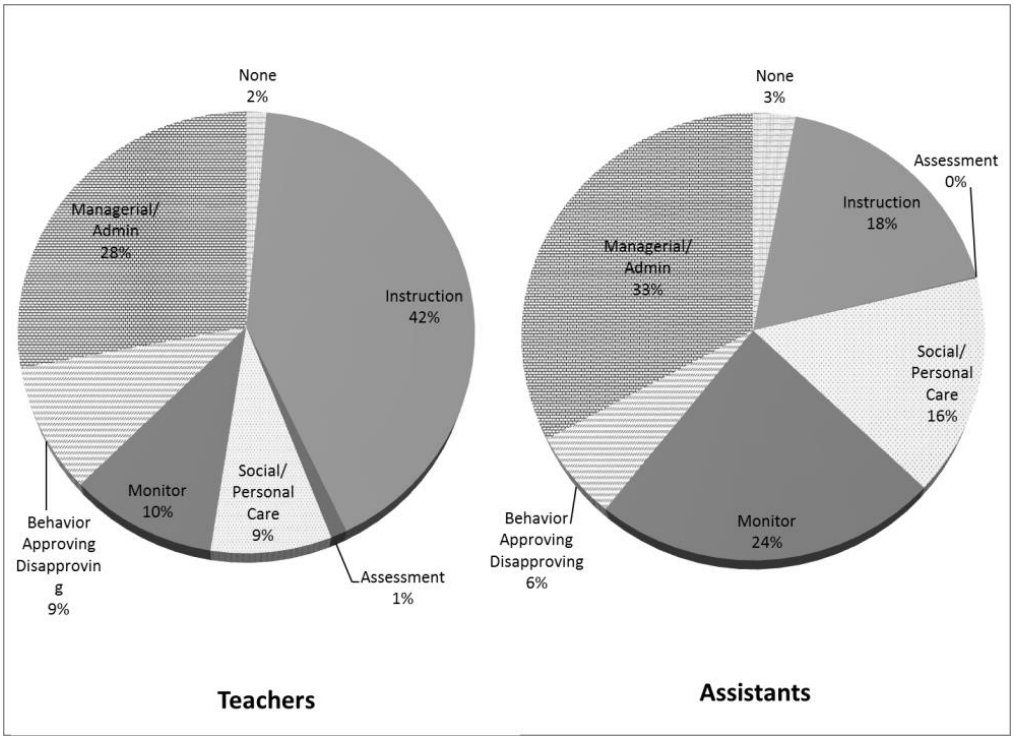

Figure 1. Allocation of time for teachers and teaching assistants.

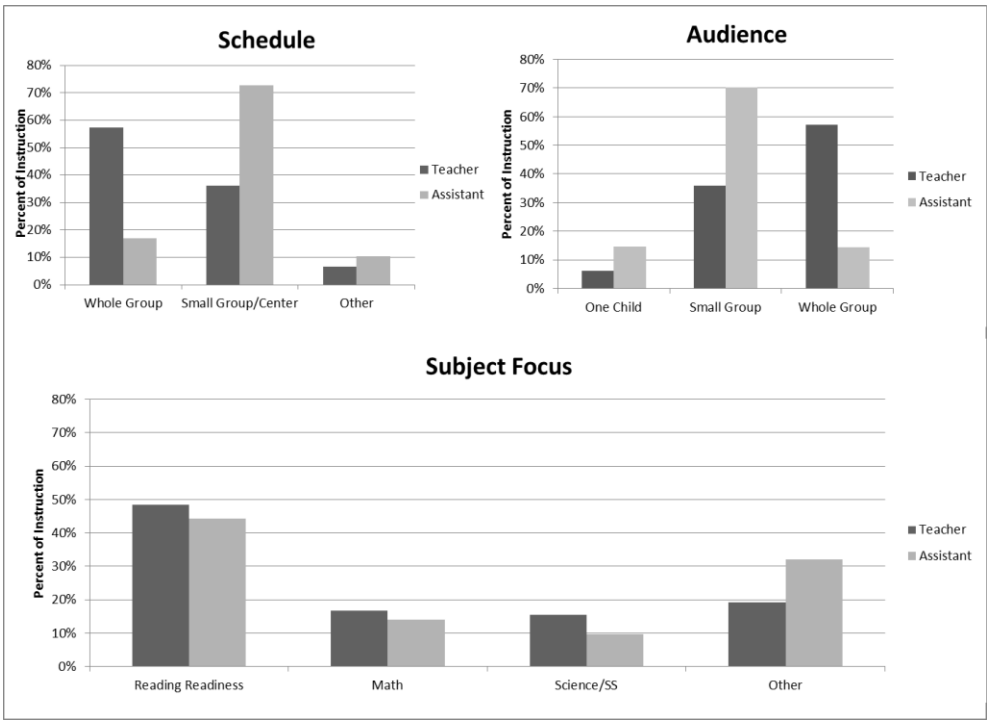

Figure 2. Teacher and assistant behaviors during instruction

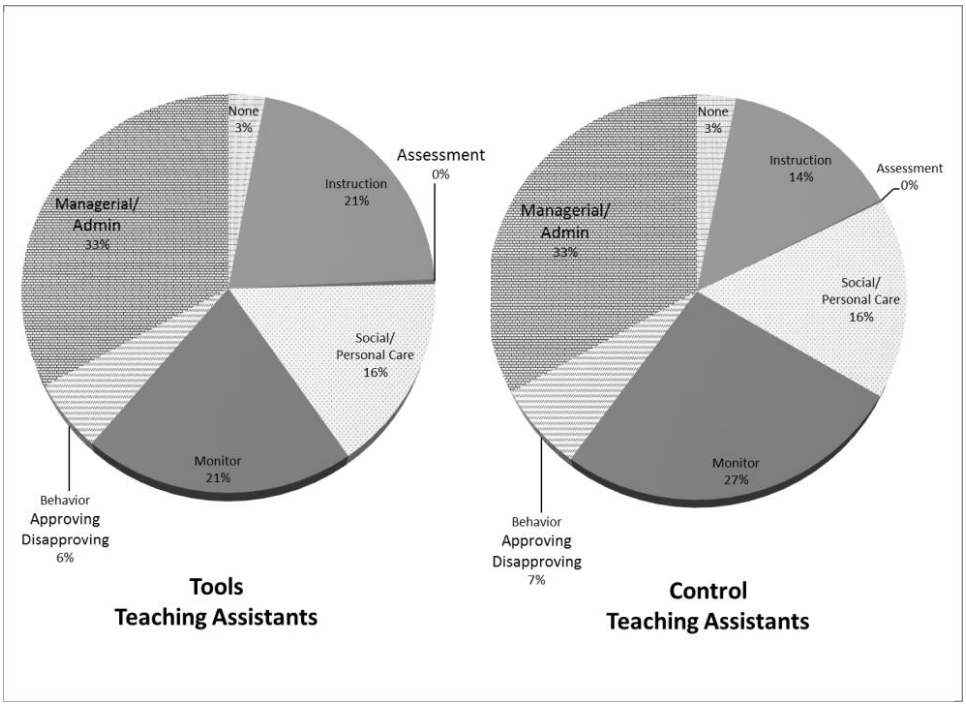

*Figure 3***.** Allocation of time for assistants in Tools and control classrooms

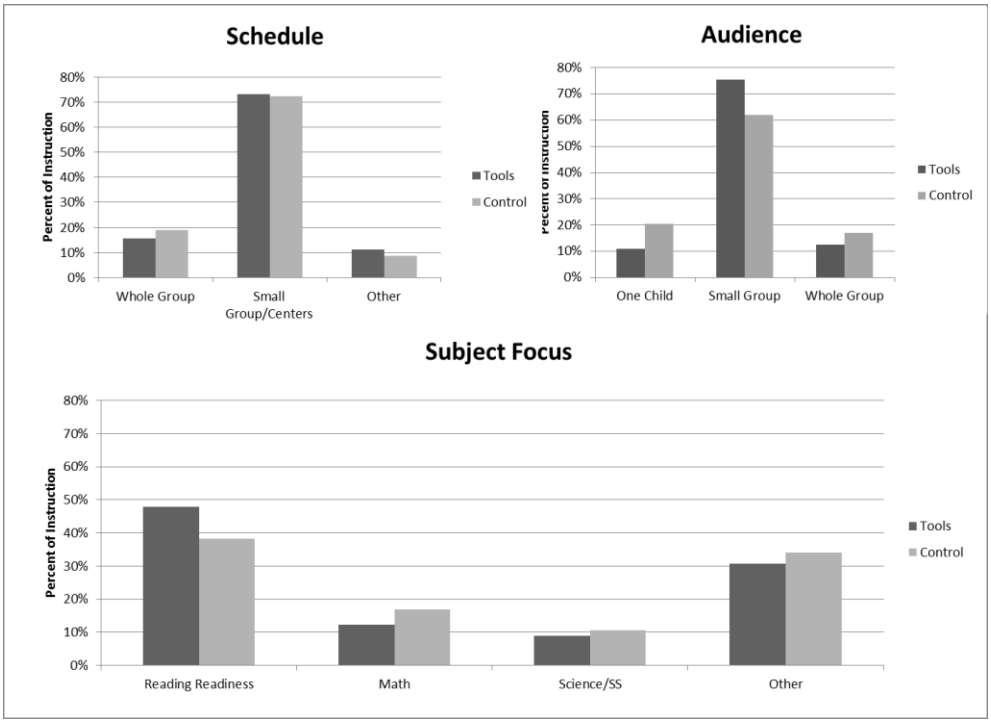

Figure 4. Assistant behaviors during instruction in Tools and control classrooms