

## **Using the Stallings Observation System to Investigate Time on Task in Four Countries**

Jane A. Stallings

Stephanie L. Knight

Texas A&M University

David Markham

This paper presents the history of the Stallings Observation System (SOS) and describes the adaptation of the SOS instrument, training for its use in international settings, and results from four countries of the World Bank International Time on Task (ITOT) project. The ITOT project had three major goals: 1) to discover how instructional time is used at different levels in certain countries, particularly in rural and low income areas; 2) to identify obstacles to optimal use of instructional time; and 3) to encourage governments to take the necessary measures to provide students with optimal time for learning (Abadzi, Millot, & Prouty, 2004). In order to address ITOT at the classroom level, a pilot study in Tunisia was conducted that targeted four related objectives: 1) adaptation of the Stallings Snapshot observation instrument for use in project classrooms; 2) design and implementation of training for observers; 3) determination of reliability and validity of observation procedures; and 4) generation of a sample profile of classrooms in a Tunisian elementary school. This paper summarizes the training and findings from the initial pilot study of time usage at the classroom level conducted in Tunisia in January, 2004 and the training and results from subsequent ITOT studies in four countries: Tunisia, Morocco, Ghana, and Brazil. More specifically, sections of the paper provide an overview of the research on effective use of instructional time using the Stallings instrument, description of the adaptation of the Stallings Snapshot observation instrument for use in the project, a summary of the training and procedures developed for the pilot study and implemented in four countries, and the results and conclusions from the observational studies in four countries.

### **Effective Use of Instructional Time**

The use of direct observation in classrooms over the past thirty years has resulted in the accumulation of an impressive body of information about the nature of effective teaching (Brophy & Good, 1986; Good & Brophy, 2000). Results of studies in the United States indicate that the way teachers use time and employ academic activities in classrooms impacts student achievement (Good & Brophy, 2000). In fact, students' opportunity to learn related to time on task is often referred to as the most important predictor of student achievement (Berliner & Biddle, 1995).

### **Research and Evaluation Using the SOS**

The Stallings Observation System (SOS) was initially developed to measure the level of teachers' implementation of twelve early childhood and elementary school Head Start and Follow Through models, and was modified for use in secondary classrooms in 1977. The system was developed to evaluate a broad array of educational programs. The challenge was to evaluate the total content of classrooms: materials, activities, grouping arrangements, use of classroom aides, interaction patterns among teachers and students, and the affective tone of the classroom. Since its development, the SOS has been used in all grades from kindergarten through twelfth grade, in nearly all subject areas, in all types of school districts (including urban, suburban, and rural districts) and in all parts of the United States. In addition, the snapshot has been translated into Mandarin and used in studies in China.

As a result of studies using the SOS, benchmarks for effective use of time in classrooms have been established (Stallings, 1986). In previous studies, most teachers distributed their time such that they monitored students doing written work at their seats for 50% of the time, did organizational activities for 38% of the time, and used active instruction only 12% of the time (See Figure 2). On the other hand, effective teachers whose students showed gains on various standardized achievement tests distributed their time so that 50% or more class time was spent in active instruction, 35% in active monitoring, and 15% or less in organizing and managing. In these effective teachers' classrooms the students were engaged 94% or more of the time. They were only off task 3% of the time (See Figure 1). The norms developed for effective teaching, although they

may differ somewhat by content area and grade level, provide a comparison for considering teacher behavior in a variety of classroom settings.

The SOS also has been used as a guide to improve preservice and inservice teachers' in-class instruction. The Department of Education through the National Diffusion Network granted the staff development program based on the SOS "Exemplary Status as a Program That Works" and funded the evaluation and training program. The SOS was used as an evaluation tool for that program in eleven states in over 600 classrooms. Recently, the program received an endowment to enable use and expansion of the staff development model in urban settings. Current research indicates improved instruction for both preservice and inservice teachers involved in the professional development (Knight, 2003).

### **Stallings Observation System**

The Stallings Observation System has two independent observation instruments, the Snapshot and The Five Minute Interaction, which typically are used together during an observation. However, since only the Snapshot was used for this study, only that component will be described in this report.

Initial reliability was established following seven days of training with 63 observers through paired observations and criterion videotape methods to determine the extent of observer agreement with each other and with an expert (Stallings & Giesen, 1977). Approximately two weeks after the training, when observers had begun observing in actual classrooms, they were asked again to code a criterion videotape. Reliability was established as 70% or greater for each of the codes. Interrater reliability was determined for each study described in this paper.

Validity originally was established through consultation with content and classroom experts and by doing cross-validity checks between the Snapshot and the FMI. For example, the proportion of time teachers engage in academic instruction reported in snapshot data should be similar to the proportion of time teachers engage in academic interactions as reported in the five-minute interaction data.

## Snapshot

The Snapshot (SS) provides information based on a time sample of the entire class period regarding materials, activities, and grouping and records the environment and the participants in the classroom as if they were being photographed at one instant. Prior to conducting the snapshot observation, the observer completes the Classroom Identification section that records general information about the class, including grade level, subject, number of students separated into male and female groups, number of teachers and aides, and the class duration. During the observation, the observer keeps written logs on the back of the snapshot form to record information that cannot be coded by the other sections of the instrument. Log information typically includes information about content taught or unusual circumstances that occurred during a coding interval.

The SS records every person in the classroom in the activity in which they are engaged and shows with whom they are engaged. The SS is coded at five equal intervals during the class period when the FMI is used, but is typically coded ten times at equal intervals when used alone (see e.g., Knight & Boudah, 2003). The observer places students and adults on a grid going clockwise around the room. Essentially, the Snapshot provides objective frequencies of occurrence of nine activities in which the teacher may be engaged, any of seven materials being used, and with whom the teacher is working. The Snapshot also indicates the percent of time in which children are engaged in various activities as well as the percent of children who are off task.

In previous studies, each classroom was observed on at least two consecutive days. Using the computer format, one stroke on the Snapshot describes (1) the teacher's activity, (2) the materials used, and (3) with whom the teacher is working. Percentages of engagement in activities are generated. The data are summarized into three composite variables for teacher activity including monitoring seatwork, providing interactive instruction, and organizing/managing. One composite variable, student off-task, depicts student activity. In addition, a percentage of time the teacher spends with one student, small groups, and large groups is also provided. The stability of the data are reported in Stallings and Kaskowitz (1974).

*Adaptation of the Snapshot for World Bank Study.* Several adaptations of the SS were made for use in the World Bank study and piloted in Tunisian classrooms. Based on

videotapes of classrooms in other countries to be included in the study (e.g., French Guinee and Brazil), a category called Copying was added to the list of activities depicted on the grid. This addition required that Reading Orally and Reading Silently be collapsed into one category labeled “Reading”. In addition, descriptions of existing categories were modified to depict situations captured by the videotapes. For example, the use of slates common in these settings was included with the traditional “Paper and Pencil” materials category. Another modification included use of only one other “Adult” category in addition to Teacher and Independent rather than the two categories presented in the U.S. version since aides or other adults in the classroom were not reported frequently in participating country classrooms. Furthermore, the Snapshot forms, coding manual, and data analysis program were translated into French for use in French-speaking countries such as Tunisia. Appendix A contains the modified Snapshot grid used in this study.

### **Tunisia Training Description**

Training in the modified Classroom Snapshot was conducted over a five-day period in Tunis in January, 2004, for 29 participants. Participants were all Inspectors from the various regions throughout the country. Inspectors have the responsibility of evaluation and professional development of teachers in schools in their areas and therefore have an indepth knowledge of teaching and teachers in Tunisian classrooms. Their task was to determine a classroom sampling plan in conjunction with the national Ministry of Education, train additional observers throughout the country in the SOS if needed, and conduct observations in classrooms selected for the sample in their own regions. This trainer-of- trainers model with subsequent large-scale data collection was used in each of the countries in the ITOT project.

The training sessions were conducted in English by two certified SOS trainers, Dr. Jane Stallings (developer of the SOS) and Dr. Stephanie Knight (Director of LTICS, the staff development program using the SOS), and simultaneously translated into French by two Tunisian translators. Three primary types of activities were used in the training. The first type of activity (Day 1) involved presentation and discussion of the operational definitions of the variables contained in the SS - nine categories of activities, seven

categories of materials, and four types of groupings. This phase also provided a description of the procedures followed for coding of the snapshot.

The second type of activity (Day 2) involved the coding of written vignettes provided by trainers and/or written by participants themselves depicting classroom situations. Participants first coded vignettes individually using snapshot grids and then discussed their codes in small groups of five or six members. After discussing and resolving differences, groups presented their vignettes and snapshot codes for large-group discussion with the trainers and other participants.

The final type of activity consisted of a series of actual classroom observations by groups of participants using the snapshot (Days 3 and 4). Initially, groups of four or five observers coded the same classroom and then compared and discussed codes in a debriefing session with trainers. Then, pairs of participants observed in classrooms and subsequently determined their interobserver reliability for each variable in the snapshot. Calculation of interobserver reliability in this case was not used to determine observer quality, but rather to provide additional feedback to observers about their performance using the instrument. The determination of interobserver reliability sensitized observers to types of errors and differences in interpretation of variables and enabled trainers to focus instruction on particular variables and/or specific participants.

*Interobserver Reliability.* Reliability was obtained 1) with experts through comparison of participant codes with a series of expert-coded vignettes and 2) with other observers through paired observations in Tunisian classes. The written test of reliability was administered on the fourth day of training and consisted of six vignettes representing a range of common snapshot codes. Participant scores ranged from 73% to 100% agreement with an average of 82% agreement with the expert coding. Participants who scored lower than 85% (10 participants) received additional training and practice and then were asked to complete another written test of reliability coded by experts. All participants, with the exception of one woman who had been absent one day of the training due to a death in the family, attained the required 85% agreement.

On the fifth day of training, pairs of participants who had attained adequate interobserver reliability on the written test observed in Tunisian classrooms to determine interobserver reliability in the field. Codes were compared for the composite variables of

Monitoring, Interactive Instruction, Organization/Management, and Student Off-Task Behaviors. Interobserver reliability for the four variables ranged from 95% to 99% with an average of 97% agreement.

### **Tunisia Pilot Study**

To determine the utility of the instrument for use in the World Bank ITOT Study and to provide information about optimal observation procedures, a pilot study was conducted in one Tunisian school following the training session. Pairs of observers collected observation data in 13 classrooms in one upper elementary urban school consisting of grades 4-6. Each pair observed an entire 50 minute lesson in one classroom. The data from the observer with the highest expert agreement in each pair was used to provide a profile of time on task for that school. In addition, data from the first 25 minutes of observations was compared with data from the last 25 minutes of observation to determine if observations for the national Tunisian study of use of classroom time could be shortened to 25 minutes without misrepresenting classroom teacher and student behaviors. Results of the school profile can be seen in Figures 1 and 2. The comparison of individual classes indicated that the SOS could be used to differentiate the teacher and student behaviors across classes.

Comparison of the first and second halves of the classes are depicted in Figures 3 and 4. As might be expected, differences in activities were observed for the two halves of the class period. For this reason, trainers recommended observing an entire instructional period.

### **ITOT Results for Tunisia, Morocco, Ghana, and Brazil**

Following the same format, described in the Tunisian Pilot Study and using the French translations, the observation training was provided to 26 supervisors of teachers representing school districts across Morocco. Mohammed Sassi, Minister of Education Research, who was trained in the Tunisian project, assisted Dr. Stallings throughout the training. All of the participants were men. The men, although somewhat reluctant in the beginning, eventually were writing classroom vignettes for Moroccan classrooms, checking the codes in small groups and working hard to get the homework right.

Observing in the schools was the most beneficial for both participants and trainers, providing many opportunities to learn the rules for coding. Observers checked their interobserver reliability with me. By the end of the week, all of the Moroccan observers exceeded the 93% level of reliability.

Ghana, in spite of having limited financial resources, was well organized. When we arrived they had all of the training materials printed, the training room arranged, and the requested transparencies. In emergent countries, we find it best to use transparencies rather than Power Point because the supervisors returning to their local sites are not likely to have sophisticated equipment. Dorothy Kanado, who attended the training in Morocco, assisted me. Twenty five supervisors, representing all of the districts attended the five day session. On the first day they organized themselves choosing a convener, a time keeper, and a Chaplin. They kept each other on time and on task. At the end of the day, they reviewed what they had learned, enhancing the work of the trainer. They all passed with scores above the 95<sup>th</sup> percentile. Unlike participants in other countries, their primary concern was how they would be able to observe classrooms in their far flung districts, often by foot or bicycle, and keep their observation booklets dry.

For Brazil, the materials were translated into Portuguese and delivered with the assistance of an extraordinary translator. For six hours a day he translated each comment or question I posed and not missing a beat, switched to English to give me their response. Thirty-three student teachers were enrolled for training. Because of a holiday, called unexpectedly, we had to adjust our daily schedule and fit the five day schedule of activities into four days. In Brazil there is a great holiday spirit. While they have lots of fun, it is in conflict with the notion of using school time effectively. Several times the teachers were late or absent in classrooms where the observers were assigned to practice observations. Three observers did not pass the criterion tests. I worked with them individually, but the concept of looking and coding a slice of time eluded them.

In the four countries, Dr. Markham trained their technical staff to process and analyze the data, including entering the raw data. After transmission of the data to the United States, Dr. Markham performed the detailed analyses. These analyses included calculating the means, medians, and ranges of each instructional activity for the teachers



and students. Time off task was calculated for students and teachers and relationships between selected variables were calculated.

### **Characteristics of the Data**

Although we recommended that data be collected in grades two and four during reading or mathematics, each country decided the parameters of their sample. Data were collected in second and fourth grades in Tunisia, Ghana and Brazil. Characteristics of the data collected in the four countries are displayed in Table 1.

Tunisia collected four periods of observations, 40 Snapshots, for each of 150 teachers at three grade levels. They were observed for 50 minutes most often in the same class on two different days. In Morocco 194 teachers have two observations, 20 Snapshots, per teacher, but the second observation was frequently not in the same subject. In Ghana 410 teachers were observed. Each teacher was observed in one class period of 30 minutes. Because many schools serve one group of children in the AM and another group in the PM, the class periods are limited to 30 minutes. Most of the classrooms serve more than one grade i.e. first and second, third through fifth, and sixth. Brazil data is based on 549 classrooms with one observation, ten Snapshots, per teacher. Thirty percent, 67 teachers have fewer than 9 snapshots. This suggests that teachers were out of the room part of the class period. In a quick examination, we did not find a pattern of missing data by district or school. This needs further study of observers' booklets to understand why fewer than ten observations were recorded.

The subject areas observed varied considerably depending on what each country valued. Religion was observed in all four countries, see Tables 1a and 1b.

### **Data Analyses**

The variables are organized in three major teacher variables (see Table 2). Studies of effective classrooms in the United States indicate that 50% or more of the time is spent in Active Instruction. However, the percent of time spent in the four activities within Active Instruction varies from class to class. Passive Instruction includes the teacher monitoring the total classroom as the students do seatwork or copy from the chalkboard. Teachers in effective classrooms were found to be engaged in these

activities 35% or less of the time. Organizing and Managing (O/M) includes the teacher making assignments, collecting or passing materials, disciplining students, grading papers/working alone. In effective classrooms management activities were kept to 15% or less. Consistently we found that teachers with high rates of working alone, had more student off task behavior. Effective classrooms were defined by student performance on standardized achievement tests. Data from each country are presented in the following sections.

*Tunisia.* Data from Tunisia is presented in Table 3 found in Appendix A, pages 8-11. The data are surprisingly consistent across grade levels. Overall, 60% of the class time is spent in active instruction. This instructional time is distributed across Reading, Instruct/explain, discussion, and Drill/practice. Note: only oral Drill and Practice is coded. Practicing math facts alone is coded as seatwork. This array of activities provides students with many opportunities to interact during the lesson.

Passive instruction accounts for 25% of the time. In this activity teachers actively monitor the students as they do seatwork assignments or copy from the chalk board.

Organization/management accounts for a low 13 % of class time. The teachers seldom work alone, a mere 1%.

The student off Task is 10% at all grade levels. The highest of these variables is uninvolved, 6%. Socializing is a low 3% and being disciplined 1%. The average class size is 26.

Tunisia's profile indicates 10% more time spent on active instruction than the criteria established in the United States. It is interesting to note that Tunisia has a literacy rate of 95%. Their average class size is 26 with a range of 11 to 40. Compulsory school attendance is strictly enforced for boys and girls. Parents are fined if their children do not attend school. The reorganization of the schools has improved the education for all students in Tunisia.

*Morocco.* The averages for all classrooms depicted in the Moroccan data are similar to those for Tunisia. Active Instruction is 60% with a good distribution of activities occurring (e.g. reading, explaining, discussion and drill and practice, see Table 4 found in Appendix A, pages 12-15.) The percent of time spent in Passive Instruction is

19%, indicating that students spend little time doing seatwork or copying from the chalkboard. The average occurrence of Active and Passive instructional activities is consistent across grade levels. There are a few outliers of 0 or 100, but overall the data reflect a teacher training and supervision program is in effect.

The Organizing/Management variable is 19% which is 4% higher than recommended by our criteria. Most of the time spent in O/M is Teacher managing with Students, 9%. This is primarily standing in line, passing and collecting papers, taking the roll, getting the show on the road. Teacher working alone is a low 4%.

The overall Off Task rate is 9%. Compared to the fourth and sixth grades that have 8% Off Task, the first grades have a higher rate of 13%. First grades also a higher rate of Teacher Disciplining 7%. This is not surprising given young children have to learn the routine classroom procedures of listening/speaking and sitting quietly. Average class size is 31 with a range from 18 to 55.

*Ghana.* Active instruction, overall, was coded 60% of the time as it was Tunisia and Morocco (see Table 5 found in Appendix A, pages 16-19). Interestingly, within that mega-variable, Class Discussion equaled or surpassed the Instruct/explain variable in all grade levels. This indicates a more interactive type of instruction with questions and answers.

Passive instruction was 10%, the lowest this analyst has seen in any data set. Ghana has a significant problem in having enough books for each student. In some classrooms two or three students must share one book. Because there are few books, or paper and pencils necessary for seatwork, the teachers may rely more upon class discussions.

The Organize/management variable overall averaged 26% and ranged from 24% at the sixth grade level to the 30% in the combination grades third to fifth, far above the criteria goal of 15%. The 30 minute periods most likely take a higher percent of management time to get started and stopped than do 50 minute periods. Within this mega-variable, Teacher Alone was recorded 15% or more of the time. Teacher Alone means that the teacher is not monitoring the students and is grading papers or may be out of the room.

The overall student off task rate is very high (21%). The teacher Disciplining variable is an average of 1.3% indicating that the misbehavior is going unchecked. As in other previous studies in the United States, here high Off Task behavior is positively related to high Organizing/Management. These analyses also suggest that in classrooms where more Active Instruction is provided, less Off Task behavior occurs.

The overall average number of students in classrooms is 26. The range is from a low of 2 students to 82 in one first/second grade classroom.

Brazil:

Active Instruction was coded 51% for second, fourth, and eighth grade levels. While this is lower than the other three countries examined, it does meet the 50% criterion established in the United States. The Brazil data are shown on Table 6 found in Appendix A, pages 20-23. These data indicate that the teacher instructing and explaining variable accounts for nearly two thirds of Active Instruction, meaning the teachers are lecturing most of the time and offering very little discussion, or drill and practice.

The overall average for Passive Instruction is 19%. In this variable the teacher monitors the classroom while the students do seatwork, this ranges from 17% in second grade to 24% in eighth grade. As in Ghana, many of the rural schools do not have books or pencil and paper for all of the students, thus the low average of time students spend doing seatwork activities.

Overall classroom Management/Organization is 28%. Teacher management alone variable is 12%. This means the teacher is grading papers or out of the room. In some schools where we practiced observation in Brazil the teachers were late to class or left the classroom during the observation, some did not arrive and there was not a substitute teacher available. Since we did not have a code for out of classroom, this behavior was coded as Teacher Alone. Some teachers may not have been present to control the classroom behavior. Within grade levels, the off task rate ranges from 23% in second grade to 18% in the eighth grade. In all grades the highest off task variable is socializing, 12%, whereas students' being disciplined is a low 2%. For the most part, the Off Task behavior is going unchecked by the teachers.

The overall average class size is 25 with a range from 3 to 65. Samples from small country one room schools are included here and explain small class sizes of 3 at grade two, 5 at grade four, and 9 at grade eight.

### **Summary**

Classrooms in the four countries are remarkably similar. As we observed and worked in each country with the teacher supervisors and classroom teachers, we found the Snapshot categories were capable of recording each classroom activity that occurred, except the teacher leaving the classroom. To accommodate a concern of our World Bank sponsor, we modified the instrument to record Copying and eliminate Silent reading as one of the classroom activities. Copying has occurred with much lower frequency than expected and is a small component of Passive Instruction.

We could not control the subjects that were observed. Religion is taught and was observed in all four countries within the category of Other coded on the cover sheet. Nevertheless, in spite of the varied activities, class sizes, length of periods, the instructional processes of Making Assignments, Providing Interactive Instruction, Seatwork, and Class Management tasks occur in all classrooms to some degree. All student sometimes Socialize, are day dreaming or Uninvolved, and receive Discipline from the teacher. The teacher being missing...out of the classroom is one behavior for which we were not prepared. It is against the law in the United States to leave a classroom unattended. To our surprise, this occurred in Ghana and Brazil. We instructed the observers to code it as Teacher Alone. We are in the process of adding Teacher Out of the Room as a variable on the Snapshot.

Another surprise was the low percent of student time spent in Passive Instruction, seatwork as reported for Ghana 10% and Brazil 19%. These are countries where it is not unusual for two or three students to share books, where students are often without paper and pencils that must be purchased, and where few instructional materials are available for teachers. As the data indicates the teachers were often working alone or out of the room 12% in Brazil and 15% in Ghana. In such situations it is not surprising to find their students were Off Task much of the class time; 20% in Brazil and 21% in Ghana.

Overall, the Snapshot provides data that indicate the percent of time teachers and students spend in the 15 activities. The relationship trends are consistent, if not statistically significant: Active Instruction is negatively related to Time Off Task and a high rate of Classroom Management is positively related to student Time Off Task.

In October 2005, we trained 28 district supervisors in Brazil to use their observation data in their teacher training program. The trainees were enthusiastic and learned the meaning of the codes and how to increase active instruction and accomplish classroom management activities efficiently. They expect to deliver the training program this spring to a sample of teachers they supervise, and next year they will observe to see if classroom time is used more efficiently.

Given the ranges of activities occurrence in classrooms (zero to 100%) it is important to identify those teachers where good instructional use of time is occurring and those where too much time is being spent on getting the show on the road (organizing and managing above 15%). Staff development is needed that focuses on using time effectively to save those Golden minutes. To change teacher behavior, administrators must be aware and committed to the effective use of school and classroom time.

\*This study was funded by the World Bank and we are grateful for the opportunity to observe and study classrooms in this arena of emerging nations. Please note the conclusions drawn in this paper are those of the researchers and not necessarily those of the World Bank.

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**Figure 1**  
**Tunisian Pilot Study Teacher Use of Time**

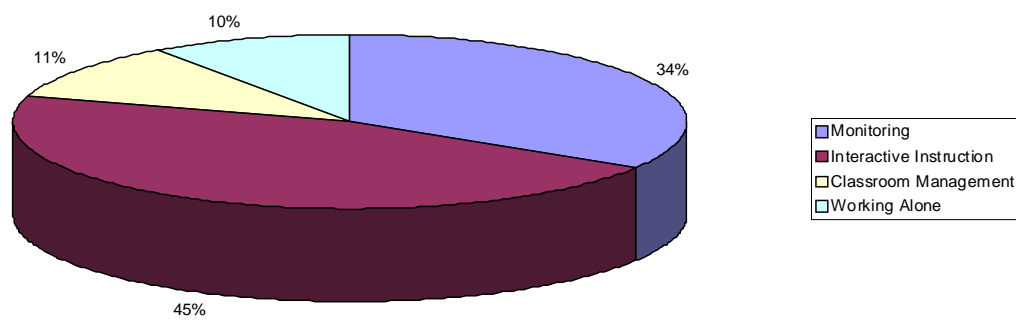
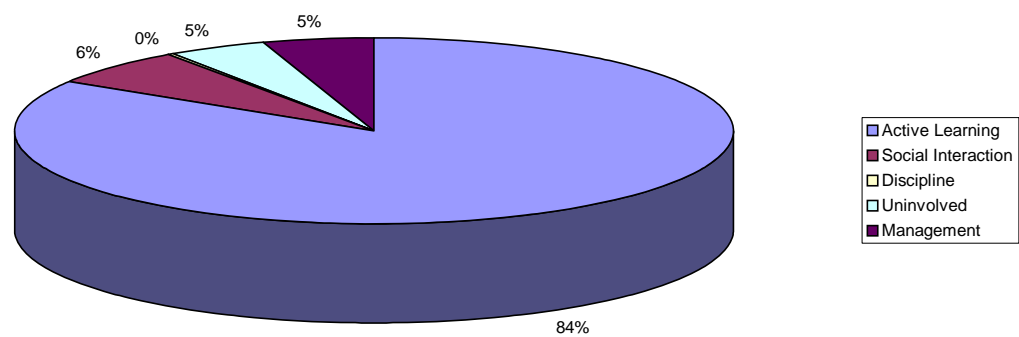
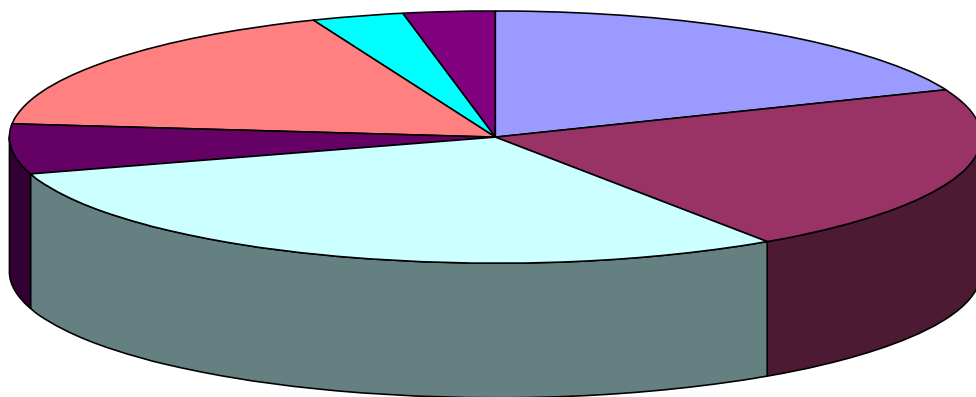




Figure 2  
Tunisian Pilot Study Student Use of Time

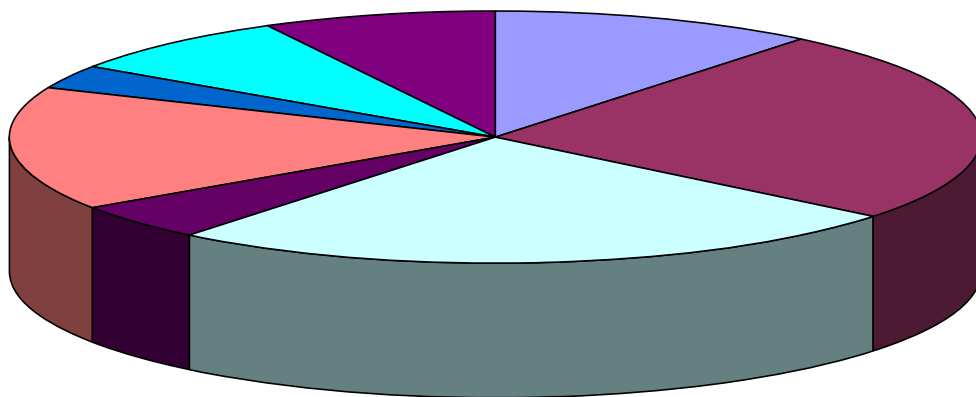


First Half of Class Time



Teacher Making Assignments	Teacher monitoring Written Assignments/ Seatwork
Teacher Copying	Teacher conducting Instruction/ Demonstration
Teacher with Discussion	Teacher supervising Practice Drill
Teacher leading Kinesthetic	Teacher observing Projects
Teacher engaged in Social Interaction	Student Uninvolved
Teacher Disciplining Student	Teacher Engaged in Classroom Management
Teacher engaged in Reading	

Second Half of Class Time



Teacher Making Assignments	Teacher monitoring Written Assignments/ Seatwork
Teacher Copying	Teacher conducting Instruction/ Demonstration
Teacher with Discussion	Teacher supervising Practice Drill
Teacher leading Kinesthetic	Teacher observing Projects
Teacher engaged in Social Interaction	Student Uninvolved
Teacher Disciplining Student	Teacher Engaged in Classroom Management
Teacher engaged in Reading	

Table 1a

Country	Number of Districts	Number of Schools	Number of Teachers	Number of Observations	Grade Levels	Length of Period
Tunisia	6	24	150	300	1,2,4	50
Morocco		15	197	394	1,4,6	50
Ghana	23	54	407	407	1,2,3,4,5,6	30
Brazil	49	180	539	539	2,4,8	50

Table 1b

Country	Subjects Observed
Tunisia	Reading, Language Arts, Math, Science, Social Studies, Other
Morocco	Reading, Math, Science, Other
Ghana	Math, English Grammar, Ghanaian Grammar, Science, Environmental Studies, Religion
Brazil	Portuguese, Math, Science, Geography, Religion

Table 2

Major Variable	Components	US Criteria
Active Instruction		50% or more
	Reading	
	Instruct Explain	
	Discussion	
	Practice Drill	
Passive Instruction		35% or less
	Seatwork	
	Copying	
Organizing Management		15% or less
	Teacher and Student Managing	
	Disciplining	
	Making Assignments	
	Teacher Managing Alone	

Off Task		
	Teacher Socializing	0%
	Students	6% or less
	Uninvolved	
	Disciplined	
	Socializing	

## Appendix A

## Observational Data

Table 3 Tunisia

Overall		No. of Classrooms =300 observed twice for 600 observations		No. of Teachers = 150*		
		Average	Median	Low	High	Correlation with Student Off Task
	Active Instruction	59.622	60	15	100	-0.170
	Reading	14.512	15	0	53	
	Instruct Explain	27.773	25	0	65	
	Discussion	6.100	5	0	35	
	Practice Drill	11.237	10	0	80	
	Passive Instruction	25.260	25	0	65	0.000
	Monitoring Seatwork	22.707	20	0	60	
	Monitoring Copying	2.553	0	0	20	
	Organizing Management	10.739	10	0	40	
	Giving Assignments	1.933	5	0	30	0.110
	Managing with Students	2.367	0	0	15	
	Disciplining Students	3.100	0	0	25	
	Managing Alone	1.000	0	0	25	
	Teacher Off Task	1.033	0	0	35	0.219
	Student Off Task Rate	9.871	8.698	0.000	48.161	
	Being Disciplined	1.002	0.000	0.000	15.000	

	Socializing	2.611	1.563	0.000	25.000	
	Uninvolved	6.270	5.214	0.000	35.977	
	Number of Students	25.907	26	11	40	-0.141
	Observational Conditions:					
	*Each teacher was observed on two days of two different subject areas for a total of four observations (40 observations per teacher).					

Table 3 Tunisia (Continued)

<b>Grade One Classrooms Tunisia</b>		No. of Classrooms =102		No. of Teachers = 51*		
20 Snapshots 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		60.150	60	20	85	-0.247
	Reading	14.120	10	0	40	
	Instruct Explain	27.840	25	0	65	
	Discussion	4.755	0	0	25	
	Practice Drill	13.430	10	0	80	
Passive Instruction		24.710	25	0	50	0.143
	Monitoring Seatwork	21.620	20	0	50	
	Monitoring Copying	3.088	0	0	20	
Organizing Management		10.784	15	0	35	0.131
	Giving Assignments	7.304	5	0	30	
	Managing with Students	2.353	0	0	15	
	Disciplining Students	3.235	0	0	15	
	Managing Alone	1.127	0	0	15	
Teacher Off Task		1.324	0	0	10	0.284
Student Off Task Rate		9.499	8.650	0.000	36.410	
	Being Disciplined	1.183	0.000	0.000	15.000	
	Socializing	2.631	1.658	0.000	25.000	
	Uninvolved	5.685	4.333	0.000	20.000	
Number of Students		25.108	25	11	35	-0.114
Observational Conditions:						
	*Each teacher was observed on two days of two different subject areas for a total of four observations (40 observations per teacher).					

Table 3 Tunisia (Continued)

<b>Grade Two Classrooms Tunisia</b>		No. of Classrooms =100		No. of Teachers = 50*		
20 Snapshots 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		60.030	60	15	90	-0.201
	Reading	14.001	15	0	40	
	Instruct Explain	29.000	30	0	65	
	Discussion	7.020	5	0	35	
	Practice Drill	10.010	10	0	80	
Passive Instruction		24.110	25	0	60	0.062
	Monitoring Seatwork	21.980	20	0	60	
	Monitoring Copying	2.131	0	0	15	
Organizing Management		10.867	10	0	30	0.060
	Giving Assignments	8.240	5	0	25	
	Managing with Students	1.566	0	0	15	
	Disciplining Students	3.434	0	0	25	
	Managing Alone	1.061	0	0	25	
Teacher Off Task		1.350	0	0	0	0.2096
Student Off Task Rate		10.337	8.276	0.000	48.161	
	Being Disciplined	1.147	0.000	0.000	10.200	
	Socializing	2.765	1.282	0.000	15.672	
	Uninvolved	6.426	5.000	0.000	35.977	
Number of Students		25.758	26	14	40	-0.359
Observational Conditions:						
	*Each teacher was observed on two days of two different subject areas for a total of four observations (40 observations per teacher).					



Table 3 Tunisia (Concluded)

<b>Grade Four Classrooms</b>		No. of Classrooms =98		No. of Teachers = 49*		
20 Snapshots 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		58.670	60	30	100	-0.051
	Reading	15.431	15	0	55	
	Instruct Explain	26.480	25	0	60	
	Discussion	6.566	5	0	30	
	Practice Drill	10.202	10	0	45	
Passive Instruction		26.980	25	0	65	-0.193
	Monitoring Seatwork	24.560	25	0	60	
	Monitoring Copying	2.424	0	0	20	
Organizing Management		10.564	10	0	35	0.143
	Giving Assignments	7.887	5	0	25	
	Managing with Students	1.869	0	0	15	
	Disciplining Students	2.626	0	0	15	
	Managing Alone	0.808	0	0	15	
Teacher Off Task		0.408	0	0	5	0.089
Student Off Task Rate		9.789	9.375	0.000	35.343	
	Being Disciplined	0.671	0.000	0.000	5.372	
	Socializing	2.400	1.667	0.000	18.711	
	Uninvolved	6.718	5.769	0.000	23.854	
Number of Students		28.162	27	20	40	0.072
Observational Conditions:						
	*Each teacher was observed on two days of two different subject areas for a total of four observations (40 observations per teacher).					

Table 4 Morocco

<b>Overall</b>		No. of Classrooms =394	No. of Teachers = 197			
20 Snapshots per teacher in 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		59.610	60	10	100	0.102
	Reading	15.371	10	0	100	
	Instruct Explain	25.713	20	0	100	
	Discussion	6.440	0	0	70	
	Practice Drill	12.086	10	0	70	
Passive Instruction		19.635	20	0	80	-0.064
	Monitoring Seatwork	14.695	10	0	80	
	Monitoring Copying	4.939	0	0	50	
Organizing Management		19.318	20	0	70	0.076
	Giving Assignments	6.131	0	0	70	
	Managing with Students	8.581	10	0	40	
	Disciplining Students	0.406	0	0	20	
	Managing Alone	4.200	0	0	50	
Teacher Off Task		1.110	0	0	30	0.042
Student Off Task Rate		9.255	6.452	0.000	49.630	
	Being Disciplined	4.320	0.000	0.000	37.101	
	Socializing	3.967	1.923	0.000	32.941	
	Uninvolved	0.967	0.000	0.000	22.353	
Number of Students		30.624	30	18	55	-0.112
Observational Conditions:						
	Each teacher was observed twice teaching a total of two subjects					



Table 4 Morocco (Continued)

<b>Grade One Classrooms Morocco</b>		No. of Classrooms =110		No. of Teachers = 55		
20 Snapshots per teacher in 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		60.030	60	10	100	0.147
	Reading	14.180	5	0	60	
	Instruct Explain	27.440	30	0	80	
	Discussion	5.700	0	0	60	
	Practice Drill	12.350	10	0	70	
Passive Instruction		19.650	20	0	80	-0.131
	Monitoring Seatwork	14.050	10	0	80	
	Monitoring Copying	5.609	0	0	50	
Organizing Management		18.650	19	0	70	0.203
	Giving Assignments	5.174	0	0	30	
	Managing with Students	8.430	10	0	30	
	Disciplining Students	6.811	0	0	20	
	Managing Alone	4.413	0	0	30	
Teacher Off Task		0.818	0	0	20	-0.063
Student Off Task Rate		13.160	10.320	0.000	49.630	
	Being Disciplined	6.811	5.263	0.000	37.101	
	Socializing	4.947	2.500	0.000	32.941	
	Uninvolved	1.406	0.308	0.000	22.353	
Number of Students		31.709	31	18	49	-0.174
Observational Conditions:						
	Each teacher was observed twice teaching a total of two subjects					

Table 4 Morocco (Continued)

<b>Grade Four Classrooms Morocco</b>		No. of Classrooms =150		No. of Teachers = 75		
20 Snapshots per teacher in 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		59.140	60	10	100	0.001
	Reading	14.410	10	0	100	
	Instruct Explain	24.500	20	0	100	
	Discussion	6.800	0	0	60	
	Practice Drill	13.160	10	0	60	
Passive Instruction		22.310	20	0	70	-0.389
	Monitoring Seatwork	16.850	10	0	70	
	Monitoring Copying	5.460	0	0	50	
Organizing Management		18.500	20	0	60	0.075
	Giving Assignments	6.333	0	0	40	
	Managing with Students	8.242	10	0	30	
	Disciplining Students	0.333	0	0	10	
	Managing Alone	3.588	0	0	30	
Teacher Off Task		1.461	0	0	30	0.001
Student Off Task Rate		7.802	5.742	0.000	31.053	
	Being Disciplined	3.474	1.640	0.000	22.069	
	Socializing	3.316	1.539	0.000	27.368	
	Uninvolved	1.012	0.000	0.000	17.742	
Number of Students		31.767	31	19	55	-0.070
Observational Conditions:						
	Each teacher was observed twice teaching a total of two subjects					

Table 4 Morocco (Concluded)

<b>Grade Six Classrooms Morocco</b>		No. of Classrooms =134		No. of Teachers = 67		
20 Snapshots per teacher in 2 Observations						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		61.210	60	10	100	0.171
	Reading	17.420	10	0	90	
	Instruct Explain	25.660	20	0	100	
	Discussion	6.642	0	0	70	
	Practice Drill	10.660	0	0	50	
Passive Instruction		16.620	10	0	60	-0.154
	Monitoring Seatwork	12.810	10	0	50	
	Monitoring Copying	3.806	0	0	50	
Organizing Management		20.770	20	0	70	0.075
	Giving Assignments	6.689	0	0	70	
	Managing with Students	9.084	10	0	40	
	Disciplining Students	0.299	0	0	10	
	Managing Alone	4.701	0	0	50	
Teacher Off Task		0.970	0	0	30	0.170
Student Off Task Rate		7.673	4.580	0.000	36.129	
	Being Disciplined	3.224	1.250	0.000	34.500	
	Socializing	3.892	1.923	0.000	30.833	
	Uninvolved	0.558	0.000	0.000	6.579	
Number of Students		28.455	28	18	42	-0.210
Observational Conditions:						
	Each teacher was observed twice teaching a total of two subjects					

Table 5 Ghana

Overall		No. of Classrooms = 407		No. of Teachers = 407			Correlation with Student Off Task
		Average	Median	Low	High		
10 Snapshots 1 Observation							
	Active Instruction	59.270	60	0	100		-0.407
	Reading	8.673	0	0	100		
	Instruct Explain	20.010	20	0	100		
	Discussion	24.120	20	0	100		
	Practice Drill	6.470	0	0	90		
	Passive Instruction	10.076	0	0	100		-0.147
	Monitoring Seatwork	7.342	0	0	90		
	Monitoring Copying	2.735	0	0	70		
	Organizing Management	25.930	20	0	90		0.295
	Giving Assignments	2.416	0	0	50		
	Managing with Students	5.111	0	0	40		
	Disciplining Students	3.366	0	0	40		
	Managing Alone	15.037	10	0	80		
	Teacher Off Task	1.572	0	0	100		0.332
	Student Off Task Rate	21.092	16.667	0.000	100.000		
	Being Disciplined	1.334	0.000	0.000	23.529		
	Socializing	9.343	5.000	0.000	100.000		
	Uninvolved	10.415	7.238	0.000	23.529		
	Number of Students	26.113	24	2	82		-0.009
	Observational Conditions:						
	Each teacher was observed once						

Table 5 Ghana (Continued)

<b>Grade One-Two Classrooms</b>		No. of Classrooms = 195		No. of Teachers = 195		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		58.530	60	0	100	-0.361
	Reading	10.720	0	0	90	
	Instruct Explain	19.580	20	0	100	
	Discussion	19.200	10	0	90	
	Practice Drill	9.030	0	0	90	
Passive Instruction		10.170	0	0	70	-0.170
	Monitoring Seatwork	7.697	0	0	60	
	Monitoring Copying	2.477	0	0	40	
Organizing Management		25.940	10	0	80	0.297
	Giving Assignments	2.274	0	0	50	
	Managing with Students	5.077	0	0	40	
	Disciplining Students	4.051	0	0	40	
	Managing Alone	14.540	10	0	80	
Teacher Off Task		1.590	0	0	100	0.342
Student Off Task Rate		23.970	20.560	0.000	100.000	
	Being Disciplined	1.645	0.000	0.000	21.163	
	Socializing	10.771	6.667	0.000	100.000	
	Uninvolved	11.554	8.500	0.000	64.286	
Number of Students		28.328	26	3	82	-0.010
Observational Conditions:						
	Each teacher was observed once					



Table 5 Ghana (Continued)

<b>Grade Three - Five Classrooms</b>		No. of Classrooms = 45		No. of Teachers = 45		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		54.194	60	30	100	-0.340
	Reading	8.065	15	0	45	
	Instruct Explain	18.710	25	0	60	
	Discussion	22.903	5	0	30	
	Practice Drill	3.871	10	0	55	
Passive Instruction		6.774	25	0	55	-0.191
	Monitoring Seatwork	4.194	20	0	50	
	Monitoring Copying	2.581	0	0	15	
Organizing Management		30.220	30	0	100	-0.074
	Giving Assignments	3.560	0	0	30	
	Managing with Students	7.330	0	0	40	
	Disciplining Students	4.670	0	0	30	
	Managing Alone	14.670	10	0	80	
Teacher Off Task		1.935	0.000	0	0	0.116
Student Off Task Rate		23.870	19.250	0.000	16.875	
	Being Disciplined	2.167	0.000	0.000	16.875	
	Socializing	8.540	4.570	0.000	60.000	
	Uninvolved	13.160	9.520	0.000	51.760	
Number of Students		19.690	19	5	48	0.098
Observational Conditions:						
	Each teacher was observed once					

Table 5 Ghana (Concluded)

<b>Grade Six Classrooms</b>		No. of Classrooms = 167		No. of Teachers = 167		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		62.900	60	0	100	0.037
	Reading	6.950	0	0	80	
	Instruct Explain	21.260	20	0	100	
	Discussion	30.310	30	0	100	
	Practice Drill	4.385	0	0	50	
Passive Instruction		9.530	0	0	90	-0.003
	Monitoring Seatwork	6.530	0	0	90	
	Monitoring Copying	2.994	0	0	70	
Organizing Management		23.380	20	0	80	-0.055
	Giving Assignments	2.275	0	0	30	
	Managing with Students	4.551	0	0	40	
	Disciplining Students	2.216	0	0	30	
	Managing Alone	14.340	10	0	80	
Teacher Off Task		1.497	0	0	100	0.007
Student Off Task Rate		21.450	17.330	0.000	100.000	
	Being Disciplined	1.146	0.000	0.000	23.529	
	Socializing	9.658	6.250	0.000	83.333	
	Uninvolved	10.645	6.471	0.000	57.692	
Number of Students		25.257	23	2	61	-0.050
Observational Conditions:						
	Each teacher was observed once					

Table 6 Brazil

<b>Overall</b>		No. of Classrooms =539		No. of Teachers = 539		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		46.270	50	0	100	-0.182
	Reading	6.642	0	0	80	
	Instruct Explain	31.967	30	0	100	
	Discussion	6.234	0	0	80	
	Practice Drill	1.429	0	0	100	
Passive Instruction		19.332	10	0	100	0.226
	Monitoring Seatwork	16.308	0	0	100	
	Monitoring Copying	3.024	0	0	70	
Organizing Management		27.980	20	0	100	0.487
	Giving Assignments	3.766	0	0	60	
	Managing with Students	6.252	0	0	60	
	Disciplining Students	5.881	0	0	60	
	Managing Alone	12.078	0	0	100	
Teacher Off Task		1.095	10	0	100	0.464
Student Off Task Rate						
	Being Disciplined	19.640	16.875	0.000	93.571	
	Socializing	1.981	0.000	0.000	32.174	
	Uninvolved	12.267	10.000	0.000	62.273	
		5.392	3.750	0.000	52.609	
Number of Students		25.154	24	3	65	-0.253
Observational Conditions:						
	Each teacher was observed once					

Table 6 Brazil (Continued)

<b>Grade Two Classrooms</b>		No. of Classrooms =179		No. of Teachers = 179		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		44.580	50	0	100	-0.241
	Reading	8.101	0	0	60	
	Instruct Explain	28.883	30	0	100	
	Discussion	5.587	0	0	50	
	Practice Drill	2.011	0	0	60	
Passive Instruction		16.983	10	0	100	-0.140
	Monitoring Seatwork	14.525	0	0	100	
	Monitoring Copying	2.458	0	0	70	
Organizing Management		31.170	30	0	100	0.488
	Giving Assignments	3.408	0	0	30	
	Managing with Students	7.207	0	0	60	
	Disciplining Students	6.760	0	0	40	
	Managing Alone	13.800	0	0	80	
Teacher Off Task		1.397	0	0	94	0.441
Student Off Task Rate		22.580	20.290	0.000	93.570	
	Being Disciplined	2.409	0.000	0.000	32.174	
	Socializing	13.850	12.857	0.000	56.522	
	Uninvolved	6.324	4.783	0.000	52.609	
Number of Students		21.626	21	5	40	-0.168
Observational Conditions:						
	Each teacher was observed once					

Table 6 Brazil (Continued)

<b>Grade Four Classrooms</b>		No. of Classrooms =180		No. of Teachers = 180		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		46.890	50	0	100	-0.230
	Reading	7.667	0	0	80	
	Instruct Explain	30.667	30	0	100	
	Discussion	6.944	0	0	50	
	Practice Drill	1.611	0	0	100	
Passive Instruction		17.333	0	0	100	-0.236
	Monitoring Seatwork	15.056	0	0	100	
	Monitoring Copying	2.278	0	0	50	
Organizing Management		28.110	20	0	100	0.467
	Giving Assignments	4.000	0	0	60	
	Managing with Students	6.278	0	0	60	
	Disciplining Students	5.500	0	0	60	
	Managing Alone	12.330	0	0	100	
Teacher Off Task		12.330	0	0	100	0.443
Student Off Task Rate		18.620	16.520	0.000	81.430	
	Being Disciplined	1.730	0.000	0.000	20.000	
	Socializing	11.565	9.375	0.000	44.286	
	Uninvolved	5.322	3.529	0.000	48.235	
Number of Students		24.717	25	3	42	-0.298
Observational Conditions:						
	Each teacher was observed once					

Table 6 Brazil (Concluded)

<b>Grade Eight Classrooms</b>		No. of Classrooms =180		No. of Teachers = 180		
10 Snapshots 1 Observation						
		Average	Median	Low	High	Correlation with Student Off Task
Active Instruction		47.330	50	0	100	-0.058
	Reading	4.167	0	0	60	
	Instruct Explain	36.333	30	0	100	
	Discussion	6.167	0	0	80	
	Practice Drill	0.667	0	0	50	
Passive Instruction		23.667	20	0	100	-0.272
	Monitoring Seatwork	19.333	10	0	100	
	Monitoring Copying	4.333	0	0	50	
Organizing Management		24.670	20	0	100	0.488
	Giving Assignments	3.889	0	0	50	
	Managing with Students	5.278	0	0	60	
	Disciplining Students	5.389	0	0	50	
	Managing Alone	10.110	0	0	100	
Teacher Off Task		5.110	0	0	20	0.503
Student Off Task Rate		17.809	15.000	0.000	78.889	
	Being Disciplined	1.807	0.000	0.000	20.000	
	Socializing	11.395	9.281	0.000	62.273	
	Uninvolved	4.534	3.192	0.000	41.053	
Number of Students		29.100	27	9	65	-0.226
Observational Conditions:						
	Each teacher was observed once					