

Master Code Justifications for Heat Transfer—Practice Video 1

View and code the practice video. Compare your codes to the master codes in this document.

Do not read until you have finished coding the video.

Relationships

- The teacher is in close physical proximity to the children during the experiment and sits fairly close to the children during the book reading (leaning forward in her chair to talk to the children).
- The teacher shares in both the book reading and the experiment.
- Sometimes the teacher's affect doesn't match that of the children. While they are excited and enthusiastic as cups are being passed out during the experiment, for example, the teacher often appears to have a constrained affect.
- Few indications of social conversation or peer assistance are observed. However, at one point two girls are seen laughing, smiling, and cooperating while testing the temperature of their water cups.

Positive affect

- There are frequent displays of positive affect, particularly by the children. For example, the children giggle when they put their fingers in the hot water and laugh throughout the experiment. The children are also enthusiastic about putting ice cubes in the water.
- Although the teacher generally has an upbeat and positive tone, her mannerisms are occasionally constrained.

Positive communication

- The teacher generally affirms what the children say. However, explicit expressions of verbal affection or positive communications are sometimes not evident.

Respect

- The teacher demonstrates respect for the children by establishing eye contact, using names, and listening to the children. She also uses respectful language such as "Excuse me" and "Sorry." As previously mentioned, she often speaks in an upbeat and positive tone, though her mannerisms are occasionally constrained.

Overall, this classroom is a positive place to be, as evidenced by the frequent displays of laughter and smiling by the children, some indications that the teacher and children enjoy supportive relationships, and a general level of respect between teacher and children. The video is scored in the mid range rather than the high range because of a constrained element to the relationships between the teacher and children and because of a lack of explicit positive communication. However, it is scored at the high end of the mid range because teacher-child relationships and peer-peer relationships generally reflect warmth, respect, and enjoyment.

Negative affect

- The teacher and children do not display strong negative affect, but there are some displays of mild negativity. For example, the teacher is slightly irritable with the child who spills water ("Sammy, you need more paper towels") and when the children are vying for different cups ("Nobody's getting anything; we're sharing").
- There are no indications of anger, peer aggression, or escalating negativity.

Punitive control

- The teacher does not yell or make threats to establish control, although she does warn one child, "You're going to spill yours too!"
- The teacher occasionally pulls children's hands back from the cups or otherwise restrains them.

Sarcasm/disrespect

- For the most part, the teacher and children are not sarcastic or disrespectful, although there is some minor peer-peer teasing during the book reading.

Severe negativity

- None observed.

This video is not characterized by punitive control, sarcasm or disrespect, or severe negativity, thus scoring in the low range. However, the teacher expresses mild irritability toward the children for much of the water experiment activity. As a result, Negative Climate is coded up to a 2.

Awareness

- The teacher is sometimes aware of children who need extra support, assistance, or attention. For example, she leans down to help a child tie her shoe during the book reading. She also notices a child trying to make a comment during the book reading, and she quiets the group to allow the child to talk. However, at other times she has trouble anticipating problems and may not have planned the experiment at an appropriate developmental level for the children.
- During the book reading, she occasionally doesn't notice children who are on the side or in the back. Also, at the end of the experiment, she doesn't acknowledge the girl in green and puts her hand on the girl's head to stop her from commenting.

Responsiveness

- The teacher is consistently responsive to children, acknowledging and responding to nearly all comments ("Snow and grow do rhyme— you're right," "Maybe starting to build another snowman"). To a limited degree, she also acknowledges emotions, although her tone of voice occasionally renders her responses somewhat less sensitive. For example, she starts by being somewhat dismissive of the boy who hits his head before saying, "I'm sorry you hit your head—that probably hurt." On another occasion, she responds to the children's excitement over the cups by saying, "You know, nobody's getting anything."

Addresses problems

- The teacher is sometimes effective at addressing children's problems, but as mentioned previously, her tone of voice is sometimes less sensitive. For example, when Sammy spills his cup of water, she helps him by directing his clean-up efforts, but she also comments, "You spilled a lot of water." However, she later tells him, "That's all right."

Student comfort

- Students freely participate in both the book reading and the experiment, feeling comfortable with calling out ideas and asking questions.

This teacher demonstrates a mix of sensitive and insensitive behaviors across the indicators of Teacher Sensitivity, thus giving a mid-range score to this video. Due to the teacher's consistent responsiveness to children's comments and high levels of child comfort, the video is scored at the high end of the mid range.

Flexibility and student focus

- The teacher follows children's leads during some periods but is more controlling during others. For example, during the book reading she responds, "I'd think Frosty too," when one child comments that the book is about Frosty the Snowman, and "You are right— it looks like tiny snowballs falling," in response to another child comment.
- During the experiment, she follows the children's lead in allowing them to put more ice cubes in the cups and switches cups in response to a boy's request for a hot cup. She also uses a boy's comment about the water getting colder as a jumpoff for the next discussion.
- For the most part, however, this is a teacher-driven lesson and activity.

Support for autonomy and leadership

- The teacher sometimes provides support for student autonomy but at other times does not. For example, she gives Sammy, the boy who spilled water, the responsibility of cleaning it up, but she is quite directive about how he does it ("You need more paper towels. ... Get three or four.").
- The teacher remains in control of the materials, deciding when children will have a blue cup or a red cup and putting in ice cubes herself. She is also quite directive about how the children handle their cups ("Don't touch," "Put it down").

Student expression

- There are many opportunities for child talk and expression as the teacher elicits children's ideas about the book and about the experiment. The teacher encourages child talk by asking questions and affirming what they say, and overall there is a fairly equal balance of teacher talk and child talk.

Restriction of movement

- The teacher is often controlling of children's movement and placement during activities. Although she allows some movement opportunities (such as putting their fingers in the water), she restricts movement in other instances (moving the cups instead of allowing the children to move them) and is often controlling about how they move ("Don't touch that!"). During the book reading, she is also quite directive about children's movement ("Sit on your bottom").

Although the activities in this video are largely teacher-directed, the amount of time given to student expression and the emphasis on children's points of view are significant, thus placing the video in the mid range. Owing to a balance of behaviors showing higher regard (student expression, some instances of following children's leads) and lower regard (restriction of movement and few real opportunities for responsibility), this video remains squarely in the mid range.

Clear behavior expectations

- Rules and expectations are somewhat inconsistently stated and enforced. In general, the children seem to know the rule about raising their hands to answer. However, the teacher doesn't remind them about behavioral expectations at the beginning of the book reading, and she later has to tell them, "Let's try raising our hands," after they all begin calling out. Later in the video, the teacher fails to set up the overall rules for the experiment. Although she does clearly state, "Carefully put one finger in the red one," she is less consistent about enforcing the rules around the cups once the children's behavior begins disintegrating later in the experiment.
- At one point during the book reading, the teacher doesn't respond to some children's misbehavior and the assistant has to stop it.

Proactive

- The teacher uses a mix of proactive and reactive responses to the children. At times, she anticipates problem behavior and sets up rules before ("Carefully walk to the sink," and "Carefully put one finger in the red one"). However, more often she is reactive to children's misbehavior ("Whoa, whoa, let's try raising hands," "Take your fingers out!", "Don't touch!", "Keep these flat on the table, please").
- The teacher displays some monitoring, although she occasionally misses responding to children's misbehavior (see clear behavior expectations).

Redirection of misbehavior

- The teacher's redirections are fairly brief but frequent, particularly when the children become noisy ("This is not OK," "Let's raise hands," "Nobody's getting anything; we're sharing" "Shh... Excuse me; I'm trying to hear").
- The teacher seldom, redirects misbehavior by giving attention to positive behavior. Her redirections are occasionally subtle (for example, putting her hand on the girl in green's head in order to stop her from talking out), but because the misbehavior often continues, they are not very efficient.
- As a result, instructional time is lost to behavioral management.

Student behavior

- Although children go along with the book reading and experiment, there are periodic episodes of misbehavior in which the children are wiggly or talkative, disrupting the overall flow of the activity.

This video includes some indicators of fairly effective behavior management, such as monitoring and quick redirections, thus placing the score in the mid range. However, because of the lack of clarity and consistency, the preponderance of reactive strategies that are frequently repeated, periodic episodes of children talking and wiggling, and the resultant teacher responses that disrupt the flow of the activity, the video is scored at the low end of the mid range.

Maximizing learning time

- The teacher provides activities for the children throughout the entire video. Although there is some disruption when the teacher has to help Sammy clean up the water he spilled, the other children are still working on the activity, testing the temperature with their fingers, etc.

Routines

- Although the teacher does not give explicit instructions, children generally appear to know what to do in the experiment, watching the ice cubes and testing the temperature.
- No wandering is observed, although Sammy doesn't have the benefit of full instructional time as he goes back and forth between the spilled water and the paper towel dispenser.

Transitions

- Although we observe only the beginning of a transition, the teacher builds a limited learning opportunity into it, saying, "If you're wearing pink today ... "

Preparation

- The teacher is prepared with all materials ready and accessible, and she appears to know the lesson and activities well. She doesn't anticipate needing paper towels, which could have increased the overall productivity when time is lost to cleaning up spilled water.

Overall, the teacher manages instructional time and routines such that children have the opportunity to be involved in learning activities at all times, thus placing this video in the high range. However, the score is a 6 due to some lost instructional time in cleaning up spilled water and a lack of clear instructions during the experiment.

Effective facilitation

- The teacher actively facilitates children's engagement in the activities through effective, frequent questioning ("Why is snow good for plants?", "Which one's melting faster?", "When do you need ice at home?"). However, her questions around the experiment only occasionally function to expand their ability to learn from the lesson.
- The teacher also expands the children's involvement by having them participate in the experiment through putting their fingers in the water, watching the ice cubes, etc.

Variety of modalities and materials

- The teacher provides a range of auditory, visual, and movement opportunities, including book reading, discussion, and the experiment (although the movement opportunities are limited to testing the water with their fingers).
- The color-coded cups and ice cubes are interesting to the children, and they have a literal hands-on opportunity when testing the temperature of the water.

Student interest

- Children are engaged and interested for some of the time, but at other times their interest wanes and they are less involved in the activity. For example, they appear excited to answer the teacher's questions at the beginning of the book reading and to test the water at the beginning of the experiment. But at other times in the video, some children appear bored or disengaged and begin playing with or teasing one another.

Clarity of learning objectives

- The teacher orients children to tasks but doesn't explicitly orient them to learning objectives. For example, during the book reading, she says, "I'm going to ask you some questions," and at the end of the experiment, she says, "I'm going to ask you some questions and then we'll go play." However, she doesn't focus children's attention toward the learning objectives or the purpose of the lesson, such as temperature and melting.

For the most part, the teacher maximizes children's interest, engagement, and ability to learn through effective facilitation and questioning and by providing a variety of modalities and materials. She also provides some limited clarification around how to do the experiment, and children appear engaged and interested for some of the time. Due to a mix of high-quality facilitation and materials and lower levels of student engagement and learning objectives, this video is coded at the high end of the mid range.

Analysis and reasoning

- The teacher asks a mix of open-ended and closed questions. She often uses questions and activities that encourage analysis and reasoning. For example, she has children predict what will happen when they put ice cubes in their cups, she has them compare how fast the ice cubes are melting in different cups, and she asks a variety of why and how questions (“Why are there two of them?”, “How is snow bad for you?”, “Why would it melt faster?”, “Why is it getting colder?”).
- The teacher also asks a variety of closed questions (“What are they trying to do?”, “What does the author do?”, “Would it take a lot or a little?”).
- Although the teacher does use strategies that encourage analysis and reasoning, they typically do not turn into extended instructional discussions. As a result, the children’s opportunities to engage in higher-order thinking are not fully maximized.

Creating

- The teacher sometimes provides opportunities for brainstorming (e.g., “When do you need ice at home?”). At other times, however, her brainstorming questions are more recall-oriented (“Tell me one way that snow is good for animals,” “Why is snow good for plants?”).
- No opportunities for planning or producing are provided.

Integration

- On isolated occasions, the teacher minimally links concepts and activities to previous learning (“We made snowflakes the other day ...”), but she fails to make the connection between the melting experiment and snow for the children.

Connections to the real world

- Occasionally, the teacher relates concepts to children’s actual lives (“When do you need ice at home?”, “What could you do if you drink soda?”), but she does not expand these connections.

Concept Development measures the teacher’s use of instructional discussions and activities to promote children’s higher-order thinking skills and cognition. In this video, the teacher uses a wide variety of analysis and reasoning strategies, along with limited strategies around creating, integration, and connections to the real world. This mix of indicators suggests a score in the mid range. Because the teacher doesn’t follow up on these strategies to engage the children in an extended instructional discussion utilizing higher-order thinking skills, the score is a 4.

Scaffolding

- The teacher occasionally provides scaffolding to children. For example, she hints “S-s-s” when a child is trying to read the title. At other times, however, she doesn’t push for true understanding in responding to children’s comments (e.g., snow is good for plants because of gravity).

Feedback loops

- The teacher engages in several feedback loops about what the children on the cover of the book are doing with the ball of snow, what the author and illustrator do, and what happened to an ice cube that had melted. On most occasions, the teacher’s persistence in asking follow-up questions allows children to come to an understanding of the correct answer.

Prompting thought processes

- The teacher occasionally queries the children or prompts them to explain their thinking for responses. For example, she asks, “Why is it getting colder?” and “Why would they need two of them?” in response to a child’s observations, but she doesn’t follow up on another child’s comment about gravity making the snow helpful for animals.

Providing information

- The teacher occasionally provides additional information to expand on children’s understanding. For example, she says, “Sammy is right— there are three words in the title,” and she clarifies that illustrators draw pictures and authors write words.

Encouragement and affirmation

- The teacher provides limited encouragement and affirmation for children’s efforts. On one occasion, she reinforces one child’s comment, saying, “I think it would be Frosty too,” and later she says, “Good, Sammy. Because it is heavy.” Generally, though, the teacher does not explicitly use encouragement and affirmation as a feedback strategy.

Overall, the teacher’s feedback generally functions to expand learning and encourage participation, and her use of strategies within all the indicators of Quality of Feedback places the score in the mid range. Due to a mix of more extensive feedback loops and more limited examples of the other indicators, the score is a 4.

Frequent conversation

- The teacher engages regularly in conversation with the children and appears interested in their responses. However, teacher-initiated interactions tend to predominate, and the teacher is almost always directing the conversation.

Open-ended questions

- The teacher poses a mix of open-ended questions (“What were you going to say?”, “Why is snow good for plants?”, “How is snow bad for you?”, “When do you need ice at home?”) and closed questions (“What does the author do?”, “Which one’s melting faster?”, “What’s happening to the water?”). The children respond enthusiastically, but often the types of questions the teacher asks limit their responses.

Repetition and extension

- The teacher often repeats or extends the children’s responses, focusing on the children’s attempts to communicate and sometimes building directly on their contributions. For example, when asking how many words are in the title, she repeats responses, “Two words? ... Three words?” and then later says, “Sammy is right— there are three words in the title.” There are numerous other examples of repetition and extension (“Your mom doesn’t know how to say that...,” “Maybe starting to build another snowman... ,” “It’s getting colder...”).

Self- and parallel talk

- The teacher occasionally maps her own actions through language and description. For example, she says, “I’m going to put two red ones over here and two blue ones,” and she explains why she used short cups instead of tall cups. However, she rarely maps children’s actions with language.

Advanced language

- The teacher sometimes uses advanced language with children, such as “cooperating,” “gravity,” and “pipe.” However, she doesn’t always map these words onto known concepts.

Due to examples of language-stimulation and language-facilitation techniques across all indicators, this video is scored well above the low range. However, owing to a predominance of teacher-directed language and fewer examples of self- and parallel talk and advanced language, the video remains in the upper end of the mid range.