

## Codebook for Teacher interview/observation

\*From Code 1~5, just code one-time unless it is changing over time.

Code #	Description of the Codes
<b>1</b>	<b>Configuration</b>
1a	Whole class
1b	Small groups
1c	Pairs
1d	Individual
1e	Other:
<b>2</b>	<b>Teacher Position</b>
2a	Teacher walking the room
2b	Teacher stationery
2c	Teacher moves to respond to questions
2d	Students moving around room
2e	Students moving in area of room
2f	Teacher-Student Interaction
2g	Other:
<b>3</b>	<b>Materials &amp; Resources</b>
3a	<i>Teacher instructional materials and resources</i>
3a-1	Teacher lesson plan
3a-2	Agenda
3a-3	Video materials
3a-4	Pre-made activity (code.org)
3a-5	Online organizational tools (Gdrive)
3a-6	Maker resources/Project Materials (Modeling)
3a-7	Whiteboard/Smartboard
3a-8	Texts (reading materials, reference books, manuals)
3a-9	Field trips
3a-10	Outside presentation
3a-11	Other:
3b	<i>Student materials and resources</i>

3b-1	Student computers
3b-2	Chromebooks
3b-3	No computer
3b-4	Maker resources (e.g., crafts)
3b-5	Worksheets
3b-6	Website
3b-7	Reading materials
3b-8	Other:
<b>4</b>	<b>Teacher Concept Presentation</b>
4a	Initial concept presentation to large group
4b	Reiteration of concepts to group
4c	Individual facilitation
4d	Full group intervention
4e	Multimodal presentation
4f	Call and response
4g	Other:
4h	<i>Teacher role</i>
4h-1	Facilitator (Open instructor)
4h-2	--
4h-3	50%
4h-4	--
4h-5	Commander (Explicit Instructor)
<b>5</b>	<b>Type of Product</b>
5a	Tangible, physical product (e.g., egg drop construction)
5b	Computer-based product (e.g., Home project)
5c	Worksheet
5d	Dialogue
5e	Other:

<p><b>6</b></p> <p>6a</p> <p>6b</p> <p>6c</p> <p>6d</p> <p>6e</p>	<p><b>Teacher strategies: Provides structure &amp; consistency</b></p> <p>-Sets expectation (e.g., advanced organizer, states learning/behavioral expectations) (Show on board, explain/reference, reflect on if outcomes met expectations, other)</p> <p>-Activate prior knowledge (e.g., reviews previous lesson plan)</p> <p>-Supports planning (e.g., written instructions, highlight key points)</p> <p>-Task management prompts/reminders (e.g., planning, testing, tracking, reporting, sharing knowledge)</p> <p>-Other:</p>
<p><b>7</b></p> <p>7a</p> <p>7b</p> <p>7c</p> <p>7d</p> <p>7e</p> <p>7f</p>	<p><b>Teacher strategies: Scaffolding the process</b></p> <p>-Modeling (e.g., talking through and doing steps)</p> <p>-Scaffolding (e.g., remove supports over the course of the project)</p> <p>-Chunking the activity and/or instruction</p> <p>-Simplifies instructions, choices</p> <p>-Multiple ways of assessments, formative, low-stakes, mini-assessments, self-assessment, check for understanding, oral checks, timed tests</p> <p>-Other:</p>
<p><b>8</b></p> <p>8a</p> <p>8b</p> <p>8c</p> <p>8d</p> <p>8e</p> <p>8f</p> <p>8g</p>	<p><b>Teacher strategies: Supporting thinking and metacognition</b></p> <p>-Prompts and probes (including reflective prompts)</p> <p>-Supports non-linear thinking/brainstorming</p> <p>-Positive statements (affirmation)</p> <p>-Cooperative learning strategies</p> <p>-Bridging student learning to higher level thinking</p> <p>-Encourage students to choose different ways of expressing their understanding</p> <p>-Other:</p>

<p><b>9</b></p> <p>9a</p> <p>9b</p> <p>9c</p> <p>9d</p>	<p><b>Teacher strategies: Classroom Management</b></p> <p>-Discreet cues to stay on task; advanced warnings; reminders to focus; lowers noise level (describe)</p> <p>-Teacher attention remains on students</p> <p>-Teacher and student rapport (Articulate positive words, moving down to eye level to talk to student, talking to a student before or after class)</p> <p>Other:</p>
<p><b>10</b></p> <p><b>10a</b></p> <p><b>10b</b></p> <p><b>10c</b></p> <p><b>10d</b></p> <p><b>10e</b></p> <p><b>10f</b></p> <p><b>10g</b></p> <p><b>10h</b></p>	<p><b>Teacher strategies: Accommodations (SWD or at-risk)</b></p> <p>-Teacher reduces environmental distractions (allowing students to wear earbuds, allowing students to work alone)</p> <p>-Teacher allows students working with para-professional or other peer</p> <p>-Teacher gives extra time</p> <p>-Teacher provides additional cues/ additional modeling (e.g., visual directions for SWD)</p> <p>-Teacher provides additional attention to SWD or at-risk</p> <p>-Teacher provides Assistive Technology</p> <p>-Teacher provides alternative assessment</p> <p>-Other:</p>
<p><b>11</b></p> <p>11a</p> <p>11b</p> <p>11c</p> <p>11d</p> <p>11e</p> <p>11f</p>	<p><b>Classroom atmosphere</b></p> <p>Most students are on-task</p> <p>At least 25% of the classroom is on-task</p> <p>At least 50% of the classroom is on-task</p> <p>Most students are off-task</p> <p>Students with disabilities or at-risk are on-task</p> <p>Other:</p>

<p><b>12</b></p> <p>12a</p> <p>12a-1</p> <p>12a-2</p> <p>12a-3</p> <p>12a-4</p> <p>12a-5</p> <p>12a-6</p> <p>12b</p> <p>12b-1</p> <p>12b-2</p> <p>12b-3</p> <p>12b-4</p> <p>12b-5</p> <p>12b-6</p> <p>12b-7</p> <p>12b-8</p> <p>12b-9</p> <p>12c</p> <p>12c-1</p> <p>12c-2</p> <p>12c-3</p> <p>12c-4</p> <p>12c-5</p> <p>12c-6</p> <p>12d</p> <p>12d-1</p> <p>12d-2</p>	<p><b>Barriers</b></p> <p>Individual student variable</p> <p>Student absence</p> <p>Lack of interest</p> <p>Lack of student foundational skills (e.g., lack of language/ com skills)</p> <p>Learned helplessness</p> <p>Student comes in late</p> <p>Other:</p> <p>Pedagogical &amp; curriculum variable</p> <p>Lack of teacher foundational skills (lack of knowledge in computer skills or makerspace activities)</p> <p>Lack of differentiated instruction</p> <p>Lack of accommodation</p> <p>Lack of classroom management (can't control off-task behavior)</p> <p>Lack of cultural relevance</p> <p>Lack of using instructional strategies for metacognition</p> <p>Lack of teacher preparation</p> <p>Low expectations for students</p> <p>Other:</p> <p>Environmental variable</p> <p>Technology-related (log in issue, computer didn't turn on)</p> <p>Teacher absence (sub-teacher available)</p> <p>Length of class time (too short)</p> <p>Location of the classroom</p> <p>Lack of administrative support</p> <p>Other:</p> <p>External variable</p> <p>External disruption</p> <p>Other:</p>
<p><b>13</b></p> <p>13a</p>	<p><b>Successes</b></p> <p>General student achievement from Interview (e.g., individual students completed the construction/worksheet Or students talking to teacher for accomplishment)</p>

13b	Students with Disabilities success in Making activity or STEM
<b>14</b>	<b>Metacognition (INTERVIEW)</b>
14a	Intentionality
14a-1	Intentionality specific to making activities
14b	Persistence
14c	Teacher Struggles to Facilitate Metacognition