

Observation Guidelines

Timed-Observations

The following definitions should be used when coding the 5-minute intervals. The code should represent the main activity, but it may include more than one code. For example, if the students are having small groups discussions, and the teacher circulates amongst the groups, the instruction would be coded as both Small group discussion and Teacher interacting with students. If the instruction clearly shifts during the 5-minute block, please indicate this with a line clearly dividing each of the 3 cells associated with that 5- minute interval.

Type of Instruction:

Lecture - Teacher talks almost all of the time. If students participate verbally, their interaction is minimal, with questions and responses that are either very short or obvious answers.

Lecture with discussion - Teacher talks most of the time. This differs from lecture in that students participate by answering questions that generally require more than a one word answer. This differs from class discussion in that there is almost no student to student communication.

Class discussion – Almost all student to student talk in full class setting.

Hands-on activity/materials – Students participate in an activity that involves manipulating materials

Small group discussion – Students engage in conversation with each other about subject matter in small groups

Administrative tasks – Teacher and students take care of non-academic business, i.e., taking attendance, collecting homework, etc.

Demonstration – Teacher shows and explains to students how something works or is used, student talk is minimal and directed toward clarifying understanding of what is being demonstrated.

Computer/calculator use—Unique use of computer, calculator, technology, not adding, multiplying, or word processing

Text seatwork – Students complete an assignment from the textbook

Worksheet work – Students answering questions from worksheets, black board or overhead

Student presentations - Either formally or informally, students share their work with the whole class

Lab journal writing – Students write in a journal/notebook their reflections from an experiment/investigation

Teacher interacting with student – Teacher circulates around the classroom, working with students either one-on-one or in groups

Homework -- teacher going over homework, tests or other assignments that students have already worked on

Problem modeling -- teacher demonstrating or modeling how to solve a new problem

Cognitive Activity:

- 1 Receipt of knowledge** – Students are involved in the rote reception of information (watching something, lectures, going over worksheets, questions, or homework)
- 2 Application of procedural knowledge** – Students apply their knowledge (doing worksheets, homework or practice problems similar to ones modeled in class, skill building, performance)
- 3 Knowledge representation** – Students manipulate information (organizing, observing something and trying to make sense out of it, describing, categorizing)
- 4 Knowledge construction** – Students create new meaning (higher order thinking, generating, inventing, solving problems, revising, etc.)

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Items 10-13:

Modified from Newmann, F.M., Secada, W.G., & Wehlage, G.G. (1995). *A guide to authentic instruction and assessment: Vision, standards, and scoring*. Madison, WI: Wisconsin Center for Education Research, pp. 86-93.)

Higher Order Thinking:

Instruction involves students in manipulating information and ideas by synthesizing, generalizing, explaining, hypothesizing, complex problem solving, comparing, or arriving at conclusions that produce new meaning and understandings for them.

5 – Almost all students, almost all of the time, are performing higher order thinking (HOT).

4 – Students are engaged in at least one major activity during the lesson in which they perform HOT operations. This activity occupies a substantial portion of the lesson and many students are performing HOT.

3 – Students are primarily engaged in routine lower order thinking (LOT) operations a good share of the lesson. There is at least one significant question or activity in which some students perform some HOT operations.

2 – Students are primarily engaged in LOT, but at some point they perform HOT as a minor diversion within the lesson.

1 – Students are engaged only in lower order thinking (LOT) operations; i.e., they either receive, or recite, or participate in routine practice and in no activities during the lesson do students go beyond LOT.

Deep Knowledge: Instruction addresses central ideas of a topic or discipline with enough thoroughness to explore connections and relationships and to produce relatively complex understandings.

5 – Knowledge is very deep because during the lesson almost all students do at least one of the following: sustain a focus on a significant topic; or demonstrate their understanding of the problematic nature of information and/or ideas; or demonstrate complex understanding by arriving at a reasoned, supported conclusion; or explain how they solved a complex problem. In general, students' reasoning, explanations and arguments demonstrate fullness and complexity of understanding.

4 – Knowledge is relatively deep because either the teacher or the students provide information, arguments or reasoning that demonstrate the complexity of an important idea. During the lesson many students do at least one of the following: sustain a focus on a significant topic for a period of time; or demonstrate their understanding of the problematic nature of information and/or ideas; or demonstrated by arriving at a reasoned, supported conclusion; or explain how they solved a relatively complex problem.

3 – Knowledge is treated unevenly during instruction; i.e., deep understanding of something is countered by superficial understanding of other ideas. At least one significant idea may be presented in depth and its significance grasped, but in general the focus is not sustained.

2 – Knowledge remains superficial and fragmented; while some key concepts and ideas are mentioned or covered, only a superficial acquaintance or trivialized understanding of these complex ideas is evident.

1 – Knowledge is very thin because it does not deal with significant topics or ideas; teacher and students are involved in the coverage of simple information that they are to remember.

Substantive Conversation: Students engage in extended conversational exchanges with the teacher and/or their peers about subject matter in a way that builds an improved and shared understanding of ideas or topics. Substantive conversation has three features:

1. The talk is about subject matter in the discipline and includes higher order thinking, such as making distinctions, applying ideas, forming generalizations, or raising questions; not just reporting of experiences, facts, definitions, or procedures.
2. The conversation involves sharing of ideas and is not completely scripted or controlled by one party (as in teacher-led recitation). Sharing is best illustrated when participants explain themselves or ask questions in complete sentences, and when they respond directly to comments of previous speakers.

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3. The dialogue builds coherently on participants' ideas to promote improved collective understanding of a theme or topic (which does not necessarily require an explicit summary statement).

5 – All three features of substantive conversation occur, with at least one example of sustained conversation, and almost all students participate.

4 - All three features of substantive conversation occur, with at least one example of sustained conversation, and many students participate.

3 – Features 2 (sharing) and/or 3 (coherent promotion of collective understanding) occur and involve at least one example of sustained conversation, i.e., at least 3 consecutive interchanges.

2 - Features 2 (sharing) and/or 3 occur briefly and involve at least one example of two consecutive interchanges.

1 – Virtually no features of substantive conversation occur during the lesson.

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Connections to the World Beyond the Classroom: Students make connections between substantive knowledge and either public problems or personal experiences.

5 – Students study or work on a topic, problem, or issue that the teacher and students see as connected to their personal experiences or actual contemporary public situations. Students recognize the connection between classroom knowledge and situations outside the classroom. They explore these connections in ways that create personal meaning and significance for the knowledge. This meaning and significance is strong enough to lead students to become involved in an effort to affect or influence a large audience beyond their classroom in one of the following ways: by communicating knowledge to others (including within the school), advocating solutions to social problems, providing assistance to people, creating performances of products with utilitarian or aesthetic value.

4 - Students study or work on a topic, problem, or issue that the teacher and students see as connected to their personal experiences or actual contemporary public situations. Students recognize the connection between classroom knowledge and situations outside the classroom. They explore these connections in ways that create personal meaning and significance for the knowledge. However, there is no effort to use the knowledge in ways that go beyond the classroom to actually influence a large audience.

3 - Students study or work on a topic, problem, or issue that the teacher and students see as connected to their personal experiences or actual contemporary public situations. Students recognize the connection between classroom knowledge and situations outside the classroom, but they do not explore the implications of these connections, which remain abstract or hypothetical. There is no effort to actually influence a large audience.

2 – Students encounter a topic, problem, or issue that the teacher tries to connect to students’ experiences or to contemporary public situations; i.e., the teacher informs students that there is potential value in the knowledge being studied because it relates to the world beyond the classroom.

1 – Lesson topic and activities have no clear connection to anything beyond itself; the teacher offers no justification beyond the need to perform well in class.

Item 16: Content significant and worthwhile

16. Focus on the merits of the classroom lesson as it is taught, not the merits of the topic (curricular choice). For example, on the math training tape, the teacher taught surface area and volume by focusing on formulas. We thought this lesson was only moderately significant and worthwhile

Item 20:

Level 1: Ineffective Instruction

There is little or no evidence of student thinking or engagement with important ideas of mathematics/science. Instruction is *unlikely* to enhance students’ understanding of the discipline or to develop their capacity to successfully “do” mathematics/science. Lesson was characterized by either:

Passive “Learning”

Instruction is pedantic and uninspiring. Students are passive recipients of information from the teacher or textbook; material is presented in a way that is inaccessible to many of the students.

Activity for Activity’s Sake

Students are involved in hands-on activities or other individual or group work, but it appears to be activity for activities sake. Lesson lacks a clear sense of purpose and/or a clear link to conceptual development.

Level 2: Elements of Effective Instruction

Instruction contains some elements of effective practice, but there are *substantial problems* in the design, implementation, content, and/or appropriateness for many students in the class. For example, the content may lack importance and/or appropriateness; instruction may not successfully address the difficulties that many students are experiencing, etc. Overall, the lesson is *quite limited* in its likelihood to enhance students’ understanding of the discipline or to develop their capacity to successfully “do” mathematics/science.

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Level 3: Beginning Stages of Effective Instruction

Instruction is purposeful and characterized by quite a few elements of effective practice. Students are, at times, engaged in meaningful work, but there are *some weaknesses* in the design, implementation, or content of instruction. For example, the teacher may short-circuit a planned exploration by telling students what they “should have found”; instruction may not adequately address the needs of a number of students’ or the classroom culture may limit the accessibility or effectiveness of the lesson. Overall, the lesson is *somewhat limited* in its likelihood to enhance students’ understanding of the discipline or to develop their capacity to successfully “do” mathematics/science.

Level 4: Accomplished, Effective Instruction

Instruction is purposeful and engaging for most students. Students actively participate in meaningful work (e.g., investigations, teacher presentations, discussions with each other or the teacher, reading). The lesson is well-designed and the teacher implements it well, but adaptation of content or pedagogy in response to student needs and interests is limited. Instruction is *quite likely* to enhance most students’ understanding of the discipline and to develop their capacity to successfully “do” mathematics/science.

Level 5: Exemplary Instruction

Instruction is purposeful and all students are highly engaged most or all of the time in meaningful work (e.g., investigation, teacher presentations, discussions with each other or the teacher, reading). The lesson is well-designed and artfully implemented, with flexibility and responsiveness to students’ needs and interests. Instruction is *highly likely* to enhance most students’ understanding of the discipline and to develop their capacity to successfully “do” mathematics/science.