

OPAL

Observing Patterns of Adaptive Learning: A Protocol for Classroom Observations

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I. Introduction

This manual documents the process undertaken in an observational study originally designed to investigate associations between teacher behaviors and practices and their students' perceptions of the motivational climate of those classes. In pursuing this orienting question, our research team confronted numerous theoretical and methodological issues related to observing dimensions of classroom contexts. The purpose of this manual is to explicate the decisions we made around those issues, and to provide an example of the protocol we developed to guide our observations and their analysis. In addition, copies of the instructions given to observers, an example of our field notes, and the final set of codes used for analysis are included in the appendices.

General Description of OPAL

Observing Patterns of Adaptive Learning (OPAL) was designed to guide and document observations of characteristics of school classrooms. OPAL is grounded within a goal orientation view of motivation, a social cognitive view of learning strategies, and current research on classroom instruction and teacher behaviors. Key articles that discuss the theoretical framework for this work include Ames (1992), Ames and Archer (1988), Blumenfeld (1992a), and Meece (1991). The instrument also includes information related to students' patterns of social behaviors in the classroom and to the ways in which students seek and receive help with their school work. These dimensions reflect specific interests of individual group members (see, e.g., Hicks, 1997; Patrick, Hicks, & Ryan, 1997; Ryan & Pintrich, 1997).

OPAL was designed around narrative running records of teacher and student behavior observed during classroom instruction. An initial protocol was developed to focus observers' attention on specific aspects of the classroom, relevant to our research interests. OPAL is not specific to student age or grade level; it may be used in classrooms or learning environments that contain students of any level. Further, it is not specific to a particular subject area domain, but may be used with any classroom activity or lesson.

There are 9 categories within OPAL. These include the 6 categories represented by the acronym TARGET (Task, Authority, Recognition, Grouping, Evaluation, and Time) originally described by

Epstein (1983), as frequently used by goal orientation theorists (e.g., Ames, 1992, Anderman & Maehr, 1994, Midgley, 1993), and three additional categories labeled Social, Help-seeking, and Messages. Teacher influences on students' cognitions, such as press for higher order thinking, scaffolding, direct and tacit instruction of learning strategies (Blumenfeld, 1992b; Newmann & Wehlage, 1993), are also incorporated in the Task category.

An overview of each category in OPAL is provided on page 3 of this manual, whereas a fuller description, operationalization, and examples of each category are given in section 3.

Development of OPAL

OPAL was developed in response to the need for alternative methods, beyond traditionally-used surveys, for investigating classroom learning environments in relation to students' goal orientations (Blumenfeld, 1992a). This observational project grew out of a larger, survey-based study of the transition to middle school led by Dr. Carol Midgley (The Michigan Study of School Transitions; see Midgley, Patrick, Ryan, & Middleton, 1997, for further information). In particular, we were interested in understanding the explicit and implicit ways in which teachers communicated to their students an emphasis on task and relative ability goals. Our goal was to provide rich, detailed descriptions of teacher and student classroom behaviors related to those constructs. Furthermore, we were interested in examining variations in classroom settings that differed with respect to students' perceptions of the goal structure communicated. That is, we wanted to know whether we could identify specific practices or patterns of instruction that were associated with students' reports that a task or relative ability goal orientation was emphasized in their classroom.

The observation protocol was developed over time with earlier versions being piloted, in the first instance with videotapes of classroom interaction and, later, in summer school classrooms. Throughout the development phase, the research group met regularly to discuss and revise the protocol and to reach agreement on its use. During this time we began a procedure of "memo-ing" group members' comments and questions, as well as decisions that were reached, through a series of email messages that went to the group. These messages were printed and filed for future reference and discussion.

Overview of OPAL categories

1. Task. The task category refers to the manner in which teachers structure tasks and learning activities. This category attends to both structural and psychological dimensions of the task.
2. Authority. Authority refers to the locus of responsibility in the classroom. It includes aspects of rules and teacher management and student autonomy.
3. Recognition. Recognition refers to the standards, criteria, and methods that a teacher uses to recognize students in the classroom. The contingencies, attributions, publicness, and positive or negative nature concerning recognition in the classroom are an important part of this dimension.
4. Grouping. Grouping refers to tasks and learning activities which take place in small groups within a classroom. The design, purpose, and extent of grouping in a classroom are considered important aspects of this dimension.
5. Evaluation. The evaluation category encompasses both the teacher's formal and informal evaluations of their students' learning and behavior.
6. Time. This dimension refers to the use of time in the classroom, and includes schedules that guide the day, time limits on class work, flexibility regarding both, and explicit statements that are made about time.
7. Social. The social dimension of the classroom encompasses both student-student interactions and teacher-student interactions and includes sanctions, values, responsibilities, and conflict resolutions.
8. Help-seeking. The help-seeking category refers to behaviors and statements regarding students seeking help from the teacher, from other students, and from resources.
9. Messages. This category includes general comments that indicate teacher's beliefs and assumptions about school, expectations for work, and student behavior, but that are not linked to a specific academic activity.

II. Decisions made about the observation project

This section details the important decisions that were made with regard to the observation project, in addition to laying out the sometimes competing tensions that were discussed with respect to those decisions. This section addresses all stages of the project, including the design, observer training, observation, and analysis phases.

Training

The preparation for beginning the observation project involved all project members becoming familiar with a common collection of references, including 1) those that detailed the central theoretical background, 2) observational studies of motivation in classrooms, and 3) information regarding observational methodology. The core theoretical article regarding achievement goal orientations was Ames (1992). However, group member also read and discussed additional articles about classroom goal orientation, including Midgley (1993) and Anderman and Maehr (1994). Those members of the observation team who were unfamiliar with this theoretical position also attended specific training sessions, led by a senior member of Dr. Midgley's larger research project. In addition, all team members read important articles regarding learning strategies including Ames and Archer (1988), Newmann and Wehlage, (1993), and Pintrich and De Groot (1990). Previous observational studies that were read included Meece (1991) and Blumenfeld, Puro, and Mergendoller (1992). To ensure that group members shared some common sets of assumptions and guidelines for observational methodology, we read and discussed chapters from Miles and Huberman (1994) and the method sections of observational studies.

An observational protocol was written by the group after extensive discussions regarding the articles mentioned in the previous paragraph. This protocol was used to determine the behaviors to be primarily attended to and recorded during the observations. The protocol was modified iteratively during the practice sessions. The final version of this protocol is included in Appendix A.

All observers received extensive training and practice in observing and recording classroom behaviors. The first phase of training involved group members watching videotapes of 5th grade classrooms that had been recorded for a different project. During these sessions observers wrote continuous running records for between 30-45 minutes. This was followed by the observers reading and discussing what they had written, and establishing consensus of the important points. Each observer's running records from one session were typed and given to a colleague to check

for consistency between observers, who then reported impressions and made suggestions in a follow-up meeting.

The second phase of practice involved all members of the team observing in summer school classrooms for three mornings. During this time, team members were paired to observe a given class and then to discuss and compare the field notes they had taken. Where dilemmas or inconsistencies arose, these were brought back to group meetings for discussion. The field notes of the summer school sessions were typed and sent to a second colleague familiar with observational research to check consistency between observers' records. Once again, feedback was provided to the group.

Finally, some team members who were not available to participate during summer school received additional training by being paired with a more experienced observer during the first week of data collection. In these instances, both sets of field notes were marked and filed as legitimate records of what was observed. This process was aided by the fact that one school district began school a week earlier than the other, thus allowing observers to "train" in one district before commencing data collection in the other.

Decisions about the timing of observations

There was extensive discussion of issues relating to when and how long to conduct the observations. In line with our orienting research question, we were interested in capturing information about the explicit and implicit ways in which teachers communicate an overall classroom motivational climate. Based on the seminal research on classroom management conducted by Evertson and Emmer (1982), we decided that it might be particularly important to be present in classrooms during the first three weeks of the school year. We assumed that, at this time more than any other, teachers might make explicit statements about the meaning of academic tasks and achievement. We also assumed that instructional practices established during the early part of the school year would be salient in determining the motivational climate of the classroom.

Guided by these assumptions, but knowing we were limited in terms of the number of sessions we could observe with our resources, we decided on the following pattern of observation:

1. Each classroom was observed for the entire morning, on each of the first three days of school.
2. Each classroom was observed for an additional 5 sessions, spread throughout the remainder of the first three weeks of classes. Each of these sessions lasted for 90 minutes.

One issue that arose in making these decisions was whether we should be observing the same subject area lessons in each classroom. We were concerned about the possibility that the motivational climate would vary according to academic domain (e.g., Grossman & Stodolsky, 1994). In order to observe the same subjects in each class, however, we would have collected data on some classes in the mornings and others in the afternoons. Because we were also concerned that the time of day might influence teachers' and students' behaviors, we decided to observe only in the mornings as long as either math or language arts lessons were included. When possible, both of these subjects were observed. We did, however, also take field notes during any other subjects that occurred during our scheduled visits, including "specials" such as music or physical education, which may have been taught by other teachers.

Finally, we suspected that for at least some of our observational categories, teachers' practices might change during the school year. For example, it might be that teachers would utilize more flexible grouping patterns or provide more opportunities for student autonomy later in the year than in the first three weeks. For this reason, we decided to conduct three additional observation sessions within a one-week period, again lasting 90 minutes each, during the Spring semester.

Decisions about selecting classrooms

The observational study was conducted within two of the four school districts involved in the larger longitudinal study. In deciding on the number of classrooms to be observed, and which districts and teachers to target, several issues were considered. It was clear that we wanted to observe in classes where we were already collecting survey data because of the strength of having multiple sources of data on the same classrooms. We were also constrained to some extent by the willingness of school administrators and teachers to participate in our research in this more intensive manner. We were fortunate, however, in receiving wonderful support and cooperation from the districts involved. We ended up working within two school districts, one of which served both African American and European American students while the other served almost exclusively European American students.

One tension that arose was between the desire to have ample, rich data on the classes observed and to include a sufficient number of classrooms. Since we were interested in identifying classrooms in which students' perceptions of goal orientations differed, it was important to observe enough classrooms to capture some variability. We also wanted to leave open the possibility of following students longitudinally and observing in their 6th grade classrooms (although this follow-

up did not eventuate, largely due to a lack of resources). Thus, we decided to select elementary schools that fed into the same middle school. One of the districts within which we were working contained only three elementary schools and one middle school, therefore we selected two classes from each of these schools at random. In the second school district, guided by the advice of the district associate superintendent, we selected two elementary schools and then randomly chose two 5th grade classes from each. Thus, we identified 10 classrooms within which to observe.

Decisions relating to observers

Once decisions had been made regarding the number of settings within which to observe and the number of sessions to spend in each, we set about creating a master schedule detailing who would observe in each classroom throughout the period. Once again, several issues arose in the process of deciding how to allocate observers to classrooms.

One tension was between having consistency in who observed each class and having various observers in each setting. On the one hand, we wanted team members to develop an understanding of the history of the classes they were observing. This understanding would assist in interpreting incidents that occurred and also, we believed, might lead to observers being less obtrusive in the classroom. Alternatively, however, we were concerned about the potential for observers to be overly influenced by their early impressions of both teachers and students, and felt it was important to have more than one person observe in each classroom. Ultimately, we settled on assigning pairs of students to two classrooms, between which they would rotate. In addition, we assigned one senior team member as a “floating” observer who randomly attended different classes and recorded his own observations. Thus, we had an on-going independent check on the consistency with which field notes were being taken.

A related issue arose regarding the extent to which observers should discuss events and impressions with other team members during the data collection phase. One concern was that team members should raise questions about the use of the protocol or problems that emerged during their time in classrooms. In contrast, however, we were concerned that team members not communicate general impressions or judgments about teachers whom others would observe later, thus potentially biasing other observers’ impressions. We determined that practical questions of the first kind should be addressed to the full group, over email, but that more general impressions should be recorded for group discussion after the data collection period. To avoid further undue commenting on individual classes, each teacher was allocated a code number which was used in place of his or her name on all field notes and documentation.

Decisions related to data collection

Perhaps the most complex decisions our research team faced were those relating directly to what data should be recorded and in what format. We were very cognizant of the importance of these decisions at the initial stages in bounding or limiting the interpretations that would emerge in our later analyses. After some debate, we agreed that we wanted to approach our observations within a fairly distinct theoretical basis in line with our orienting research question and the survey project being conducted at the same time. Thus, we decided to try to take a broad look at goal orientations both as defined in traditional achievement motivational literature, and somewhat more broadly in terms of social interaction, social approval, and social responsibility goals (e.g., Urdan & Maehr, 1995; Wentzel, 1991). Furthermore, we decided to use the TARGET framework discussed in Ames (1992) as a starting point for developing categories. Nevertheless, we realized that we needed to be open to additional information that could provide insight into the motivational climate of classrooms and tried to develop a protocol that would allow the collection of such data.

One decision revolved around the level of analysis that was appropriate for data collection. Because we were interested in the communication of goal emphases to the class as a whole, we decided that our primary focus should be on the teacher and his or her comments and behavior. Nevertheless, it was clear that students' responses and comments were also important to record, to the extent that they illuminated the interpretation of the motivational climate. A related issue concerned where observers should physically locate themselves within the classroom, to allow access to information. For example, if a lesson moved from a whole class format to small groups, should the observer focus on the group or on all students? Given the centrality of the teacher to our agenda, we decided that the observer's focus should reflect that of the teacher. That is, observers should emphasize recording teacher-student interactions, in whatever participation structure they occurred, and position themselves in such a way as to optimize those observations. An example of a running record from one classroom is shown in Appendix B.

In addition to teacher-student interactions, we also assumed that more tangible evidence of the motivational climate of classrooms would be available in terms of the physical arrangement of the setting, and in terms of specific tasks. For example, many classrooms routinely display class rules and slogans that are intended to communicate directly to students messages regarding the importance of effort and hard work, or of cooperation or competition. Similarly, practices related to the display of students' work and/or grades in the classroom are often cited as indicators of goal orientation (e.g., Ames, 1992; Anderman & Maehr, 1994). In addition, the physical arrangement

of students' desks and other classroom furniture can determine the ease with which students work independently or cooperatively, seek help from one another, and so on. We felt that it was important to capture this kind of information both in terms of the implicit messages involved and as an aid to our own understanding of interactions recorded in the field notes. Thus, each observer was instructed to draw and label a "map" of the classroom, and to record everything written on the board as well as on posters and other displays. As observers became familiar with different classrooms, we asked that they note only those aspects of the physical environment that changed from what was recorded on the first day of school.

Additional information that we decided was important for our later interpretation of field notes was an understanding of the specific academic tasks students were being asked to complete, and the amount of time that elapsed during particular activities. Thus, we instructed our observers to note the time in the left margin of their field notes at least every 5 minutes, or whenever a significant change of activity occurred. We also asked teachers for copies of any handouts given to students while we were present in the class.

Observers were directed to type their field notes later in the day that the observations took place. We determined that it was important for observers to be able to elaborate or comment on their handwritten notes, as an aid to understanding events that occurred. Nevertheless, we were concerned that such additions represented an early stage of data reduction and analysis, and thus wanted to be able to separate original observation notes from later additions. Thus, we decided that any comments or interpretations added to the field notes should be printed in italics.

At the end of each day's field notes, observers also were asked to complete summaries of what they had observed, under each of our initial analysis categories. That is, having typed and commented on the running notes for one morning session, the observer would also write a few sentences summarizing pertinent information about the tasks students completed, the ways in which recognition were given, and so on. Completed sets of original and field notes, along with copies of class maps and handouts, were filed under each class's code number in a central file.

Decisions about data analysis

We used survey data collected from students in order to identify the classrooms that differed significantly from each other with respect to students' perceptions of their classroom as being task and/or relative ability goal focused. We conducted ANOVAS of students' responses to both measures of their perceptions of the class task goal and the class relative ability goal emphases

(PALS, Midgley et al., 1996) taken in both the fall and the spring. There were significant differences between the ten classrooms. On the basis of those results, we identified four classrooms, each one with a different motivational profile (high task & low relative ability, low task & high relative ability, high task & high relative ability, low task & low relative ability). The profile of those classrooms was consistent in both the fall and spring data.

To assist with the analysis we used the computer program HyperResearch (Hesse-Biber, Kinder, Dupis, Dupis, & Tornabene, 1994) to code the running records. The codes used with this program were developed during extensive group discussions, and continued to evolve in an iterative fashion while the records for the first class were being coded. These codes relate closely to the nine categories of OPAL but are more highly differentiated. They are shown in Appendix C.

The running records were coded in teams to facilitate accuracy and consistency of coding. All running records for the first class were coded by six project members as a group. After the coding of this first case, project members divided into two teams of three people for coding successive classrooms. Each team contained an equivalent mix of original classroom observers and new project members. The composition of coding teams was changed with each case to ensure that coding remained consistent. Running records were often relevant to more than one category, and in this situation they were multiply coded. Once all records from a class were coded a summary for each category was written, attending to the printed HyperResearch reports, the classroom running records, and the observers' summaries. On completion of each classroom summary, the summary and running records were sent to one of the original observers to check the accuracy.

The final phase of analysis involved looking for commonalties and differences across the different categories among the four classrooms.

III. Categories of OPAL

This section details the nine categories that were primarily attended to during the classroom observations and during the analysis of the running records. Each category is presented with a description, and exemplars of that category taken from the running records of the classrooms. All student and teacher names are pseudonyms.

Task

The task category refers to the manner in which teachers structure tasks and learning activities. This category is divided into two major dimensions: structural and psychological. The structural dimension encompasses the content, procedures (explicit and implicit), materials, participation structure, and the products associated with the task. The psychological dimension encompasses the affect (student and/or teacher) associated with the task, level of challenge and press, instructional support, learning strategies, and explicit or implicit messages about the reasons and purposes for doing class work.

A. STRUCTURAL DIMENSIONS

Content

This includes the subject area, the types of tasks that the students are required or allowed to engage in, the difficulty of the task, and whether there are different tasks for various students.

Product

This refers to the expected product - what the students are required to complete, hand in, or show to the teacher. It also refers to how complete the products are expected to be, and whether the products are the same for all students or not.

Example:

The teacher hands out two worksheets to each student.

Procedures

This includes the routines and procedures inherent or explicitly mentioned related to engaging in the tasks

Example:

The teacher tells them to take out the science worksheet and suggests they write a first draft on lined paper before writing on the worksheet. Students should show the teacher when finished and they will critique it together.

Materials

This includes a description of the materials and resources available to, and used by, the students. Also relevant is noting whether all students have equal access to the materials.

Example:

The students are handing out small squares made of construction paper with numbers on them from zero to nine. Then the teacher hands each student a medium size envelope.

The teacher explains, “We will be using a lot of different things for math. We will work with manipulatives.”

Participation structure

This refers to the way that teachers allow or require students to participate in classroom activities and lessons, including whether students are called on, whether they volunteer answers, whether participation is based on performance, whether the teacher attempts to call on all students equally, or if differential participation of students is evident.

Example 1:

The teacher tells the class, “I’m going to give you numbers. I am really fair. I always make sure with homework and asking questions that it is fair. I will pull a number out of the basket to keep things as fair as possible.” She pulls out Timothy’s number and asks him to take down attendance.

Example 2:

The teacher tells the students that if she finds they are not paying attention, she will call on them.

B. PSYCHOLOGICAL DIMENSIONS

Affect

This refers to observed expressions of emotion regarding activities, or inferred affects, regarding either students or the teacher.

Example 1:

Julie asks the teacher a question about the math home work quietly. As the teacher walks away from Julie she says, "I am going to try and be calm. Julie please don't ask questions like that. By the way, class, there are no secrets in this class. Julie just asked me 'Should we have done this or this?' Julie you should know. I'm not trying to embarrass anyone. If anyone asked me that, I would say this. Julie you are saying you didn't write it down." Julie starts crying and says, "I did...". The teacher responds, "Julie no tears! That is a bad habit that is going to stop this year in room 512. Julie, that is just for effect. Here are the tissues."

Example 2:

The teacher continues to point to digits in the number and asks what place value it is. Most of the class, about three-fourths, raise their hands to be called on. The teacher calls on students randomly, based on numbers drawn from a basket. Teacher says smiling, "Now I'm going to give you a really, really hard one -- 8." Students wave their hands to be called on, saying "Oh! Oh!"

Example 3:

David is then called on to read. When he appears to be having some difficulty, she writes on the board these words: these, there, they, them, and has the class read the words out-loud and together. The teacher asks David to continue reading, but shortly stops him again. "David, I want you to look at that sentence and read it again." He tries again, and she interrupts again - "Excuse me, David. You need to calm down and concentrate on what you're doing."

Higher-order thinking

This refers to instances when the students are asked to display deeper understanding, to make connections of the current topic to their prior knowledge, or to think about relationships between ideas.

Example:

Alex says, “I don’t know if a slug is an insect.” The teacher asks him, “What are the characteristics of an insect?” Students make some suggestions, “They have legs”, “Have antennae”, “They have wings.” After a pause, the teacher asks the class, “Are those characteristics true for all insects?” Jermain replies that not all insects have wings. The teacher asks for a specific example, and Jermain responds, “Ants.” The teacher says, “Right! Now, compare a slug to our picture of an insect. Is it different?” Several students respond, “Yes.... it doesn’t have legs. It’s not an insect.”

Press

This refers to instances where the teacher presses a student to elaborate on an idea, attempts to encourage students to make their reasoning explicit, or follows up on a student’s answer or question with encouragement to think more deeply. Included also are comments on whether the teacher presses specific students or the whole group.

Example 1:

The teacher introduces the assignment by asking the class, “What does it mean to observe?” Someone replies, “To look at something.” She asks, “Just looking....?” The student responds, “.. and writing down what you see.” The teacher: “Yes, you write down your observations, but what do you look for?” Student says, “Something important.” The teacher says, “What is important to look for in our bugs? Remember when we talked about classifying them?” The students respond with answers such as, “fur”, “parts of their body”, an “their behavior.” The teacher asks them to write down what they will be observing.

Example 2:

The teacher asks a number of students their reasons for saying Yes or No as the answer. Then she asks the students to read the sentence again.

Scaffolding

This includes any evidence of the teacher providing additional support for learning by modeling, outlining, use of questioning procedures, or suggesting where to find additional help.

Example:

The teacher talks through the example - what the format of each line is, how it is set out, what it deals with. She copies the example from the text onto the blackboard, explaining as she does:

Shopping (Title)

I. Hardware store (main idea/topic)

A. Nails.

B. Hammer (subtopics)

The teacher makes everything explicit. "Notice I'm breaking this down as simple as I can.

That's the idea."

Learning strategies

This refers to instances where the teacher helps students metacognitively manage their own learning through instruction or modeling in strategy use (e.g., outlining, organizing information) as well specific strategies for assignments (e.g., estimation).

Example 1:

The teacher then talks about the lower part of the sheet headed up "Troublesome Words", telling the students that this is where they write words that they have trouble spelling. "There are going to be some words you have trouble with. That's the word you take home, and write out three times and say-spell-say. And you do that five times, and pin it up at home. As you learn and pick up study skills, you will be very familiar with these words. And in September, you'll look back and say I've learned all these words."

Example 2:

Teacher to Shannon: "Will you read the details for me?" To the class: "So what are we looking for? Weightlessness in space. So what are we focusing on? I want you to read a, b, c, & d, and I want you to underline what you think is important." Students read the paragraph to themselves.

Example 3:

The teacher tells the class, "If you are ever reading and it doesn't make sense, get understanding. Go back to the beginning. Don't just read to read."

Messages about the task

This includes statements that the teacher makes regarding effort, attributions, goal orientation, values, reasons for doing the task, and teacher expectations.

Example 1:

She defines proofreading, and tells them that this sheet lists six questions that they need to ask themselves about every piece of work they do. If you do this, your papers are going to be near 100%, or 100%.

Example 2:

“It doesn’t matter if you are right or wrong - this is just practice.”

Example 3:

Teacher: “You may find this to be boring, and I don’t disagree with you. This information is important. It may be boring but when the time comes you will need to know it.”

Authority

The authority category represents the locus of responsibility in the classroom. It includes aspects of rules and teacher management and student autonomy.

Rules and Management

The rules and management category indicates the explicit and implicit behavioral guidelines, norms, and expectations for the classroom as well as the procedures by which the classroom functions. Procedures for completing specific activities are not included in this section. Included in this section is a note of the written class rules, who determines the rules (teachers, students, or both), what implicit rules are assumed, what the implications of non-compliance are, how consistently sanctions are imposed and rules followed up on, and general procedures and organization of non-academic activities.

Example 1:

The teacher says to the class, "Let's get going on the rules. It is important to create rules so you understand what they are." The teacher writes suggestions on the board:

- no fighting, teasing
- no passing notes
- don't talk
- no running

The teachers asks if anyone else can think of anything else ... She tells them she will base the class rules on the suggestions that they give her.

Example 2:

The teacher goes to the black board and writes:

"1. Don't talk while Mrs. C is." She says, "This is the only rule I will ever have, because if you talk, you're missing out." Then she asks, "What is rule number 2?" Someone calls out "Follow directions." Teacher writes that on the board. Underneath she writes:

"3. RESPECT." "Respect yourself, respect me, respect them. That's me in a nutshell, if you want to know who I am."

Autonomy

A sub-section is student autonomy, which addresses the extent to which students have some of degree of control or choice over their classroom activities. Such features may include the order in

which they complete tasks, the content of the task, the form of the product, whom they work with, when they work on the task, how their work is evaluated, and expectations of responsibilities and rules (e.g., if they can sharpen pencils without having to request permission).

Example 1:

The teacher says to Kristelle, “Write anything you want. You choose what you are comfortable with and write that.”

Example 2:

The teacher tells the class the exact format in which she wants the letter to be written, and says that she will not read it unless it is written that way.

Recognition

The recognition category represents the appearance, purpose, and type of recognition that the teacher uses in the classroom. This does not include the way that the teacher calls on students to participate in class. It includes whether the teacher's praise and criticism are private or public, whether concrete forms of recognition (e.g., candy, stickers) are used, the presence of non-verbal forms of recognition, what the recognition is contingent on, and attributions that are made about students. Included in the category of recognition is a sub-section of social comparison.

Example 1:

The students are playing spelling bingo. The teacher walks throughout the room as she reads. A student gets bingo. The teacher says, "Very good. You can go get something out of the candy jar." She says to the class, "Give him a hand - he is our first winner."

Example 2:

The teacher says, "We purposely didn't remind you, because we wanted to see if you could take responsibility, and you did - so give yourself a pat on the back."

Social Comparison

The social comparison category includes any comments about relative ability or differential performance in classroom activities or general levels of achievement. This reflects both teacher and student behaviors surrounding instances of social comparison. Included in this sections are public references comparing one student's ability to another's, using a specific student's work as a good example, normative comparisons among students (e.g., ranking), and public reporting of scores on assignments or tests.

Example 1:

The teacher says to Vanessa, "That is a little too small." She then holds up Eva's paper as an example to Vanessa, saying, "Try to do it more like this."

Example 2:

As she walks around, the teacher stops at Stacy and says, "Excuse me boys and girls, I have to show off. This young lady has done the homework and just finished her journal. Now it's 9 am, and she is ready -- on time and on task."

Example 3:

The teacher says, “Mrs. C has her way of treating certain people who follow directions. I also have a way of treating those who don’t.”

Grouping

The grouping category focuses on how the teacher structures the classroom activities and arranges students to work independently or together. Included in this category is a note of the number and size of groups, their heterogeneous or homogenous nature, the basis on which the groups were formed (e.g., ability), the extent to which groups are stable, whether there are different roles for groups members, how the roles are allocated, and what the roles involve.

Example 1:

The teacher tells them to “pair off in cooperative learning groups”. She tells them they can choose to work individually, or with a buddy, or in three’s. She will “facilitate”. She asks each student if they will be working alone, or who they plan to work with. One group of four boys (Thomas, Peter, Kris, and Vincent) says that they will all work together (the teacher had only suggested up to three in a group), but she said she was really pleased with that arrangement.

Example 2:

The teacher tells the students, “You will be working on different levels. What you know and have not been taught will determine your assignments.” She says they will try to keep the class together but will have different reading groups.

Evaluation

The evaluation category includes the nature of student evaluation and assessment; either formal or informal. Formal evaluation refers to tests, grading policies, and other means of evaluation such as portfolios. Informal evaluation refers to the teacher monitoring students' progress and understanding, usually during the activity.

Formal Evaluation

This section refers to formal tests, portfolios, and grading. Included in this section is a note of where the evaluation occurs (e.g., if the teacher conducts tests outside the regular classroom), what the criteria for evaluation are, and whether students evaluate their own or others' work. Also included are any attributional statements made regarding success or failure, any statements about the consequences of success or failure, and how previous successes or difficulties are referred to.

Example 1:

The teacher tells the class, "Your portfolio is your writing samples and things that will go on with you. I am going to see how far you have come with your writing - poems, letters, creative writing. At the end of the year I will sit down with you and discuss your portfolio and we will choose what will go in them. These will stay with you forever. When you're in the 12th grade you can see what you did in the 4th grade."

Example 2:

The teacher tells the class, "Put your vocabulary sheets inside your book. I will say now you will be quizzed on four items tomorrow, and be given a grade. So study."

Informal Evaluation

This section includes the teacher monitoring students' progress and understanding, and students monitoring their own progress. It involves the content of the evaluation, any attributional statements made regarding success or failure, any statements about the consequences of success or failure, and how previous successes or difficulties are referred to.

Example 1:

The teacher then reviews what an outline is, and asks, “All of you who understand what an outline is, raise your hand.” It appeared that all students raised their hands.

Example 2:

Teacher: “I am coming around and checking.” She looks at Marcel’s work and corrects something. She looks at Bobby and remarks, “Excellent.” She goes down the row of students remarking “Good”, “Very good”, “Excellent”.

Time

This category includes instances in which the teacher refers to students' use of time to complete assignments or uses time to manage classroom activity. This includes the teacher imposing time limits on activities, comments by the teacher on how quickly students should be working, and comments about time restrictions. This category includes also a note of time schedules, the extent to which time schedules are adhered to, and the circumstances in which they are not adhered to.

Example 1:

On Blackboard:

Agenda:	
Bell work	8.45 - 9.00
English/ Spelling	9.00 - 9.55
Science	9.55 - 10.45
Gym	10.30 - 11.15

Example 2:

The teacher says, "You have 15 minutes, and that's all you need for the outline. After that, we need to move on to science."

Example 3:

"You have five minutes, you should be done with this (referring to a sheet)" ... "We have three minutes." ... Kevin asks a question and the teacher directs it to the class "Can animals and insects communicate?" Barely waiting for an answer she says, "Yes they can." ... "I want to tell you something. If you run out of time, don't panic, you will always be able to finish."

Social

The social category encompasses both student-student interactions and teacher-student interactions. It includes incidences of, or references to, social responsibility, and conflict and its resolution.

Student-student interactions

Included in this section are what the teacher says about students interacting with one another, in addition to the extent, nature of, and circumstances surrounding what is allowed and what is reprimanded. Further, this category includes what the students talked about, the apparent nature of student-student interactions, and whether the classroom or activity was structured to allow student interaction.

Example:

Students continue with their work. There is a low steady hum of talk, and they appear to be on-task. The teacher says, "I don't mind you talking; I love you discussing the subject matter." Students are still working.

Teacher-student interactions

This section refers to interactions between the teacher and students. It includes references to observed caring and supportive comments of a personal nature, apparent conflict between teacher and student, and incidences of the teacher disclosing personal information or using examples from their life outside of school.

Example 1:

When the bell goes, the students enter the building. The students hang up their bags, slowly amble inside the classroom. The teacher is outside her classroom. One girl shows her something she has brought from home; another stands quietly and waits until the teacher has finished talking to observer then asks the teacher for a hug, which is given.

Example 2:

Damien remarks, "They make a better basket than you." (He is comparing the picture in his text book with the one the teacher has drawn on the blackboard.) Teacher: "I know, art is not my strong point. I do my best. Leave me alone." She laughs. "I know what was wrong." LaKeisha: (interrupts). "No, everything was fine - except the basket." There is

some good natured teasing by the students. Teacher: "Well, at least I try! You have to give me credit." LaKeisha: "I do, I do." Teacher: "Now, total attention on math. Yesterday, what were we discussing?"

Social responsibility

This category refers to statements about compliance with classroom and school norms and rules. Included in this category is anything the teacher says about following rules, being helpful, setting a good example for others, and about interpersonal conflicts. Further, it includes student behaviors that indicate responsibility for the well-being of individuals or the entire class.

Example:

The teacher turns to the class and says, "Don't let me forget that before lunch we need to assign a boy and a girl as lavatory captains. Remember, we are role models, and we have to monitor our behavior. No writing on the walls, doors, or doing other things like that."

Help-Seeking

This category refers to both instances where students seek help, and statements or questions that address the giving or receiving of help, both relating to academic and non-academic activities. Included in this section is a note of the amount and type of help that students request (or are encouraged to request), in addition to the public nature of the helping interactions. Also included is if students seek help from the teacher, from other students, or offer help to others. Furthermore, the teacher's comments about giving and seeking help, reference resources available for students, and the teacher's statement about using those resources are noted.

Example 1:

The teacher says, "When we are in groups your group members can help. We are all here to help one another. It does not bother me at all if you ask your neighbor for help when we are in groups."

Example 2:

All the students concentrate on the work sheet. Molly has a problem. The teacher sits next to her and explains. The other students are engaged in the task. Teacher to Molly: "You understand now?" The teacher walks around to Wanda and explains. Ronny and King are checking each other's answers and discussing.

Example 3:

Teacher: "Please don't share your information with others. There should not be any talking."

Messages

This category refers to general comments that teachers make that indicate their beliefs and assumptions about student behavior, work expectations, the goal structure of the classroom, and relationships, but that are not made during a specific academic activity.

Example 1:

You should have pride in everything you do.” . . . “All you can do is your best.”

Example 2:

The teacher then says, “I love to answer questions. Don’t let me get paid for standing here and doing nothing - don’t hold your questions. If you don’t know how to do a problem just skip it, or write “I don’t know”. Don’t worry - try your best.”

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Appendix A

Instructions for Observers

On the first day in class, draw a map of the physical setting including students' seating arrangements, placement of resources and furniture, and the content of posters, displays, and blackboard messages. On subsequent days, note only the changes.

Write a running description of all the activities that occur within the class, focusing on the teacher and his or her interactions with the students. Your aim is to record the flow of events continuously. In particular describe the following:

Task

- the content of the task.
- the participation structure(s) required or suggested by the teacher.
- the expected product.
- anything the teacher says about the reason for doing the task, its value, or the difficulty.
- routines, rules, and procedures for doing the task.
- materials and resources used, and how the materials are distributed.

Authority

- what the class rules are (get a hard copy).
- who determines the rules.
- what implicit rules are assumed or referred to.
- what the implications are for non-compliance to norms or rules.
- whether there is a discipline system in place.
- how consistently sanctions are imposed or rules are followed through on.

Autonomy

Any instance in which students have choice (and note the degree of choice) over :

- the order in which students complete their tasks.
- the content of the task.
- the form of the product.
- with whom the students work.
- when they have completed the task.
- how their work is evaluated.

Recognition

- whether the teacher's praise and criticism is public or private.
- what the teacher's praise and criticism is contingent on (e.g., conduct, participation, achievement).
- what the praise or criticism is attributed to (e.g., effort, ability, luck).
- any concrete forms of recognition beyond praise (e.g., candy, stickers).
- any non-verbal recognition.

Grouping

- the number of groups.
- the size of groups.
- the basis of group formation (e.g., ability, cooperation, competitive teams).
- if the groups are formal or informal arrangements.
- the extent to which groups are stable or flexible.
- whether students have different roles in the group, and if so, how the roles are allocated and what they involve.
- the characteristics of the groups (e.g., gender, ethnicity, special needs students).

Evaluation

- whether evaluation occurs within the class or elsewhere (e.g., teacher grading away from class).
- what the criteria for evaluation are.
- whether students evaluate their own work.
- whether or not students evaluate one another's work.
- if any attributional statements are made for success or failure.
- any statements that are made about the implications of success or failure.
- how students' previous successes or difficulties are referred to.

Time

- if there is a set time schedule. If so, get a copy.
- the extent to which time schedules are adhered to, and under what circumstances they are or are not.
- any comments made by the teacher or students about time restrictions.

Social

- anything the teacher says about students interacting with one another during activities, what is allowed and what is reprimanded.
- anything the teacher says about social responsibility (e.g., following rules, being helpful, sharing, actions that are for the good of the group).
- anything the teacher says about interpersonal relationships or conflicts.

Help-seeking

- what students do when they are unsure of what is required of them.
- the manner in which students seek help from the teacher (e.g., publicly or privately).
- if students seek help from one another.
- what the teacher says about getting help.
- what resources are available for students to refer to independently.

Record verbatim statements (or as close as possible) from the teacher or students, that seem to demonstrate these areas clearly. Also make a note of the time every 5-10 minutes.

Appendix B

Sample of a Running Record

On Blackboard:

Agenda:

Bell work	8.45 - 9.00
English/ Spelling	9.00 - 9.55
Science	9.55 - 10.45
Gym	10.30 - 11.15

8:45 When the bell rings, the students enter the building. The students hang up their bags and slowly amble inside the classroom. The teacher is outside her classroom. One girl shows her something she has brought from home; another stands quietly and waits until the teacher has finished talking to observer then asks the teacher for a hug, which is given.

Students do work at their desks, some talk quietly during bell work. The teacher takes attendance and talks with some students individually.

9.00. The teacher hands out two worksheets to each student. She says, “Boys and girls. Stop your bell work. We’re going to move on down to English.” As she walks around, she stops at one girl and says, “Excuse me boys and girls, I have to show off. This young lady has done the homework and just finished her journal. Now it’s 9 am, and she is ready -- on time and on task.”

She notes that there are two sheets, one with the heading “Editing marks”, the other “Proofreading checklist”. The teacher then asks them to look at the “Proofreading” sheet. She defines proofreading, and tells them that this sheet lists six questions that they need to ask themselves about every piece of work they do. “If you do this, your papers are going to be near 100%, or 100%.” The teacher calls on students to read each of the six questions. After #4 (Item 4: Did I spell each word correctly?), she says, “This one is very important. I have placed out several dictionaries, and please, I encourage you to use them.” After #6 (Item 6: “Did I use my best handwriting?”) the teacher says, “You should have pride in everything you do.”...”All you can do is your best.” She then talks about the lower part of the sheet headed up “Troublesome Words”, telling the students that this is where they write words that they have trouble spelling. “There are going to be some words you have trouble with. That’s the words you take home, and write out three times and say-

spell-say. And you do that five times, and pin it up at home. As you learn and pick up study skills, you will be very familiar with these words. And in September, you'll look back and say I've learned all these words."

The teacher turns to the class and says, "Don't let me forget that before lunch we need to assign a boy and a girl as lavatory captains. Remember, we are role models, and we have to monitor our behavior. No writing on the walls, doors, or doing other things like that."

The teacher then began talking about the practice spelling test from yesterday. "Four of you got 100%, and the rest of you got in the 90th percentile (*I imagine she means 90-99% correct*). We purposely didn't remind you because we wanted to see if you could take responsibility, and you did - so give yourself a pat on the back." "Those of you who passed at 100% don't have to take the test tomorrow." The teacher then tells the students where to put this sheet - in their English folder.

She then tells the students to look at the sheet called 'Editing Marks'. "This is another form of communication." She explains that she will use these symbols when correcting their work, and speaks about each of them (7 symbols). The teacher asks them to place a check mark beside the marks for "cross out", "indent", "capital letter", and "check spelling", saying that those would be the symbols most commonly used. She then spoke about the "Troublesome words" list, calling on different students to read the sentence written alongside each word. She asks the class as a whole if everyone understands the meaning of these words - there is little answer and a few head-nods. She does not define them, but says, "These words are statistically the most miss-spelled words." The students are told to also put this sheet into their English folder.

9.15. The teacher passes out an index card to each student, and tells them to take out their English book ("Bridging English Skills"), and turn to page 319. The students are then told to write their first and last names and the date on the back of the card. The teacher says, "Your name should already be on the back of the card. [To one student, *frustrated*] On the back - you're not listening. [to class] Open your book to page 319 - your English book - 319 - the 9 is in the 1's place, the 1 is in the 10's space and the 3 is in the 100's space. I'll write it on the board - 319". She writes it on the blackboard. The teacher explains that they will learn about outlining. "When you finish this assignment, you will be able to design an outline, develop an outline. An outline is a very important tool. It is a way of arranging your ideas. It shows you how to organize things.... There's a short example on page 319 [about planning shopping]. You should be focused on nothing but page 319 - that's a good study skill. " *The teacher appears frustrated with students.*

The teacher talks through the example - what the format of each line is, how it is set out, what it deals with. She copies the example from the text onto the blackboard, explaining as she does:

Shopping (Title)

- I. Hardware store (main idea/topic)
 - A. Nails
 - B. Hammer (subtopics)

The teacher makes everything explicit. “Notice I’m breaking this down as simple as I can. That’s the idea.” On saying that the main ideas are numbered with Roman numerals, she says, “Roman numerals from math carry right across to English. That is across-curriculum.” The teacher then models how a paragraph about going to the hardware store could be written from this outline. “I have to organize it. Then I’m going to draft it...It’s easy - all you have to do is be organized. If your thinking is organized, then your writing is organized.”

The teacher then tells the class that they will make up their own outline about going to the grocery store. (A similar example is given in the text book.) She asks the students to contribute ideas. One boy suggests that the next main idea could be “Farmer Jack Grocery Store”. The teacher writes this up on the blackboard. She asks the students what they may want to buy; many hands go up and the teacher comments that she likes the hand raising. She also comments that students shouldn’t make noises when they raise their hands, e.g. “ooo, ooo”. “I like the excitement and motivation, but I don’t want the ooo, ooo..... I’ll model for you the correct way.” And she quietly raises her arm and holds it still. Some students are talking to each other quietly; the teacher says “How can you be listening and talking? The teacher says to one girl, “That is a little too small.” She then holds up another girl’s paper as an example to the first girl, saying, “...try to do it more like this.”

The teacher says, “Remember that the more creative you are, the more words you will use, the more descriptive you will be. Being creative and descriptive is very important for a writer so you can hold the reader’s interest.” She then says: “What’s a noun?” - girls answers. “What’s an adjective?” Other students answer. “When I read, I like a pretty paragraph, a descriptive paragraph. That’s more interesting. Isn’t that more 5th grade?” The teacher then says that she overheard some Kindergartners talking to each other yesterday, and they were using lots of good words, and talking in complete sentences”- *something she has been encouraging often in their writing over the last few days*. One boy says, “But we can do better”, and she replies “Of course we can. That’s what we’re going to do, make ourselves better.” The teacher tells the class

that they could have used an outline for their science report (written yesterday), and they could write one for their journal entries. She tells them that if they write outlines, they won't ever have any trouble writing. B__ is called on to read the notes about outlines from the text book - he does this.

D__ is then called on to read. When he appears to be having some difficulty, she writes on the board these words: these, there, they, them, and has the class read the words out-loud and together. The teacher asks D__ to continue reading, but shortly stops him again. "D__, I want you to look at that sentence and read it again." He tries again, and she interrupts again - "Excuse me, D__. You need to calm down and concentrate on what you're doing. This is very serious.... A good reader doesn't add words. [says his is adding words.]... You're a good reader, but there are some things I'm observing that you need to change." She tells D__ to stand up; she brings him over to the podium and turns on the microphone. He reads again, and stops when he notes that he has read extra words. A couple of girls comment on it, and the teacher says to one of them "Excuse me honey, He's realized his mistake, and he's going to correct it, in a very positive way. Let's give him a hand for correcting his mistake." The class claps briefly.

9.40 The teacher tells the class that they will write an outline about their nature walk. "You have 15 minutes, and that's all you need for the outline. After that, we need to move on to science." After a minute or so, the teacher says, "I'm going to give you a hint - What would be the title?" A student says, "Science" - she had already told some of them. The teacher says, "What would be under Roman numeral I.?" No answer, so she says, "Nature walk." Students begin working on their outlines. After a few minutes, the teacher says, "Boys and girls, do me a favor. Keep to the rules in the blue box." This refers to text book. The teacher walks around the class, and says to S__, "You go back to your blue box." D__ raises his hand, and the teacher goes over to him. The teacher says to a small group of boys, "No more talking down here at all, because you can't stop. You can't handle it."

The teacher then tells the students not to slouch. "It's good for your back and for your attitude. Make sure you're in bed not later than 9:00, because if you don't, in reading it shows. Do your homework, eat your dinner, go to bed. I come to school awake and ready to work. So should you." The students sit up straight in their chairs.

A__ raises his hand, calling the teacher over to look at his card with his outline written on it. He doesn't need help. *He appears to want approval.* In response to two students' comments (not heard by observer), the teacher says, "Everyone's card is going to be different." The teacher

points out B___ to the class - "She's using a dictionary - I love it." Soon many students are using a dictionary. The teacher says to S___, "Just pick up the book and sit down like a lady." (*Incident unseen by observer*). R___ asks the teacher how to spell ___ (school name). The teacher reminds him that ___ was an American president, and that the class has a book over there about American presidents. He should look it up. She then stops the class. "Excuse me, R___ is going to model this. He wanted to know how to spell ___ (school name), and so he is going to look it up in this book about American presidents. You guys have to learn to use other resources. There are plenty of other resources you can use." Students continue with their work. There is a low steady hum of talk, and they appear to be on-task. The teacher says, "I don't mind you talking; I love you discussing the subject matter. One more minute..." Students are still working. She then reviews what an outline is, and asks "all of you who understand what an outline is, raise your hand." It appeared that all students raised their hands.

9:55 The teacher tells them to "pair off in cooperative learning groups". She tells them they can choose to work individually, or with a buddy, or in three's. She will "facilitate". The teacher tells them to take out the science work sheet and suggests they write a first draft on lined paper before writing on the sheet. The students should show the teacher when finished, and they will critique it together. The teacher passes around a magnifying glass and suggests that students use it to "observe something special in your specimens, then pass it along; we only have one." She asks each student if they will be working alone, or who they plan to work with. One group of four boys (T___, P___, C___, and D___) say that they will all work together (*the teacher had only suggested up to three in a group*), but she said she was really pleased with that arrangement.

10:05. The teacher walks around the room collecting up their 'guess how many' sheets. She then tells them to get their plastic bags (from yesterday's nature walk, containing their 'specimens' - leaves, mushrooms, berries, slug, twigs etc.). Boys are crowded around a plastic tank with live bugs. *They appear really interested* - talking, making comments, trying to touch them. A spider escapes, the boys move backwards (*like they're scared*), and the teacher catches it - *she appears really interested in the bugs*. She introduces the assignment by asking the class, "What does it mean to observe?" Someone replies, "To look at something." She asks, "Just looking....?" The student responds, "... and writing down what you see." The teacher: "Yes, you write down your observations, but what do you look for?" Student: "Something important." The teacher: "What is important to look for in our bugs? Remember when we talked about classifying them?" The students respond with answers including, "fur", "parts of their body", and, "their behavior". The teacher asks them to write down what they will be observing. Students have their specimen bags emptied onto paper towels on their desks. Some are looking at them individually,

others are discussing them with other students. All students appear on task, and interested. The microscope is passed around some of the students. Six boys are grouped around the hamster cage, talking about whether it bites, commenting on him drinking. The teacher comes over to them and tells them not to play with the hamster. They move on to the tank with the frog (*collected on the walk yesterday*); one boy pokes it a few times, intrigued by making it jump.

10:15. The teacher says, “It’s quarter past “, then counts down 5 - 1 (*for attention presumably*). Then says, “I need your attention. At twenty-five past, you’re going to need to start writing. First you need to list what you have, or what you think you have.” The teacher shows the class something B__ has brought in - leaves with accompanying names mounted on plastic-covered pages. She says that that may be something the students might want to do [i.e. label and mount their specimens.] She moves over to a large group of girls, who are discussing their leaves and berries. “I’m going to let you go to the library.....identify your plants by name” She tells them to get the encyclopedia, the ‘P’ one - for plants, and look up the plants. All eight girls, accompanied by the teacher’s aide, leave for the library.

The teacher is at a group of eight boys grouped around a row of desks with the two tanks of live things on them. The teacher constantly makes comments which suggest her interest in the live things, describing what she sees and commenting on things the students should/could notice. She asks T__ to identify the living things in one of the tanks. He says, “grasshopper, spider, cricket, daddy long legs, slug.” There is a lot of talking about them. One boy says, “I don’t know if a slug is an insect” - the teacher asks the student, “What are the characteristics of an insect?” Students make some suggestions, including, “They have legs”, “antennae”, “they have wings”. After a pause the teacher asks the class, “Are those characteristics true for all insects?” Another student replies that not all insects have wings. The teacher asks for a specific example, and the student responds “Ants.” The teacher says, “Right! Now, compare a slug to our picture of an insect. Is it different?” Several students respond, “Yes.... it doesn’t have legs. It’s not an insect.” The students and the teacher look at some of the things through the magnifying glass. The teacher takes the slug out of the tank, saying, “Here’s the slug - look, look - he’s wonderful.” She places it onto a paper towel, saying, “Watch how he’s crawling, watch how he’s stretching his body. You should be writing this down”. The teacher stresses the need for students to be quiet and observe carefully. The slug is put back, and they look at the bugs with the lid off. The grasshopper jumps out, the boys move back and some laugh a bit, making excited noises. The teacher catches it, puts it back into the tank and puts on the lid. The boys watch her intently. The grasshopper walks upside-down on the lid. The teacher encourages the students to look at the underside of the grasshopper. “Watch. You’re going to have to be quiet.” She encourages them to count the

number of legs. The teacher asks, “Do insects communicate with each other?” She then suggests that they do; she tells them to look and notice that all (three) of the daddy long legs are grouped together in one corner - “They probably all are communicating.” Attention turns then back to the upside down grasshopper. The teacher says, “He’s smart, because he can walk across the lid without getting his legs caught in the holes.”

10:25 The teacher tells the students to begin writing, or at least to put their name and today’s date on the paper. The girls arrive back from the library. The teacher comments, “How nice, the girls are walking in nicely and the boys are writing. [To girls] Don’t lose your notes from the library - be responsible for your notes.” She then goes on to say, “It’s time now. We have to prepare for gym. Remember how we do things in this classroom. Put your work away neatly. Go to your bag and get what you will need for gym. When you return, we can continue on this lesson”. Table 2 (with mostly girls) is told to line up at the door. Table 1 is slower to finish up their work; they are told they may have to stay in the class with the teacher [instead of going to gym].

10.30 The class lines up along the wall in the hallway. The teacher says, “We do not allow talking in the hall.” She also tells them not to lean on the walls. The teacher walks with them to the gym room.

Appendix C

Codes used with HyperResearch

Autonomy	<u>Subjects</u>
Evaluation: Formal	Language Arts
Evaluation: Informal	Math
Grouping	Social Studies
Help-seeking	Science
Messages	
Recognition: Group	
Recognition: Individual	
Recognition: Negative	
Recognition: Neutral	
Recognition: Positive	
Recognition: Private	
Recognition: Public	
Rules and management	
Social	
Social Comparison	
Social Responsibility	
Social: Student-student	
Social: Student-teacher	
Task: Affect	
Task: Higher Order Thinking	
Task: Learning Strategies	
Task: Messages	
Task: Press	
Task: Scaffolding	
Task: Structure	
Time	