

TYPES / DIMENSIONS	Correcting discourse	Eliciting discourse	Probing discourse	Responsive discourse
<b>Questioning</b>	<p>1. Teacher asks frequent, short-response questions that attend to students' accuracy and speed.</p> <p>2. Teacher asks follow-up questions when needed to lead to correct answers.</p> <p>3. Students ask teacher questions to establish correctness of answers.</p>	<p>1. Teacher asks open-ended questions that encourage many students to share their answers and how they found them, expanding the breadth of who participates.</p> <p>2. Teacher asks follow-up questions to support the sharing and collection of several solutions.</p> <p>3. Students ask teacher "what" and "how" questions to clarify solution methods.</p>	<p>1. Teacher asks probing questions that require students to justify their answer, how they found it, and why they used their approach.</p> <p>2. Teacher asks follow-up questions to press for mathematical depth.</p> <p>3. Students ask teacher "how" and "why" questions to clarify their own math thinking.</p>	<p>1. Teacher includes pressing questions that promote students sharing their answers, how, and why, and connections between math ideas and representations.</p> <p>2. Teacher asks follow-up questions to check that <i>all</i> students are making sense of and connecting math ideas.</p> <p>3. Students ask one another "how" and "why" questions, taking responsibility for understanding others' math thinking.</p>
<b>Explaining</b>	<p>1. Teacher demonstrates procedures used to solve a problem.</p> <p>2. Students present their answers when teacher asks.</p> <p>3. Teacher praises correct answers and corrects students' incorrect answers.</p>	<p>1. Teacher adds to students' presentations of their solution methods for solving a problem.</p> <p>2. Students present their answers and how they found them when teacher asks.</p> <p>3. Teacher accepts incorrect and less sophisticated answers as indication of students' current understanding.</p>	<p>1. Teacher revoices and extends students' presentations of various solution methods for solving a problem.</p> <p>2. Students present their answers, how they found them, and why they approached a problem as they did when teacher or other students probe.</p> <p>3. Teacher probes students' thinking about incorrect answers to deepen discussion about why they are incorrect.</p>	<p>1. Students restate, extend, and make connections across various solution methods presented.</p> <p>2. Students volunteer their answers, how they found them, why they approached a problem as they did, and connections to other ideas.</p> <p>3. Teacher and students examine incorrect answers so that <i>all</i> students can learn from mistakes and connect them to correct solutions.</p>

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<b>Listening</b>	<p>1. Teacher listens for correct answers to problems and proper vocabulary.</p> <p>2. Students listen for teacher's verification of their answers.</p>	<p>1. Teacher listens for students' answers and how they found them, with attention to students' vocabulary.</p> <p>2. Students listen for teachers' reactions to ensure they have an acceptable procedure.</p>	<p>1. Teacher listens for students' explanation of their answer and rationale, with attention to students' vocabulary.</p> <p>2. Students listen to others' explanations to consider if their ideas are similar.</p>	<p>1. Teacher listens for partial and complete understanding in students' explanations and connections, with attention to students' vocabulary.</p> <p>2. Students listen to others' explanations to make connections across math ideas.</p>
<b>Modes of communication</b>	<p>1. Teacher and students communicate in teacher-student-teacher patterns.</p> <p>2. Teacher favors the use of verbal or pictorial modes when teachers or students share procedures and answers.</p> <p>3. Teacher provides students with representations they need to use to solve a problem.</p> <p>4. Teacher favors students' use of academic language as "correct"; first or everyday language, if permitted, lacks math connections.</p>	<p>1. Teacher and students communicate in teacher-student-teacher-student patterns.</p> <p>2. Teacher makes verbal, pictorial, or written modes available as students communicate the answer and how they got it.</p> <p>3. Teacher accepts all representations as equally effective.</p> <p>4. Teacher allows students' use of academic, first, and everyday languages equally as modes to share answers and methods.</p>	<p>1. Teacher and students communicate in teacher-student-teacher-student or teacher-student 1-student 2-student 3 patterns.</p> <p>2. Teacher encourages use of multiple modes as students share an answer, how they got it, and why they used their approach.</p> <p>3. Teacher encourages students' use of various representations to convey math thinking.</p> <p>4. Teacher encourages students' use of academic, first, and everyday languages when appropriate to convey math meaning.</p>	<p>1. Teacher and students communicate with significant student-student patterns.</p> <p>2. Teacher requires use of multiple modes of communication as students share the answer, how they got it, why, and math connections.</p> <p>3. Teacher expects comparisons across representations to develop math understanding.</p> <p>4. Teacher expects use of academic, first, and everyday languages to develop math understanding.</p>