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Activity Setting Observation System Rule Book

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Publication Date

2005-02-15

ACTIVITY SETTING OBSERVATION SYSTEM (ASOS)

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ACTIVITY SETTINGS OBSERVATION SYSTEM ASOS

SECTION I:

INTRODUCTION

The Purpose of the Activity Settings Observation System

Virtually all work in the analysis of sociocultural activity has been through qualitative data, ethnographic or micro-ethnographic. Ethnographers express their pride of method by emphasizing their "thicker" accounts of events, as compared with the quantitative methods of sociologists, psychologists, or educational researchers. Nevertheless, there is potential value also in a "thinner" quantitative description of activity settings. Presumably the more abstract categories of quantitative methods can allow a reliable, uniform system of description. This in turn would allow comparison of events 1) across time and/or developmental progress, 2) across institutions, communities, or cultures, and 3) across outcomes. Such studies are rarely possible at the present time, since we lack a basis for description that is theoretically principled, commonly applicable, economical, and subject to precise comparison such as provided by mathematical or other rule-governed analyses. This ASOS system makes that attempt. We do not advocate abandoning ethnographic, "thicker," qualitative description. But our goal has been to add to the methodology of sociocultural studies by developing an economical method of description which is:

- 1) based on the central concepts of sociocultural theory

- 2) practical for the live and accurate description of a typical classroom or similar setting
- 3) economical
- 3) reliable across observers
- 4) subject to some form of meaningful quantification, and
- 5) which can be correlated with simultaneous, more detailed, "thicker" annotation as resources allow.

Such a system inevitably has limitations. The ASOS records most observed categories in a binary form, that is, "present" or "absent" during the period of observation. While simple social systems might allow frequency counts, or connoisseur-like judgements of quality, a complex fast paced classroom will require concentrated attention and vigorous recording merely to recognize activity settings and the presence or absence of critical features. The ASOS can be correlated with other observational or rating systems, as well as with qualitative data, but in itself, the ASOS is intended to provide a quick check for important features of complex systems of human interaction during activities.

Activity Theory

The ASOS uses seven basic categories to describe each Activity Setting. Each category will be described below, following a discussion of the Activity, itself, the basic unit of analysis.

The origin of much of the activity theory is found in the work of two Soviet psychologists - L. S. Vygotsky and A.N. Leont'ev. They gave birth to the concept activity as restore-explanation principle of human development. This Soviet approach

was a non-empirical tradition, and there was little research (as it is understood in the West) conducted. According to Kozulin (1986) the basic origin of the concepts of activity can be found in the early writings of Lev Vygotsky, who suggested that socially meaningful activity may serve as an explanatory principle in regards to, and be considered as a generator of, human consciousness or socially situated cultural values and beliefs (A. N. Leont'ev,1981; A. N. Leont'ev,1986; A. A. Leont'ev,1975; Radzikhovskii,1986; Vygotsky,1978; Vygotsky,1966).

The cultural-historical dimension of Vygotsky's theory of development is aimed at the analysis of historical transformations/development of human psychological functions under the influence of changing psychological tools (e.g., language and material external tools such as computers, etc.). Vygotsky's position was that psychological tools are social, not organic or individual. Their meaning and use are socially constructed during cultural activities (Vygotsky, 1966). Cultural activity is the process through which we learn and are socialized to behavior, social roles, and social values as a function of participation (Rogoff, 1993 & 1994).

One of the major aspects of Vygotsky's theory of child development is that activities are initially carried out by the child on the external plane, and then are internalized. Internalization is concerned with the ontogenesis of the ability to carry out socially formulated, goal-directed actions with the help of mediating devices. According to this approach, the forms of knowledge to be acquired by every child in a culture are continually evolving. There is nothing final about them (Cole,1985; Holland & Valsiner, 1988; Minick, 1993; Vygotsky,1978; Vygotsky,1966; Wertsch,1981).

From the socio-cultural perspective developed by Vygotsky, researchers have continued to explore and unfold the meaningful elements of activity. These meaningful elements of activity have yielded empirically derived elements of activity that are essential for teaching and learning. The following section addresses these theory based categories as fundamental elements for teaching and learning during classroom activities.

Theory Based Activity Setting Categories

Joint Productive Activity

A foundational proposition of sociocultural theory is that Joint Productive Activity is the sine qua non for the achievement of socialization, intersubjectivity, and community identification. This is because the shared motivations of participants around the objective of the activity sustains their propinquity, their mutual assistance, and their conversation -- which in turn, through semiotic processes, establishes common understandings. Likewise, people's actions, attitudes, goals, and understanding create the meaning of their activity. In other words, the context of an activity influences the psychological meaning of that activity, and simultaneously, the actions of the participants (Forman and McPhail, 1993). The same can be said of the classroom community when the creation of a common genre is created through Joint Productive Activity.

The activity should be shared both by the students and teacher, because only if the teacher is also present can the kind of discourse take place that builds basic schooled competencies. The intersubjectivity achieved through classroom activities leads to the

creation of a common genre, comparable to the kind of participation experienced by youth in their communities (Vygotsky, 1978). Comparable too are the conversations during peer collaboration in the co-construction of knowledge during classroom activities (Wells & Chang-Wells, 1992). It is discourse during activity that the highest order of meaning is achieved, insuring that tools of verbal thought can be manipulated for the solution of practical problems of the experienced world (Tharp et al., 1994 ; Tharp, 1994).

Nevertheless, joint productive activity is infrequent in schools. The traditional classroom is whole-class oriented, with a teacher who leads, instructs, and demonstrates to the whole group. Some form of individual practices follows, and learning is assessed by individual achievement (Tharp and Yamauchi, 1994; Tharp, 1993).

Teacher/Student Dialogue

Education is defined as dialogue when it is co-constructed during Joint Productive Activity (Wells & Chang-Wells, 1992). A responsive teacher is able to contextualize teaching in the experience base of the learner, and to individualize instruction, in the same way that each learner is individualized within culture (Tharp, 1993). It is through Teacher/Student Dialogue that tasks are defined, negotiated, and evaluated. It is also a means through which the students' participation is monitored and assisted. During Teacher/Student Dialogue students and teachers engage in the dialogic co-construction of meaning, which is the essence of education (Wells & Chang-Wells, 1992).

Literacy foci in cognitive and educational research reveal the deep ties among language, thinking, values, and culture. Language development at all levels (vocabulary through syntax) is advocated as a self-conscious and ubiquitous goal for the entire school day. Evidence is also strong that language development of this kind should be fostered through its use, and through purposive conversation between teacher and student, rather than through drill and decontextualized rules (Tharp, 1994). The development of thinking skills, the abilities to form, express, and exchange ideas in speech and writing - for all these basic processes - the critical form of assisting learners is through dialogue, through the questioning and sharing of ideas and knowledge that happens in Instructional Conversation (Tharp, 1993).

Responsive Assistance

According to Vygotsky (1978), before children can function as independent agents, they must rely on adults or more capable peers for other-regulation of task performance. The amount and kind of other-regulation a child requires depends on the child's age and the nature of the task, that is, the breadth and progression through the zone of proximal development (ZPD) for the activity at hand (Tharp and Gallimore, 1988). During the initial two phases of the ZPD, the child may have a very limited understanding of the situation, the task, or the goal to be achieved; at this level the parent, teacher, or more capable peer offers directions or modeling, and the child's response is acquiescent or imitative (Gallimore and Tharp, 1991).

Responsive Assistance requires careful consideration of the cultural values of those being assisted as well as the values of those providing assistance. Rogoff (1993)

has addressed this issue under the concept of guided participation. In her perspective, guided participation involves children's participation in the activities of their community, with the challenge and responsive support of a system of social partners including caregivers and peers of varying levels of skills and status. The social organization of the classroom frequently allows only individual achievement, rather than a more natural reliance on Joint Productive Activity and Responsive Assistance similar to the one found in the children's communities (Tharp, 1994).

The sociocultural model of teaching, as developed by Tharp & Gallimore (1988), defines teaching as the providing of assistance to student performance. They categorize assistance, or "scaffolding," as being of six types.¹ Briefly, they are:

- 1) Modeling: Providing a demonstration.
- 2) Feeding Back: Providing information about student performance as compared with a standard.
- 3) Contingency Management: Providing rewards or punishments contingent on student performance.
- 4) Questioning: Providing questions that require the student to advance comprehension beyond their previous level.
- 5) Instructions: Providing clear verbal directions for performance.
- 6) Cognitive Structuring: Providing explanations or rules for proceeding.

Tharp (1993) later added a seventh form of assistance:

¹ Detailed discussion of the six types of assistance can be found in Tharp and Gallimore (1988).

7) Task Structuring: Providing assistance by segmenting or sequencing portions of the task.

Contextualization

Culture is both created and enacted by the participants in various classroom and school activities (Smith, 1995). People who live and learn in a community create shared meanings, common language, values and goals, through participation in conjoint activities (Dewey, 1944) or joint productive activities (Tharp & Gallimore, 1988). It is by incorporating students' repertoire of familiar experience and knowledge into classroom activity settings that teachers and students can begin to understand how each other defines the words they use and thus see how each other views the world.

Students' repertoire of familiar experience and out-of-school knowledge, developed through this process, is the platform from which the more abstract knowledge of schooling can be made meaningful and important to them. This is a basic tenet of sociocultural theorists, from Vygotsky onward: "understanding" and the ability to use schooled constructs depends on their being related to everyday experience.

Successful teaching connects new material to what students already understand. Students can bring rich experiences from their home, communities, and previous school work to new learning tasks. Teachers can bridge from students' familiar contexts to make new information meaningful. Student knowledge comes from three sources. It may be based on individual experiences that are unique. Other student knowledge is based on shared, community life features that are regularly available to all or most of the students (the local factory or the local agricultural economy, religious observances,

fairs, malls, the beach, the park, dances, popular movies or TV programs). A third source of previous knowledge is school itself, from courses, instructional and non-instructional activity settings, classroom activities, or experiences.²

The challenge for teachers is to discover this knowledge, or these contexts that students share, and then connect that knowledge to the goals of new instruction. In any classroom, teachers can ask students to remember and consider individual experiences that are relevant to new instructional goals. Teachers can find rich sources of community experiences by visiting student homes, talking with parents, and being active in community settings with students. In thematic instruction that occurs across the curriculum, teachers know what the students are learning in other courses and can contextualize instruction in those other subjects.

When students come from many different communities, the teacher must build shared experiences, and use those as the contexts for new instruction. Joint productive activity among students will build a base of shared knowledge, and the teacher can then use those experiences as the context for new learning.

Effective teaching can be seen as the constant weaving of schooled concepts and everyday experience (Tharp & Gallimore, 1988). Classroom activity settings can provide the possibility of that weaving by including references or materials drawn from the everyday life of students out-of-school. These activity settings are said to be contextualized.

² For ASOS purposes, school-based contextualization is coded as “connected” (see p. 45 below).

(In the ASOS, we use the sub-category "Connected" when an activity setting is contextualized in another school-based activity. This allows an analysis of the degree to which instruction is contextualized by extending into home/community experiences, or whether the contexts used derive from other school-taught material.)

Two Activity Setting Categories

Developed from research in Native American Classrooms

The capacity of this system is not limited to the theoretical categories of sociocultural theory. For example, Tharp, Dalton & Yamauchi (1994) have discerned two principles that are either explicit or embedded in effective programs for American Indian communities, whether in Alaska, Canada, or the lower 48 United States. These similarities are not surprising, since they are closely tied to basic views of children and basic characteristics of child socialization that appear to be shared by American Indian cultures.

Student Initiative or Choice

The way classrooms are organized influences students' participation. Native American students are comfortable and more inclined to participate in activities that they themselves generate, organize or direct. This is unsurprising, for American Indian cultures are distinctive in the degree of respect accorded to youthful autonomy and decision making (Tharp et al., 1994).

Certainly it may be argued that all children prosper when they are allowed initiative or choice in generating, joining, or acting during classroom activities. Students are inherently motivated to understand when they are allowed to solve tasks that they value and when they are confident about their abilities.

Modeling and Demonstration

Tharp et al., (1994) report a general consensus among educational researchers and practitioners that lessons for Native American students should include modeling and demonstration. Traditional and contemporary American Indian socialization emphasizes learning by observation; that is, a fundamental aspect of the complex of Native American socialization practices is observational learning. This "observational learning complex" is closely tied to the well-documented visual-learning patterns of American Indian children and their holistic cognitive style. The inclusion of demonstration in lessons increases the understanding of verbal and conceptual explanations, especially for students of limited proficiency in the language of instruction. The inclusion of demonstrations in lessons increases the understanding of verbal and conceptual explanations, and makes classroom discourse more engaging and relevant, thus increasing the potential for learning (Yamauchi & Tharp, 1994).

The two categories above are examples of the kind of inquiry allowed by the ASOS. Variables of interest for particular communities may be added to the basic system, as additional descriptors of activity settings. Such inquiries may well reveal important comparisons across communities.

SECTION II:

Reliability of classroom activity setting observation System (ASOS)

Reliability values were calculated using Spearman-Brown effective reliability formula and Cohen's Kappa.

Effective reliability (R) values on the number of activity settings

To determine the degree of relationship between the criterion and the trainees on activity settings, five Pearson correlations were calculated. The correlations were then transformed into the corresponding Fisher's Z, deriving the mean Z_{Fisher} , and then transforming this mean Z_{Fisher} back into the corresponding mean correlation. The mean Z_{Fisher} derived for these five inter-judge correlations corresponded to an average correlation of $r = .92$. The Spearman-Brown effective reliability (R) formula was used to adjust this mean inter-judge agreement as a function of the number of judges involved (Muller, 1989). The effective reliability based on these five judges was $R = .99$, a relatively high degree of inter-judge agreement. This was a theoretically important result since it showed that observers were able to distinguish the beginning and the end of the activity settings. Therefore, all the other categories embedded in the activities

become meaningful in the unfolding and understanding of activity settings in the classroom context.

Kappa reliability values between criterion scoring and trainees

The observer reliability on the categories was determined using Cohen's Kappa. According to Bakeman and Gottman, 1986, this statistical procedure provides a coefficient of agreement that corrects for the proportion of agreement derived by chance. $P(o)$ is the observed proportion of agreement, and $P(c)$ is the proportion of agreement expected by chance (Bakeman & Gottman, 1986; Hartmann, 1977).

In considering different measurements of reliability, according to Bakeman and Gottman (1986), researchers need to consider Kappa as a more rigorous test of reliability; "agreement percentage" is a more general term. It describes the extent to which two observers agree with each other. Reliability is the more restricted term. As used in psychometrics, it determines how accurate a measure is, how close it comes to "truth." Therefore, when two observers are compared to each other, only agreement can be reported. However, when an observer is compared against a criterion score assumed to be "true," then observer reliability can be discussed.

According to Hartmann (1977), reliability at this micro level of analysis primarily indicates the adequacy of the behavioral definitions, and the thoroughness of observer training in the use of both these definitions and the observational hardware such as coding sheets. The results from the observer training program provide an average of the Kappa values and the range of those values among the five observers. Gelfand and Hartmann (1975) recommend that kappa should exceed .60 in order to be interpreted as an acceptable level of observer reliability. Bakeman and Gottman (1986) and Hartmann (1977) state that there is a consensus among researchers that characterizes a kappa value

of .40 to .60 as fair, .60 to .75 as good, and over .75 as excellent (See Table 1 for further description).

OPERATIONAL DEFINITIONS AND CODING PROCEDURE

The ASOS contains three sections (See Appendix A). The below coding procedure specified an order for conducting observations that has proven to be most effective for observers, as well as it provides operational definitions of the categories or significant features of activity settings.

PART I:

The following information should, if possible, be completed on the observation form before conducting the observation.

- Date
- Observer(s) name(s)
- School name
- Grade level of the observed classroom
- Teacher name
- General subject matter during of observational period. If more than one general subject occurs in the same AS, check all that apply.
- Specific subject taught during observational period
- Period of Observation (beginning time to ending time (7:45 to 10:04); or class period ("5th period"). This identifies the block of time during which the activity settings are observed continuously.

(Note: On observational form, fill in all blanks. If some categories are not applicable, mark NA.)

PART II

Action	An element of activity.
Activity	An integrated series of actions coordinated by an intended product or objective.
Activity Setting	A unit of analysis encompassing the externally observable and internal, subjective features of an activity. An activity setting is defined by its product/purpose.
By-Product	An ephemeral outcome of activity.
Intangible Product	Some achieved physical, psychological, or social state that integrates a series of actions.
Object of Activity	The objective or motive guiding an activity.
Period of Observation	A unit of time during which an observation is conducted for a given classroom on a given day, usually one instructional period as defined by the class schedule.
Product of Activity	An objective indication of motivation. The product is used to define an activity setting.
Tangible Product	An externally observable outcome or artifact that integrates a series of actions.

Activity Setting #: Enter the number of the activity setting being observed. Number each activity setting consecutively. For example, if two activity settings are identified during one period of observation, the code sheets should be filled out as follows:

1st activity setting: AS# 1 of 2 ; 2nd activity setting: AS# 2 of 2.

Activity Setting is a unit of analysis encompassing both externally observable and internal, subjective features of daily routines in schools, homes, communities, workplaces, etc. In school the objective or intention of teacher-designed activities can often be inferred from the tasks, because the teacher may not be available for questioning. Inference must be made, and the observer should examine the tasks carefully enough to make a reasonable inference about the teacher's or students' intentions.

For practical reasons, we are concerned with products observed and completed during the period of observation. Whether a worksheet, a term paper, a chemical, or a drama, the product of the activity setting is often an observable, recordable element. For example, student book reports may take several weeks to complete, but on any given day the product(s) may vary from notes on index cards to comments by peer editors, resulting in multiple activity settings. Thus, the ultimate, or "long-term," product (i.e., the completed report) is not always useful for differentiating activity settings in this system, because it may not be observable.

Activity Setting General Type: Use this category to provide a descriptor for the activity setting.

Even a "thin" description of an activity setting requires information on what is being done. The Activity Setting General Type requires a brief descriptor of the "script" or type of activity settings. The list below suggests several that have common use and common designations. Either these or other brief descriptive tags should be entered in this space.

There are two types of classroom activity settings, instructional and non-instructional.

Instructional Activity Settings:

Examples of instructional activity settings include:

Lecture	Lecture/discussion
Independent Seat Work	Cooperative Groups
Play/Skit	Debate
Partners	Small Group Project
Independent Projects	Teacher-Student Conference
Worksheets	Same Individual Tasks (SIT)
Demonstration/Performance	Whole Class Story-Time
Small Group Instructional Conversation	
Morning Circle (Singing, Pledge of Allegiance, Role Assignments)	

The following are common examples of classroom activity setting scripts. These scripts include: Worksheets, Same Individual Tasks (SITs), and Multiple Projects.

While these descriptors should be used, more detailed notes about the specific operations may be needed.

Worksheets: A class of students all filling out the same worksheet is such a pervasive script that the name "Worksheet" is ordinarily sufficient to characterize the activity setting. So long as the worksheets are the same or very similar, having the same purpose and motives (objective), this is a single activity setting. This is best considered as one example of Same Individual Tasks (SIT).

Same Individual Tasks (SITs): A single activity setting involving all students working on identical tasks that may be more complex than worksheets.

Example. During a vocabulary-development worksheet activity, all students are instructed to complete their vocabulary worksheets. The teacher "floats," that is, he stops and talks to individual students, in usually brief encounters while the aide works consistently with two students for a majority of the activity setting. The interactions appeared to be error corrections, or getting the students on-task, although there may have been some instructional dialogues of brief duration.

Explanation: Although there was teacher and aide involvement, this is considered a single activity setting, because the objective of each student's activity is the same - completion of the vocabulary worksheets and the adult operations have the objective of assisting the worksheet task.

Multiple Projects (with Teacher Assistance): Within a class period, there may be multiple projects on which different students are working simultaneously. These projects might be individual or joint projects, or some of both.

Example. In an "enrichment" classroom for 6th, 7th, and 8th graders, each child self-selects a project and carries it through to a final product. Projects have included

French language study; a videotape production including script, storyboard, shooting, and editing; traditional pottery making; cooking; research on surgical techniques; and as many others as there have been children. The teacher allows full freedom of choice. The students move freely about the room, using resources as needed, working alone or together when appropriate. The teacher makes herself accessible to the students, who initiate almost all the contacts. She assists them as needed, reminds them of schedules, supports them as they ask, and engages in ad hoc dialogue, which is often interesting to everyone within earshot. Thus, each child is learning something of all the class projects. Students, teacher and aide are organized in a highly fluid way, combining and recombining into groups as is appropriate for the work.

Explanation: This classroom contains multiple activity settings, as many as there are different products. However, if all the products were of the same type (such as written reports on different Indian tribes) it would be considered one activity setting.

Non Instructional Activity Settings:

Examples of non-instructional activity settings include: classroom business, setting up, cleaning up, and transition.

Classroom Business: Classroom business includes taking attendance, making announcements, and other housekeeping activities. When no other instructional activities are included, complete Part I and II on the coding sheet, and note "Classroom Business" for Activity Setting General Type.

Cleaning Up /Setting Up: When setting up or cleaning up are part of a specific activity setting, and are only instrumental in initiating or terminating the activity

setting (such as distributing/collecting tools for use), it should be considered merely as one operation of the current activity setting which it prepares or supports.

When a Non-Instructional AS Becomes Instructional: Activity Settings are defined by their objective or purpose. If an activity setting of “Classroom Business” or “Cleaning Up / Setting Up” develops an instructional purpose, code it as an instructional activity. For instance, “Classroom Business” or “Cleaning Up /Setting Up” might become occasions for teaching, such as, when the teacher uses housekeeping assignments as an opportunity to teach mathematical relationships of recurrent patterns. In such cases the full ASOS observation coding sheet should be completed, with some notation as to the instructional content.

Example: In a kindergarten classroom, the children were allowed entrance to the classroom any time before the bell rang, and volunteers began to engage in an activity setting that consisted of distributing the work-table materials and instructions for the entire morning. These included a variety of tools, papers, tapes, books, crayons, etc., and the entire activity was conducted for the purpose of encouraging responsibility, planning, initiative, and a sense of ownership of the classroom.

Explanation: Although this activity setting includes setting up instructions for a future activity setting, the purpose is to teach specific values to the students involved. Because this activity setting contains its own product, it constitutes a single activity setting and should be coded as such.

Transition: In changing-over from one activity setting to another, there is almost always some time in which students are moving from one place to another, getting

materials, or just dawdling. Do not record this transition time as a separate activity setting. Often the teacher will terminate an activity setting by announcing the next, and the transition follows. In these instances, record the beginning time of the next AS as the time of the announcement. The transition time will thus be incorporated into the AS just beginning.

Product of Activity: Activity settings are differentiated by their products. There are two types of products: 1) a tangible product is an externally observable outcome or artifact that integrates a series of actions, and 2) an intangible product is some achieved physical, psychological, or social state that integrates a series of actions.

Two Types of Products: Tangible and Intangible

The foundational defining attribute of an activity setting is the presence of an objective or product that integrates a series of auxiliary actions. All activity settings have a product, which may be either (a) tangible or (b) intangible.

Tangible Products - Some examples of tangible products include a completed worksheet; an essay; a lab report; a clay pot; a balance sheet. When the teacher, responding to the conversation with the students, creates a "word-web" on poster-paper or on the blackboard, this is a tangible product (a tangible product jointly created with the students). When the math teacher "solves" a problem on the blackboard, this is a product. (If the students participate in the solution and have shared ownership, it is joint.).

Plays, skits, organized games, prepared food, declamations, debates: all these and many other impermanent products are nevertheless tangible, and serve to organize

complex actions over long periods of time. A product can be tangible without being "permanent." On the other hand, there may be by-products or residues of activity that are only incidental to the objective. For our purposes, a product is planned, assigned, *or intended* by the teacher or responsible students. Scratch paper, throw-away trial clay objects and the like do not constitute "products" that establish an AS boundary.

Intangible Products - Not every activity setting has a tangible product. Activity settings with intangible products might include story time, some introductory lectures, some small group instructional conversations, perhaps some physical education activities. The intangible products themselves are some achieved physical, psychological, or social state that integrates a series of actions. The intangible product must always be inferred, therefore it is potentially highly unreliable for coding. An intangible product, however, should be assumed only on clear evidence. Check the box for intangible product only when (a) there is evidence of a separable unifying objective, and (b) *no tangible product is present*. (Note: In determining the objective/purpose/product of an activity setting, tangible overrides intangible products.)

There are three common types of intangible products, each of which must be inferred: physical state, psychological state, and social state.

Inferred physical state as an intangible product. Calisthenics in a P.E. class has the reasonably inferable intangible product of increased physical fitness.

Inferred psychological state as an intangible product. An instructional conversation about a story is worked by the teacher consistently to elucidate the

concept of "loyalty." It is reasonable to assume the intangible product as an accurate and elaborated understanding of that concept. Lectures or demonstrations most often have the "understanding" of some concept or procedure as a readily inferable intangible objective.³

Inferred social state as an intangible product. Sessions designed to increase or remind students of shared values, as in Native American story-telling sessions, or third-grade "community meetings" when problem events are discussed, have the objective of increasing the clarity of shared social values. These sessions may not have any tangible product, but the objective can be reasonably inferred.

Accurate inferences about intangible products may well require "insider," "local," or "cultural" knowledge to which all observers may not have access. Therefore, this category has inherent limitations in reliability and validity. When insider knowledge is not available to coders, coding and descriptions of intangible products should be made cautiously and with some objective evidence in the actions or speech of the participants. In the description of the product, it is appropriate to express a lack of certainty.

When the teacher gives instructions for how to participate in a particular activity setting, then code those instructions as part of that activity setting. In other words, a lecture/discussion or demonstration about actions to take place within an activity setting is part of the activity setting which follows. Therefore, if the math teacher conducts a lecture/discussion on multiplication by referring to problems written on the chalkboard, and some of these problems are on a worksheet that she passes out later, all

³ When a lecture is merely a preparation for an activity, it is included as a part of the single AS.

these events are recorded as one activity setting. This would be so, even if the problems of the demonstration are not identical, but *are of the same type*. The introduction and the worksheet completing would comprise a single activity setting.⁴

Example. Upon entering the classroom, the students find a worksheet at their desks. The math teacher sits at her table for several minutes while each student attempts to answer the five problems. She then goes to the chalkboard and demonstrates the solution to problem #4, while the students attend closely. They then return to their worksheets.

Explanation: This is a single activity setting, and the three phases of the setting are merely different actions, each of which is coordinated by the same intended product - completing the worksheets. The modeling section is not a separate AS because, were it not for the worksheet problems and the objectives underlying their assignment, the modeling would not have taken place; that is, there would have been no compelling objective for that demonstration. A change in the membership or location of students does not ipso facto mark a shift of activity settings. It is the purpose/product that is privileged, not social organization.

The product of the activity is often not apparent immediately, therefore identifying the Product is often the last entry by experienced coders.

Activity Setting Location: The AS location includes where the activity setting takes place within the school. For example, if activity setting takes place in the classroom, note the classroom number.

⁴ Only if the introduction contains a separable product (tangible or intangible), would two activity settings be coded.

The physical location of the activity setting is an important descriptor because it indicates the environmental features of the activity setting (Classroom #, Library, Gym, etc.). If the activity setting takes place in the library, note the library as the location for that particular activity setting. A change in location is not sufficient to end/begin a new AS, because many activities require multiple locations, and many actions of which an AS is composed must be conducted in a variety of places. All locations employed in an activity setting should be noted. If the classroom is separated or divided into different areas, then the specific areas of the activity should be noted (see Activity Setting Area below).

Activity Setting Area: Within the activity setting location, note where the activity takes place. The area in which the activity setting takes place should be noted each time an activity setting is identified. For example, if the classroom is differentiated into multiple centers (each with a different product), note the area in the classroom where each center takes place.

Example. Center 1 is working in the back of the room on a specific project. Center 2 is working in the front of the room on a different project. Center 3 is working right outside the classroom in the hallway on a bulletin board display.

Explanation: On each coding sheet, it should be noted where each activity setting takes place (i.e. in the back of the room, front of room, or hallway). (*Note:* for each activity setting, a separate code sheet should be used.)

Time: Both start and stop time should be noted for each activity setting. Time notation is an important descriptor because it marks the beginning and ending of an activity setting. Time should be noted for all activity settings identified.

Intermittent Activity Settings: Most activity settings continue uninterrupted until they conclude. Others operate intermittently; others are interrupted and resume. In such cases, note the time changes on the "Resumed" line when specific interruptions occur.

Example. Students are working in various groups on a newspaper project. Suddenly the principal walks into the classroom to announce that a fire drill will occur later in the day. After about a 6 or 7 minute discussion, the principal leaves and the activity setting resumes during the same period of observation.

Explanation: Because the activity setting was interrupted by the principal and some discussion thereafter, the time notation should be noted when the principal first interrupted the activity setting, and noted again, when the activity setting resumed to its original purpose.⁵

When an interruption occurs, the coding sheet should be coded as follows:

[Time: From 1:30 (beginning of AS) To 2:05 (interruption of AS) Resumed 2:20 (AS resumes) To 2:47 (end of AS).]

Activity Settings that Continue Across Time: Many activity settings continue across time units--from one day to the next, or even from week to week. An observer may see the apparent beginning of an activity, but later realizes that the AS is in fact

⁵ If an interruption occurs during an activity setting and is less than one minute, record the content of the interruption in brief description, but do not use resume.

being resumed from some previous session. When this conclusion is reached, and the information is available, note the most recent previous session of the AS ("apparently resumed from last Friday").

Personnel: All participants who play a role in the activity setting should be noted.

Personnel indicates who is involved and how they are involved in the activity setting.

Number of students indicates how many students are present during the activity setting. Rotations of students may occur within a single AS, note the number of students for each rotation.

Teacher/Aide Continuous: mark this category when the teacher/aide is actively involved for the duration of the activity setting.

Teacher/Aide Intermittent: mark this category when the teacher/aide moves between activity settings and is not present for the duration of one activity setting.

Teacher Not Engaged: mark this category when the teacher is not a participant in the activity setting.

Other Personnel: indicate other participants within the activity setting such as parents, principals, volunteers.

Number of students: indicate the number of students present during the current activity setting. If the number changes during the AS, it could be indicated by separating changes by commas, e.g., 1,3,2, indicating that a single student was joined by two others, one of whom later left during the course of the AS.

Most classrooms operate as a rather closed system, in which the number of participants in activity settings is the same at each moment. The students and adults

combine and recombine into different AS patterns. Sometimes the shifts are in an 'all-shift-at-once' pattern at the teacher's direction--as, for example, in a shift from a whole-class lecture setting into small work-group settings. Sometimes the shifts are partial and rolling, as in an open, self-directed classroom in which students may move from one product (or Activity Setting) to another. In many activity settings, some people may drift in or out of participation. This should be noted as a change in the number of participants during the activity setting, but shifts in personnel are not sufficient to mark a new or different activity setting, when the participants continue working toward the same product.

Rotations of students may occur within any activity setting. "Rotation" implies the existence of continuing Activity "Centers" in a classroom, at which the same product is created, but through which students rotate, so that there are different students at each Center after each rotation. The "Rotation" entries should be used only if the same Activity Setting continues at the same Center, even though it is occupied by different students at different times. In such a case, on the coding sheet, under Number of Students, record each student rotation only if it occurs within an identified activity setting (R1_____ R2 _____ R3 _____ R4_____).

Example: In the classroom, Center Two is where vocabulary cards are constructed and put in students' file boxes. Four students begin the activity in Center Two. Even though two students drift away, and then another new student joins, the activity setting remains the same. Every 15 minutes, students rotate from center to center. For instance, all three students in Center Two leave, and five new students rotate

into Center Two. Although there is a total change in personnel, the product and the activity setting remains the same; thus Center Two continues as one activity setting, not two. The time notation for the activity setting includes all student rotations for that Center, and the participants should be noted in brief description to be "entire class, in rotating small groups."

Explanation: Although there was a change in personnel, the product and the activity setting remains the same; thus, Center Two continues as one activity setting, not two. The time notation for the activity setting includes all student rotations (noted in resume line) for that Center, and the participants should be noted in brief description to be "entire class, in rotation small groups."

Brief Description: Brief Description provides an account of interactions, events, and personnel that will further clarify aspects of the who, what, when, where, and why of the AS.

This section includes the flow of events observed within a single activity setting. For instance, when changes in social organization occur, from lecture/demonstration to independent seat work, a description of the change should be noted and include as much detail as possible.

Brief Description: Whole class instruction. The teacher begins lesson with an overview of multiplication and then transitions into a discussion on division. There is much interaction during the discussion. Teacher passes out a worksheet, students begin working on math problems. Worksheet contains division problems. Students are instructed to assist one another. Teacher floats.

PART III

STUDENT INITIATIVE OR CHOICE: Student initiative or choice occurs **between** activity settings, not within. The student(s) must have initiated or generated the activity setting, or must have chosen it from amongst other activity settings offered.

An important component of classroom climate and student engagement is student participation in decision making about instructional activities. The observation form asks for a simple discrimination to be made for each activity setting, whether or not (yes or no) the students have initiated it, generated it, or chosen it from among others. If any of these conditions are satisfied, then 'yes' should be checked.

Example: In a sixth grade language arts classroom, several activity "centers" are a standard feature. Students are allowed to choose among the centers on any given day, but must complete all centers in the course of a week..

Explanation: If students are allowed to choose among various centers offered during the period of observation, then student initiative and choice should be marked.

Example: In a science class, students were assigned a problem to be solved. Many approaches on the problem were possible--through a laboratory simulation, through natural measurement in the courtyard, etc. Students were required to choose and execute a method. Regardless of the methods chosen, the product was to be the same: a brief list of the pertinent mathematical formulas.

Explanation: This would not be considered student initiative and choice because there was only one activity setting in which the students were assigned to solve a problem. Although many approaches to the problem were possible and the students

were able to choose a method of their choice, they neither choose nor generated this activity setting.

JOINT PRODUCTIVE ACTIVITY (JPA): JPA refers to any collaborative interaction that leads to a single product. Collaboration can take many forms: shared ownership, authorship, use, sharing of ideas, or responsibility for a product. It can also include division of labor for a product as well as the creation of parallel or similar products.

Joint Productive Activity (JPA) with teacher and/or peers refers to any collaborative interaction over task(s) that lead to a product. "Collaboration" here means some shared ownership, authorship, use, sharing of ideas or advice, or responsibility for a product. It can include division of labor for coordinated sub-sections of a product as well as creating parallel or similar products, in which interaction affects the products of the participants.

JPA w/Teacher: whenever the teacher is a collaborator within the activity setting. Both the teacher and students work jointly to produce the product.

JPA w/Peers: when collaboration occurs only between peers. Teacher is absent or minimally involved during the activity setting.

JPA Both: when both events (JPA w/Teacher and JPA w/Peers) occur in the same activity setting. The difference between this and JPA with teacher is that in this case there must be JPA with peers, while in the first subcategory that is not a required element in order to mark JPA with teacher.

Example. A group of 5th graders and their teacher are working together in Center 3. They are constructing a word web on a story they have been reading during

the language arts period, analyzing it for 'main idea.'. All participants in the group are contributing to the completion of the word web.

Explanation: This would be coded as JPA w/Teacher because both the teacher and students are working jointly to produce the tangible final product: the word web.

Example. A group of third graders are constructing a flour-paste relief map of the street which is the setting for the story they are reading in their language arts period. All participants involved share some responsibility in completing the map.

Explanation: This is considered JPA w/Peers because collaboration occurs only between students and the teacher does not participate in the completion of the product.

Although activity settings contain either JPA with teacher or JPA with peers, other activity settings will involve a combination of teacher and student JPA. See example below.

Example: Five students in a geometry instructional conversation with the teacher are drawing and cutting paper circles. Another group of students, listening in on their conversation, are also working together drawing and cutting paper circles. The task is to locate the center of the circle and the diameter with no additional tools (answer: by folding). All students, including the teacher, have their own paper circle that they manipulate and discuss.

Explanation: This example should be coded JPA Both because there is one group of students working collaboratively with the teacher, as well as a group of students working collaboratively together (without the teacher) to produce the final product, the folded circle.

The next example is an interesting, if unusual, example of coordinated activities. Consider it carefully.

Example. In an 8th-grade journalism class, the continuous product of the class is a monthly school newspaper. Every column, advertising segment, editorial, or news story must be coordinated with the products of other individuals or groups working on the same product, the newspaper. The teacher is a participating member of the work team, and shares a variety of tasks as needed to insure the publication of the paper on time. However, the teacher does not necessarily interact with students in every activity setting, every day.

Explanation: In this example, each activity setting in the classroom should be considered separately, and coded either 'JPA--w/ Teacher, w/ Peers, or Both,' depending on the collaborations observed during the period of the AS in question. When there is evidence of coordination of products across activity settings (as when the 'Advice' column has to be shortened, because the 'Horoscope' feature needs more column inches) then both the Horoscope and the Advice activity settings become JPA.

JPA is not intended to be applied to brief assistance by one person to another, in which the "ownership" of the product remains clearly individual. See example below.

Example. Two students are working on their identical worksheets. One turns to another and asks if an answer is right. She says no and quickly shows him how to complete the problem correctly. Both return to their separate papers.

Explanation: Although a brief exchange occurs between two students, this would not be considered JPA because there was no collaboration between the students that lead to the completion of a final product.

MODELING/DEMONSTRATION by Teacher or Student(s): For any action to be coded as M/D, it must be indicated as modeling/demonstration by the teacher or by the performer: 1) the teacher (or aide) explicitly (or by more subtle means) indicates that his/her action is for "showing how." 2) a student makes a presentation which shows classmates how to do or make something or is called on by the teacher to show classmates by example how to do or make something. 3) the teacher praises or otherwise draws attention to a student's specific behavior, thus offering it as a model behavior for others.

Modeling or Demonstration is used for preparing students to learn a new skill, process or procedure, or to reinforce a previously introduced one. Some examples of typically-used markers or explicit indicators for M/D by teachers are: "This is how I want you to do this," or "Watch while I show you." The teacher may also use more subtle means of highlighting the action he/she is modeling, by gesture, voice inflection, or even facial expression.

The mere exhibition of a finished product does not constitute M/D. Thus, showing the students a finished pot or a completed mathematical solution on the blackboard is not M/D unless the teacher explicitly states he/she is displaying the pot for the purpose of demonstration, or working the mathematical solution as an example, in which case it should be marked as M/D by teacher.

Neither should Modeling/Demonstration be coded merely for the use of a visual representation. Drawing a diagram on the board, for example, is not in and of itself a model or demonstration, unless the demonstrator is saying, in effect, "This is the way that you should draw this concept."

Modeling/Demonstration by Teacher: when the teacher (or aide) explicitly indicates that his/her action is for "showing how."

Modeling/Demonstration by student(s): 1) when a student makes a presentation which shows classmates how to do or make something or is called on by the teacher to show classmates by example how to do or make something, 2) when the teacher praises or otherwise draws attention to a student's specific behavior, thus offering it as a model for others.

Example: During a math period, the teacher explains that each student will create a device that will assist them in learning multiplication. The teacher walks over to the overhead projector and proceeds to show the students how to create the device. She explicitly states that she wants all the students to create a device that looks exactly like the one she has demonstrated on the overhead projector. After she finished demonstrating how the device should be created and what it should look like, she passed out the appropriate materials and asked all the students to begin constructing their own.

Explanation: This is considered Modeling/Demonstration by teacher because the teacher explicitly states that her action of drawing on the overhead projector was for 'showing how' or demonstrating how she wanted the students to create their own

devices. Once she finished demonstrating how to construct the device, she instructed the students to begin constructing their own.

Example: During the language arts period, the teacher calls on a student to come up to the front of the class and circle the subject and underline the verb of a sentence written on the board. After the student demonstrated the task, he went back to his desk and sat down. The teacher then passes out a worksheet which contains multiple sentences and asks that each student to circle the subject and underline the verb, just as the student demonstrated.

Explanation: This is considered Modeling/Demonstration by student because the student demonstrates to the entire class how to circle the subject and underline the verb. The student's demonstration was intended to show other students how to complete the worksheet.

Another form of modeling could include teachers verbally commenting on, praising or otherwise drawing attention to student behavior they want to hold up as a model for the rest of the class. In these instances it is the student who is providing either the modeling or demonstration.

Example: A teacher and five students are sitting around a table, each holding a copy of the same reading book, listening while a student reads aloud. When he is finished, the teacher says, "Sammy, while you were reading, you did an excellent job of pausing appropriately for all punctuation; you also did an excellent job of putting emotion into your voice."

Explanation: This would be considered Modeling/Demonstration by student because the teacher verbally praises the student's behavior, which acts as a model for the other students.

Metacognitive modeling is also considered a form of modeling. Metacognitive modeling may take place through "thinking aloud," which allows the students to "observe" the appropriate problem-solving process.

Example. "Teresa, a primary grade teacher, sits on the floor with her students gathered around her. It is fall, and the children in her whole language classroom have been writing stories and other texts on topics of their choice since the first day of school . . . "Remember when I started writing my poem on leaves?" she begins in an excited tone . . .

Teresa tells the children that as she was driving by a statue of a man on a horse, she saw a group of leaves, dancing on the street. She described how they were skittering about the curb and made a circle.

". . . And I thought of my poem. And I took some notes, and here they are..."

Teresa then displays and reads her notes to the children, who are absorbed by her thoughts. Afterwards, she 'thinks aloud' as she considers other ideas to include in her poem. She says, "I was excited about this and told Mrs. Graft (another teacher) who talked about how slippery the leaves are when they are wet . . . how they skitter across the road. They are slippery. That might be another thing I could add . . . I could warn people . . . But I might want to do some research first." (p. 231, McIntyre, E., Kyle, D., Hovda, R. A., & Clyde, J. A. (1996). Explicit teaching and learning of strategies and

skills in whole language classrooms. In: E. McIntyre & Pressley, M., Eds. Balanced instruction: Strategies and skills in whole language. Pp. 231-250. Norwood, MA: Christopher-Gordon Publishers.

Explanation. Teresa offers a detailed model for the thought process of creating a poem. In this account of the event, Teresa does not explicitly label her thinking as a "model." However, the sequence is highlighted because of the context: this is the setting in which she and the students read their writings and talk about them. Were the sequence to occur at some other time of the day or in some other setting, the students might not have recognized her story as a demonstration. Code:

Modeling/Demonstration, by Teacher.

TEACHER/STUDENT DIALOGUE: To be coded as T/S dialogue, discourse between teacher and student(s) must be extended to at least two speech turns each, and must consist of more than just providing an answer or providing a fact. Speech turns consisting only of "yes," "no," "uh-huh," or "I don't know" are not sufficient to earn this coding. Look for the providing of clues, the asking of open-ended questions, or sustained conversation on a single topic.

To qualify as Teacher/Student Dialogue, the discourse between teacher and student(s) must meet three criteria. The dialogue 1) must be extended to at least two speech turns each; 2) these turns must be connected by meaning and responsiveness -- that is, must be on a single subject; and 3) must involve more than simply answering a student question, or providing a fact. The dialogue must be a continuous strand of

dialogue and build upon previous statements of the participants involved. The dialogue involves direction and extends discourse.

For purposes of the ASOS, two kinds of Teacher/Student dialogue are identified: Structured and Ad hoc.

Structured: Structured Teacher/Student Dialogue is part of the plan for the AS. It has time, place, and opportunity allotted for it, and is generally initiated by the teacher in order to meet an instructional objective.

Ad hoc: Ad hoc Teacher/Student Dialogue occurs spontaneously and does not have time, place, or opportunity allotted for it, whether initiated by students or the teacher.

The teacher may engage in dialogue either with one student at a time or more than one at a time. That is, "student" should be understood here also to include a group of students (of any size) in which the teacher's speech turns are followed by speech turns made by any member of the student group on the same topic of discussion.

Example: In an instructional conversation, including the teacher and a group of five students, the conversation was vigorous, and the teacher's questions or statements were followed by student turns, sometimes speaking all at once, sometimes overlapping, and sometimes the coder could not tell which student was speaking. However, the conversation was a continuous strand on the same topic, and each turn was responsive to the previous one.

Explanation: This is considered Teacher/Student dialogue, structured, because the dialogue not only intended to meet an instructional objective, but also had direction

and was a continuous strand that built upon previous statements of the participants involved.

Example: The teacher is lecturing to the whole class about dinosaurs. One student raises her hand and asks a question (pertaining to dinosaurs) and the teacher responds appropriately. Then another student asks the teacher a different question, not related to the first question. The teacher then responds to his question, moving away from the previous question/statement.

Explanation: This example would not be coded as Teacher/Student dialogue because the later question and answer was not a sustained conversation building on previous questions/statements.

Note: The Teacher/Student Dialogue section should also be used to record dialogue between the students and an Aide or Other Personnel. In the Notes section, identify the participant(s) if other than Teacher.

RESPONSIVE ASSISTANCE (RA), by Teacher or Student(s): RA consists of a two part, on the spot, informal process: 1) monitoring, observing or testing to discover students' current level of performance and understanding, and then 2) adjusting, selecting or sequencing the assistance provided to enable an advance in the learning activity.

Responsive Assistance is a higher level category, in that it requires the teacher or student to monitor current performance capacity, and then provide tailored assistance that advances one's ability to perform.

Responsive Assistance requires a two step sequence:

Step 1: Monitoring, Observing, or Testing students' current levels of understanding. This may be done through questioning, modeling, and any of the other means of assistance (see Descriptions of Categories: Responsive Assistance for more detail). Teacher's follow-up questions that explore students' experience, funds of knowledge, or their rationalizations are frequent examples of this kind of monitoring, observing or testing.

This monitoring/observing/testing discovers the minimum level of help a student(s) needs to participate in the activity. This requires that teachers find or establish a common basis for understanding with students. Monitoring and/or observing often happens 'in-flight,' and sometimes must be inferred. For example, when assistance is in the context of teacher/student dialogue (which is by definition 'responsive') it is reasonable to infer that monitoring has occurred in order to frame the conversational response. At other times, the monitoring consists of a separate, deliberate act, as in posing some explicit test or question to a student.

Step 2: Selecting, Adjusting or Sequencing the assistance provided, thus enabling an advance in the learning activity. The teacher is responsively assisting when the next question (or other means of assistance) flows from the previous test or exchange. In dialogue, participants' speech turns are related and responsive to one another, so that teachers' statements relate directly to student's questions or comments.

For assistance to be coded as Responsive Assistance, one must have evidence of this two step sequence: 1) Monitoring, Observing, or Testing and 2) Adjusting or

Sequencing. The evidence must be observable, or clearly inferable from the interactions observed, such as dialogue.

Examples of Teacher/Student dialogue #1 and #2 below illustrate

MONITORING, OBSERVING, or TESTING student's current levels of understanding through questioning, modeling, and other means of assistance.

Example #1

Janet: How do you feel about your grandmother?
 SS: Good.
 Janet: What do you mean, 'good'?
 Boy in red: We go to (unintelligible) and (unintelligible).
 Boy in blue: 'Cause of the practice. She keeps on helping me and she says the more you practice, you're gonna get a hundred percent, so
 Boy in brown: I like my grandpa because my grandpa's...
 Janet: No, how do you feel about your grandmother?
 Boy in red: Good, because she was born my mother, my mother was born me.
 Boy in blue: She helps me.
 Janet: OK, so I hear you saying that you feel good about her because she seems to assist you with things?
 Boy in blue: Yeah.

Example #2

Janet: Any other reason you feel good about your grandmother?
 Boy in blue: Uh, she cooks dinner for us, uh, she always buys, she always brings money on us, buy our clothes...
 SS: Yeah.
 Janet: Umm, so she gives you presents and things?
 Boy in blue: Yeah, yeah. She buys all our presents.
 Boy in brown: Cause she never sees you for a long time.
 Boy in blue: She lives with us!
 Janet: Could you describe your grandmother to me?
 Boy in blue: Curly hair...
 Boy in red: Uh! I've never seen my grandmother...
 Boy in brown: Curly hair, black...
 Boy in blue: Hawaiian...and, uh, uh, she wear, uh, shorts, uh...
 Boy in brown: She wears a cap (?).
 Boy in blue: ...she wears shirts...
 Boy in red: I dunno, I haven't seen her.
 Janet: You've never seen your grandmother, John?
 Boy in red: Only when I was small.
 Janet: You don't remember anything about her?
 Boy in red: No.

Boy in brown: What about your grandpa?
 Girl in blue: She changed, maybe
 Janet: Why might she change, Noelani, from when he knew her when he was a little kid till now?
 Girl in pink: Getting, I know!
 Boy in brown: She's old.
 Girl in pink: Him? (Gestures toward John.)
 Janet: Ahh. So your grandmother is old...
 Girl in pink: And so is he.
 Janet: ...and over time, the grandmother would get...
 SS: Older.

Examples #3 illustrates ADJUSTING or SEQUENCING the help a student needs to advance in the learning activity (such as directing the next question toward the lesson topic or toward the student's experience).

Example #3

Teacher: When we look up here, do we see any words, on our list, that we made, that have to do with math?
 Luis: Yea.
 Teacher: Like what?
 Luis: Star Trek
 Concha: Saturn
 Teacher: Star Trek?
 Luis: Like in the movies, like in ?
 Teacher: What does that have to do with math?
 Luis: mmm, on the computers, the machines that they have on the Enterprise.
 Like they measure stuff.
 Teacher: They measure stuff? with their computers, okay. Yea, so the sort of things?
 Luis: Planets.
 Teacher: Planets? how do you measure a planet?
 Luis: Mmmm...
 Edgar: You can't measure a planet.
 Teacher: You can't?
 Edgar: No
 Daniel: Yea
 Teacher: How can you?
 Luis: You can draw a circle.
 Edgar: You can't
 Teacher: You can draw a circle? is that a way to measure a planet?

Responsive assistance may be provided either by the teacher, aide, or student(s).

Responsive Assistance is sensitive to the needs of the student(s) and particularly to student progress through the zone of proximal development. It allows for the forward

movement of students through their zone of proximal development by utilizing their previous knowledge in a developmentally appropriate manner.

For the ASOS, we distinguish between two kinds of responsive assistance, offered either by teacher or student(s):

1) Structured: Responsive Assistance is "structured" when time and opportunity for assistance is designed into the activity setting. This includes question and answer times that are built into lessons and centers (workstations or small group work) where opportunities for assistance from classmates or the teacher are present, and individual or small group conference time.

Example: The teacher moved among the students, kneeling or squatting down on the floor for individual discussions that could be lengthy and quiet because the other students were occupied with their own individual or small group tasks.

Explanation: This is coded Responsive Assistance by Teacher, structured because the movement of the teacher from student to student is built into the activity setting. The AS is arranged to allow the teacher to move freely among the students, and she does it (intentionally) for the duration of the AS.

Example. The teacher planned heterogeneous ability grouping for the work centers, and encouraged the students to assist one another as needed. In one work center, a student leans over to another student and asks him how he figured out the fourth problem. Because students were encouraged to assist one another, he proceeds to explain and assist that student with how the fourth problem can be figured out.

Explanation: This is coded Responsive Assistance by student, structured. Time was allotted within the activity setting for structured assistance by the teacher and/or students. In this case, the student offered the assistance.

2) Ad hoc: Responsive assistance is 'Ad hoc' when time and opportunity for assistance is not built into the activity setting. The structure of an activity setting may allow for spontaneous responsive assistance, but the differentiating element between Structured and Ad hoc Responsive Assistance is whether the activity setting specifically allocates time or provides opportunities for responsive assistance (RA, structured).

Example: At the 5 person table, worksheets are being completed individually, according to the teacher's instructions. Nevertheless, Ruth asks Jim about the answer to one item. He gives her a clue, then returns to his own sheet.

Ruth: "I'm stuck on five."

Jim: "Do you remember the assignment from yesterday?"

Ruth: "Page 362, yeah."

Jim: "Think about question ten. That helped me."

Ruth: "Oh yeah, I see how that fits."

Explanation: This is considered Responsive Assistance by student, ad hoc because responsive assistance by a peer occurred spontaneously. (Note: this would not be considered an example of JPA because it is only brief assistance.)

Example: The teacher walked from the computer area through the work-tables to get to his desk. Along the way he looked over a boy's shoulder and noticed that he seemed to be hesitating on a problem.

T: Jeff, are you stalled out?

S: I'm reading the notes you made on my paper at our conference yesterday, but here where you tell me to elaborate, I can't remember what that was about.

T: Let's see, (pause) remember 'descriptive' language?

S: (pause) Oh, yeah, yeah. Was the snow smooth or bumpy; hard or powder.

T: And how the air felt?

S: Oh yeah, freezing, crackling, or icy or whatever . . .OK.

The teacher then moved on to his desk, and began writing comments on student papers.

Explanation: This would be coded as Responsive Assistance by teacher, ad hoc, because the teacher did not plan for the assistance he gave the student, it simply occurred spontaneously.

Non-responsive assistance may certainly occur within any activity setting, often consisting of lectures, reiterations, demonstrations, etc., that are not adjusted or chosen in-flight in response to a perceived student condition. Such assistance will not be coded as Responsive Assistance. This category is concerned only with responsiveness, provided by the teacher and/or student(s).

Note: The Responsive Assistance section should also be used to record assistance by an Aide or Other Personnel. In the Notes section, identify the participant(s) if other than Teacher.

Contextualized Activity Settings: An activity setting is contextualized when students' knowledge from outside the classroom or school is actively incorporated into the activity setting. For example, the teacher solicits and/or makes an explicit statement connecting previous student knowledge and the work of the activity setting. Student's statements about their previous knowledge may be elicited by the teacher or spontaneously offered by students.

A classroom activity setting is contextualized when the teacher incorporates some aspect of students' familiar repertoires of everyday experience and knowledge

from outside of school. (This category does not include activity settings that are related to previous school-based activity settings; see "Connected Activity Settings" below).

'Incorporating' requires that the teacher either directly asks about students' experiences, and/or makes some explicit statement that relates student experiences to the activity, goal or product of the current activity setting.

For purposes of the ASOS, two kinds of contextualization are identified:

Individual and Community.

Individual Experience: When a teacher, aide or peer incorporates some aspect of the individual learner's everyday experience or knowledge into an AS this category is marked. This 'experience and knowledge' may come from family activities, a movie or TV program, extracurricular activities such as service learning programs, or any other source. It includes virtually any aspect of student's experiences outside the classroom or school that are individual -- that are available only to that individual student. (Note: If all students share the same knowledge, then it is coded as "community contextualization.")

Example: An aide is working with a second grade boy who is learning the concept of "borrowing" in subtraction. The boy is frustrated and after making another mistake starts to cry. The aide starts talking about how well this boy can control a soccer ball. You hear her say, "Were you this good with the soccer ball when you first began playing?" He responds, "No". She continues, "I'll bet you've practiced a lot. (He shakes his head affirmatively.) What we're doing now with this subtraction job is like all the

practice you've had with the soccer ball. This is just practice so you can learn a new skill."

Example: In a small-group instructional conversation, the teacher prepares for a discussion of a book about "mean streets" by asking about each person's individual experience with seeing threatening or dangerous neighborhoods, slums, etc. A lively discussion ensues; then the teacher turns to the text itself for discussion.

Explanation: Both interactions above would be coded as Contextualization, Individual experience because the both the aide and the teacher incorporate students' individual knowledge as an integral aspect of the activity settings. A connection was established between students' knowledge and the goal of the activity setting.

Example: A teacher and her students are creating a word web of the main ideas and characters from the first chapter of the book Jurassic Park. One of the students calls out that one of the doctors in the book is supposed to be "Laura Dern," the actress who played the role in the movie. The teacher ignores the student's comment. No other comments about the movie of Jurassic Park are made. The conversation drifts for a while into how neat it would be if such a place really existed. There were no direct references made to anything but the book during this discussion.

Explanation: This activity setting would not be coded as contextualized. The teacher could have contextualized the AS by responding to the comment about Laura Dern, either conversationally or by writing it on the web chart (which would probably have elicited other student experiences with the movie), or by asking about students' experiences with visiting theme parks.

Community Contextualization: The community level of contextualization refers to experiences and knowledge that can be presumed available to all the members of the activity setting. References to the one "drug store" in a small town; or to religious festivals in a homogeneous community; or to the local zoo; or to the plane that crashed only a few blocks from the school -- these can all be expected in the experience of all the students in the activity setting.

Aspects of the students' community experience, history and activities can be incorporated into classroom activities through either formal planning (e.g. embedding the curriculum in a community activity); or through impromptu actions (spontaneous references while providing responsive assistance).

Example: Picking Pinon nuts, as a food source, has been a part of this community's way of life for hundreds of years. The entire mid-school takes a field trip to the mountains and harvests Pinon nuts. The students are taught how to shake the trees and sift through the ground for Pinon nuts.

Explanation: This field trip AS would be coded as Contextualized, community values, beliefs, activities because students were given an opportunity to experience Pinon nut picking, a local tradition for hundreds of years.

Example. For the next several weeks all classroom activities across subject areas tie directly into the field trip. The nuts are weighed and bagged in science; price per pound calculations and projections of the money to be made for the school are the foci during Math; narratives are written in the language arts classes.

Explanation: These AS would be coded as Connected to the field trip AS. Because the field trip was a school activity, the form of "contextualization" that we code here is Connected to a previous "contextualized" AS.

The accurate use of this category depends on the observer recognizing community-based elements in the classroom. Observers in unfamiliar communities may well underestimate these elements. Nevertheless the coding of "community contextualization" should not be employed without some reportable evidence. Relevant outside information may be sought later; if not possible, account for the issues in Notes.

In multicultural classrooms, when activities appear to be contextualized for some of the students, though not all, the Individual Contextualization is probably the correct scoring, and certainly the most conservative. Knowledge that comes from family experiences are almost all to be coded as Individual, since the students have different families. The difficulty in coding arises most often in deciding whether or not all the families have the same experiences.

Example: "My 4th & 5th grade students and I recently carried out a study of horses . . . during my home visits I discovered that one area of expertise of many of my students is horses . . . (this) is no accident. Horses have played an important role in this region of North America since their arrival with the Spanish . . . A number of my students have relatives living in rural areas and on ranches in northern Mexico. Some have their own horses on these family ranches which they visit on weekends, holidays and during vacations."

"As part of an integrated, thematic unit, we investigated the evolution of horses, animal behavior, the sociohistorical significance of different saddle types, horse and comparative anatomy, horse breeds, horses in literature and movies, and horse math. Horse math included a lesson on converting hands, the standard horse unit of measure, to inches and feet, followed by making a life-size graph of the heights of different breeds of horses.," p. 8, Eisenhart, M. (1995). Promises and puzzles of culturally sensitive teaching. Practicing Anthropology, 17, Pp 7-9.

Explanation: Even though there were some Anglo and some African American students in this predominantly Latino class, the AS should probably be coded as Contextualized, Community, because horses are ubiquitous in this old Southwestern community. However, this example illustrates the hazards in the use of this category -- Contextualized, Community always involves some degree of inference.

CONNECTED ACTIVITY SETTINGS: Classroom activity settings are connected when students' previous classroom/school knowledge experience, or products are incorporated by the teacher into the present activity setting. The criterion for continuity can be satisfied by specific statements of connection made by the teacher; or by using products from a previous activity setting for the completion of the current product

When activity settings are connected by common signs, symbols or language, when the goals and motives are shared or congruent, then participants experience more meaning in their activities. Relating present classroom curriculum to students' previous

classroom experience and knowledge is an effective way to create continuity between classroom activity settings.

Activity settings should also be scored as connected when the product(s) or experiences of one activity setting are used as tools or components for the next activity setting. This connection is often present in thematic, interdisciplinary curriculum units which include opportunities (or requirements) that students use experiences from previous activity settings, even from other subjects. Following a 'cumulative knowledge' textbook, such as in mathematics, chapter to chapter, offers opportunities for connectedness. But explicit incorporation of previous activities into the present one is required to satisfy the connectedness criterion.

Connected activity settings could well be seen as another form of contextualization. Our classification system separates those activity settings which utilize students' previous classroom/school knowledge and experience from those which integrate students' knowledge and experience from outside the school. This separation allows a differentiated analysis of the weaving of schooled knowledge with previous experience, based on whether the previous knowledge is school-based or family/community based. This can be an important distinction for culturally diverse students, for whom family/community based contextualization is a rare condition. For our purposes, the primary difference between the categories *connected* and *contextualized* is that activity settings can be connected by including students' previous classroom and/or school knowledge without incorporating aspects of their repertoire of everyday experience or community knowledge.

On the recording sheet, in the section identified as Connected To, check whether the present activity setting is connected to past or current classroom activities. It is possible for an activity setting to be connected to both a present and a past AS.

Connected to Current AS. "Current" activity settings are those that are present simultaneously or were present in the *same period of observation*.

Example: A classroom has a small garden plot; on a sunny window-sill there are trays of seedlings. You observe the teacher instruct the students to break into their groups and move to their appropriate centers. Center 1 has a large piece of paper, a seed that has sprouted, colored pencils; the direction sheet lets students know they are to draw the seed and label its parts. Center 2 has a direction sheet explaining that students are to measure the weekly growth of their group's plants in the window-sill, and update their growth graph. Center 3 is outside in the garden; students are planting their seedlings which are 4" or taller into the ground & weeding. Center 4 students are finishing their final drafts of their garden Haiku, Acrostic, Limericks and illustrations for the classroom collection of garden poetry. Center 5 is for quiet reading in the library either individually or in pairs; students have a variety of garden books and stories to choose from. These activity settings should be scored as each connected to all the others.

Explanation: Even Center 5 is connected to the others because the teacher specified that the students read only garden books; without this stipulation, it would not be connected to the others.

Example. During the writing period, the teacher invites all students to read their individual poems to the entire class. The poems were worked on during the beginning of the period. The entire class listens attentively as each student reads his/her work from the 'Author's Chair' in front of the class.

Explanation: Both the writing activity setting and the reading aloud activity setting should be scored as Connected to each other.

Connected to Previous AS: Previous activity settings refer to those that occurred prior to the current period of instruction. Since this is not subject to direct observation, observers should not use this category unless there is some specific and clear evidence for a connection of the two activity settings.

Example: A sixth grade mathematics class is working on calculations drawn from their field trip the previous day, in which they were using surveying instruments to measure the school playground. The observer heard several remarks from students and the teacher that referred to things that happened yesterday.

Explanation: This activity setting would be considered Connected to previous AS because the current work the students are doing requires the products of the previous day's activity setting.

SECTION II:

The ASOS also contributes to the developmental process of assessing and assisting teachers in the enactment of the principles described in this study. This is of great importance since these principles are found in the communal activities in which children participate. Therefore, the enactment of these principles in the classroom brings about a familiar context of experience and development that children can relate to as they learn the new subject matter.

The results are also reflective of the complexity of our coding system, which requires observers to engage in the unfolding of both single activities and multiple activities; and within those activities to carefully examine and record interrelated aspects of the multi-dimensionality of activity settings in the context of the classrooms.

For any given activity the ASOS can provide a baseline analysis of activities that later can be correlated with other methods of classroom observation such as ethnography or discourse analysis of the same activities. The ASOS records the presence or absence of activity features. It is a quick method for providing teachers with feedback while other in-depth analysis is in progress.

The potentials in using the ASOS are shown in the example below. The instrument can be used for the coding of live or video-tapped activities. The example below

examines the meaning of scores obtained using this system, as well as the implications of the findings for teacher professional development.

This example illustrates the type of activity that can be assessed using the ASOS. Aspects of the students' community experience, history and social practices can be incorporated into classroom activities through either formal planning (e.g. embedding the curriculum in a community activity); or through impromptu actions (spontaneous references while providing responsive assistance).

Example

While conducting classroom observations, the researcher finds out that the teacher and her students are discussing a recent field trip that they took to the zoo. The teacher points to the tables to show the students the upcoming activity. She also asks a student to show her classmates the procedure for gathering materials and creating their zoo. The teacher assist her second graders on learning to how write the names of the animals, as well as learning how to classify them into the animal kingdom. She inquires from students about their experience at the zoo and the type of animals that they saw. She also begins to question her students on whether some animals belong in the same habitat.

The whole activity leads students and teacher into a conversation that evokes aspects of their experience at the zoo, as well as their experience with animals. After the whole class activity, the students are ready to move to the next activity involving small groups. Five tables are set for this activity. The activity is called "make you own zoo". This is where students get to apply their understanding from the previous activity on the geography and climate and its relation to the animals' habitat. The teacher moves around the classroom offering assistance to students in their small groups.

Teacher: What were some of your favorite animals from the zoo?

Luis: Mmmm...I like the lions and the polar bears.

Edgar: I like the snakes and tropical birds.

Teacher: So, when you design you zoo, are you going to place them together or are there differences in climate and geography you need to think about?

Edgar: I will put them together, like in the zoo.

Daniel: Yea.

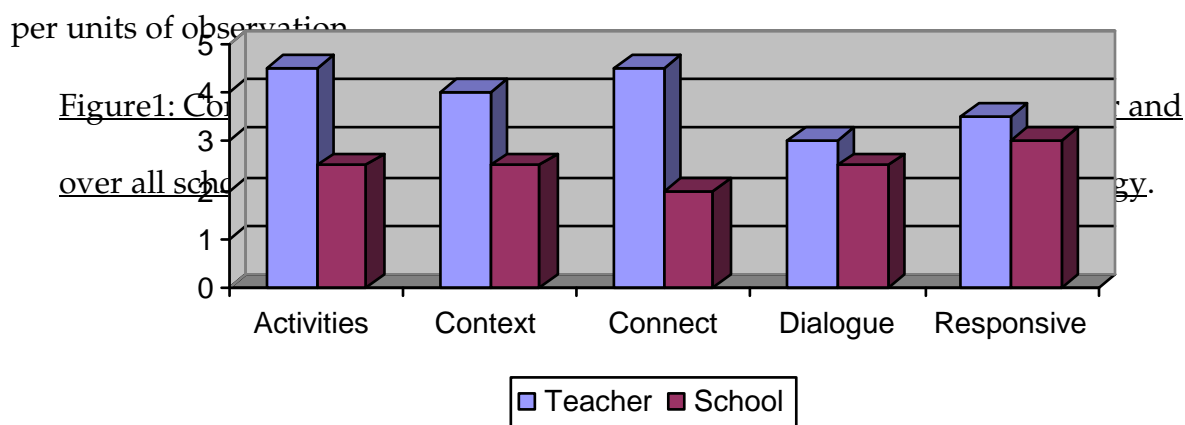
Teacher: Well, I guess you guys are right. They are somewhat together in the zoo. But, lets think about this for a second. Do you remember when we went to visit the lions.

Students: Yes.
 Teacher: How about when we went to see the polar bears.
 Edgar: Oh, yea, I remember. It was cold.
 Teacher: Ok, so it was cold. Why do you think it was cold?
 Luis: because polar bears like the cold.
 Teacher: Yea, they like the cold and what kind of climate do you think lions like?
 Edgar: They like the sun.
 Teacher: Good! So, now you can think about what kind of habitat you need to have in you zoo for your animals. Think about it and I'll come back later to see how you are doing.

Using the ASOS the observer has noted that during this period of observation the students and the teachers where engaged in two activities. The first activity involved an introductory lesson in which the teacher and students discussed the classification of animals and their respective habitats.

In the second activity the teacher has set-up five tables with materials and animal figures for an activity that she call "create your own zoo". Even though there are five tables, the observer describes the event as one activity. In this observational system if all the groups are doing the same thing and working towards the same product it is coded as one activity.

For two days this week, the researcher has come to the class to observe a variety of activities. Figure 1 shows the teacher's performance, during those two days, in comparison to her peers. Overall the findings indicate that this teacher has good teaching strategies and that in comparison to her peers she also tends to maintain an active atmosphere in the classroom, as show by her higher number of activities



The ASOS serves as an instrument to assess the presence or absence of feature of effective instruction. The above example represents a classroom environment where effective instructional practices are in used. The information gathered through the ASOS can be correlated with other instruments for the purpose of assessing and improving teaching practices.

Overall, the analysis of activity can be used as a basis for implementing and assessing the enactment of theoretically sound principles for teaching and learning during classroom activities. The instrument serves as a commonly applicable measurement of teaching practices. It is also an economical procedure for obtaining a snap shot of the classroom activities before further in-depth analysis.

Conclusion

All work in the analysis of activity settings has been through the use of qualitative data, principally ethnographic or micro ethnographic, providing "thicker" accounts of events than those typical of quantitative methods. It is clear that the potential use of a "thinner" but reliable and valid uniform system of description can bring about the comparison of events across a) time and developmental process; b) institutions, communities, or cultures; and c) outcomes.

In order to bring effective education to the classroom, and effectively assist the performance of the students through the Zone of Proximal Development, school activities must be measured and assessed to determine their degree of compatibility to the cultural norms, values, and beliefs of the participants in the activity. Connecting

previous knowledge, experiences, and community practices to new information is a fundamental attribute of human development and learning. For at-risk students, this attribute needs to be acknowledged, and their previous experiences and cultural practices need to be integrated into the curriculum as an effective strategy for teaching and learning.

It is through the unfolding of instructional activities that we can assess teaching and learning. Assessing whether cultural components for effective instruction are present or absent is vital in order to maximize learning as well as, to assist teachers in their professional development.

Teaching and learning, as well as any other component of classroom activities, can be assessed through this quantitative method for observing classroom activities. The use of the observational system and methods presented in this study, allow for assessment as well as assistance in the process of developing, enacting, and constructing effective classroom activities for teaching and learning.

The ASOS is based on the essential principles of sociocultural theory; it is practical for the live and accurate description of a typical classroom or similar setting. It offers a close examination of the fundamental principles for effective pedagogy that are also the essence for every day learning and development in all communities.

Table 1: Effective Reliability (R) Value on the Number of Activity Settings and Kappa Values between Criterion Scoring and Trainees

Categories	Step 1	Step 2	
	<u>R</u>	Average Kappa	Range
Activity Settings	.99		
Product		.73	(.73 to .74)
Personnel		.84	(.61 to 1.0)
SIC		.84	(.79 to 1.0)
JPA		.65	(.59 to .70)
M/D		.68	(.65 to .72)
TSD		.72	(.63 to .79)
RA		.82	(.79 to .87)
Contex.		.71	(.61 to .81)
Conn.		.68	(.63 to .75)

Appendix A