

Practices of Effective and Less Effective Teachers Compared: BRIDGES Classroom Practices Study in Pakistan 1989, supervised by Andrea Rugh, Harvard University

Table 2: Average Sample Time Spent in Instructional Practices in Urdu by Effective and Less Effective Teachers (as measured by children's performance)

CATEGORY	URDU			
	Actual Time (min.)		Propor. Time (%) *	
	Eff	LE	Eff	LE
Review	2.0	3.3	5	8
Preliminaries	2.5	1.4	6	3
Presentation	9.1	10.3	21	25
Guided practice	10.8	11.1	24	27
Independent prac.	15.6	11.7	34	29
Homework	1.1	1.4	3	3
Other instruct.	3.0	1.5	7	4
Total instruct.	44.1	40.7	94	96
Non-instruct.	2.7	1.9	6	4
Total period	46.8	42.6	100	100

*Percent of total instructional time

In Urdu effective teachers use a little more time overall than less effective teachers. Overall both samples spend about 80 percent of the instructional time in the major activities of presentation, guided practice and independent practice, but distribute the time for these activities differently. Taking these major activities only, effective teachers distribute the time as follows: a quarter to presentation, a third to guided practice and over 40 percent to independent practice while the less effective teachers give about a third of this time to each. Thus there is less time given to presentation and more time given to independent practice by the effective teachers.

Table 3: Average Time Spent in Instructional Practices in Math

CATEGORY	MATH			
	Actual Time (min.)		Propor. Time (%) *	
	Eff	LE	Eff	LE
Review	4.2	1.9	9	4
Preliminaries	2.2	1.5	5	3
Presentation	6.6	10.5	14	22
Guided practice	15.0	19.1	32	40
Independent prac.	16.5	12.6	35	27
Homework	1.3	0.8	3	2
Other instruct.	1.5	1.1	3	2
Total instruct.	47.3	47.5	95	96
Non-instruct.	2.3	2.2	5	4
Total period	49.7	49.6	100	100

*Percent of total instructional time

In math, effective teachers spend about 80 percent time in the three major instructional activities compared with less effective teachers who spend almost 90 percent time in these activities.

Taking these activities alone, effective teachers give more than 40 percent time each to guided practice and independent practice, and less than half this amount of time to presentation. The less effective teacher spend a quarter of this time on presentation, almost a half of the time on guided practice, and less than a third of the time on independent practice. This means again in math as in Urdu that effective teachers use much less presentation and much more independent practice than less effective teachers.

Table 4: Average Time Spent in Instructional Practices in Science

CATEGORY	SCIENCE			
	Actual Time (min.)		Propor. Time (%) *	
	Eff	LE	Eff	LE
Review	2.6	2.8	9	10
Preliminaries	2.5	1.7	8	6
Presentation	10.0	7.6	33	36
Guided practice	7.5	4.7	25	15
Independent prac.	5.9	10.1	20	31
Homework	0.5	0.1	2	0
Other instruct.	1.0	0.2	3	1
Total instruct.	29.9	27.1	97	97
Non-instruct.	0.9	0.8	3	3
Total period	30.8	27.9	100	100

*Percent of total instructional time

In science, effective teachers spend a little less than 80 percent and the less effective teachers a little more than 80 percent of the instructional time in the three major instructional activities, and again they distribute the time differently. Effective teachers reverse the pattern they used for math and science and use the most time in presentation (over 40 percent), about a third of the time in guided practice and about a quarter time in independent practice. Less effective teachers spend about the same amount of time in presentation (almost 45 percent), less than 20 percent in guided practice and almost 40 percent in independent practice. Consequently, The effective teachers, therefore, use proportionately more time in guided practice and less in independent practice in science than less effective teachers.

Summary

Approximately 80 percent of instructional time is spent in three major instructional activities. These three major activities are "presentation," "guided practice," and "independent practice." Table 5 summarizes the way these relate to one another in proportional time in the various subject matters, using pictographic symbols to give a better sense of the quantitative proportions in the patterns of the two samples.

Table 5: Proportional Time Spent in Major Activities

CATEGORY	URDU		MATH		SCIENCE		URDU/SINDI	
	Eff	LE	Eff	LE	Eff	LE	Eff	LE
Presentation	++	+++	+	++	++++	++++	+	+
Guided practice	+++	+++	++++	++++	+++	+	+++++	-
Independent practice	++++	+++	++++	+++	++	+++	+	++++

The way effective teachers distribute instructional time for the main activities of instruction make intuitive sense for each of the subject matters. In Urdu, for example, the effective teachers present materials for a modest amount of time, conduct guided practice for somewhat more time and then spend the most time in independent practice. A short presentation is all that is necessary for the students to hear the lesson once completely for comprehension before they begin the mechanics of reading decoding. What is more important in Urdu is a period of practicing, first, under the supervision of a teacher until the child can work the new material correctly though hesitantly, and then a longer period of independent practice when the child becomes confidently proficient in the material. A great deal of the student's success in Urdu, as it is taught in Pakistan, requires memorizing the content, meanings and new words of lessons. These accomplishments require periods of concentrated independent practice.

Less effective teachers of Urdu, by contrast, spend more time in presentation (which reduces the amount of time available for all kinds of practice), spend about the same time in guided practice and considerably less time in independent practice. The children therefore have less opportunity to become confident in their ability to master these skills without major assistance from the teacher. It was noted at the beginning of this report that children were more likely to experience difficulty in taking the achievement tests when they had become "teacher-dependent," that is, they depended on the teacher for close guidance, direction before and after each task, correct answers, etc. Without a sufficient period of independent practice, when children work out problems on their own, it is possible for this type of dependence to develop.

In Sindi medium schools where children learn Urdu as a second language, more effective teachers spend the bulk of time on guided practice while less effective teachers ask their students to study much of the time on their own. In a second language which is not used as the medium of instruction and is therefore not as familiar to students, it is unlikely that time spent studying alone can be effective without a sufficient period of practicing first under the close supervision of the teacher. Therefore, it makes sense for the effective teachers to use a long period of guided practice. It is possible also, looking at the small amount of time spent in independent practice, that effective teachers might increase performance by extending the amount of time used for independent seat work. Independent practice is a difficult activity to evaluate in terms of time, since its usefulness depends a great deal on the use teachers make of it. In some classes it is an essential part of learning, while in others it is simply a way to keep children busy while the teacher does nothing.

In math, more effective teachers use very little time in presentation, and require their student to divide most of the lesson time between guided and independent practice. Again, in math, practice is more

important that listening to a lecture about the new material. Less effective teachers spend more time in presentation, and less time in independent practice. More of the time is spent in guided practice without giving much time for children to build confidence on their own in the subject matter.

In science, the more effective teachers spent a great deal of time in presentation, a little less in guided practice, and very little in independent practice. Since the study of science requires mastering concepts, an emphasis on presenting concepts and mastering them under the close supervision of a teacher makes more sense than simply reading materials from a science book and relying on students to grasp the concepts themselves. The lack of resources in science classes and the present expectations about how science should be taught, de-emphasizes hands-on types of practice that children might do for independent practice, and therefore, it is difficult to construct tasks where children can practice the materials alone.

The less effective teachers of science spend a moderate amount of time in presentation, little time in guided practice, and a great deal of time in independent practice. Thus, children spend much of their time simply reading their texts or copying from the blackboard. The time devoted to guided practice where teachers might learn whether children have mastered the concepts adequately has been reduced. In these classes, teachers explain the lesson for a while and then simply ask the children to study on their own.

It is perhaps obvious, but bears mentioning, that instructional time has both quantity and quality dimensions. It is probably not so much the amount as the quality of activity that goes on in a given time period that is important in raising academic achievement performance. Above, the emphasis has been upon comparing quantities of time, actual and proportional, spent in various activities during the classroom period. Effective teachers total more overall lesson time, but often less proportional time in many of the activities. This configuration results from the fact that the effective teachers use greater variety in activities of the classroom, making it necessary for each activity to consume proportionally less of the class time. A teacher who plans a lesson which includes review, preliminaries, presentation, guided practice and independent practice, and also reviews last night's homework lesson, takes less time in independent practice than the teacher who asks children to carry out independent practice for the entire period. Over the long run, the first teacher, if she continues to exercise this kind of variety, probably is more effective, especially if the quality of her instruction is high.

The actual and proportional times spent in classroom activities over an entire sample suggest rather than indicate how time might be used more effectively to contribute to better academic performance. The key issue remains the one of how to improve the quality of the classroom instruction that goes on in each of the time periods.