

MATHEMATICS INSTRUCTION
Word Problem Solving

Component	Item	3- Implemented	2 – Partially Implemented	1 – Not Implemented	Score	NOTES
Content/ Design of Instruction	1	The lesson consistently focuses on critical schema(ta) that will transfer/generalize to a range of examples.	The lesson inconsistently focuses on critical schema(ta) that will transfer/generalize to a range of examples.	The lesson does not focus on critical schema(ta) that will transfer/generalize to a range of examples.		
	2	The teacher guides students to use schematic diagrams to assist with identifying the schema and salient information.	The teacher provides some guidance to students for using schematic diagrams but more is needed.	The teacher does not guide students to use schematic diagrams.		
	3	The teacher presents a range of examples that support generalization of the schema.	The teacher presents a range of examples that somewhat support generalization of the schema.	The teacher does not present a range of examples that support generalization of the schema, OR the teacher presents examples that are not aligned to the schema creating confusion.		
	4	The teacher guides students to use a mnemonic, heuristic, or procedural strategy checklist to support the problem solving process as needed.	The teacher provides some guidance to use a mnemonic, heuristic, or procedural strategy checklist to support the problem solving process but more is needed.	The teacher does not guide students to use a mnemonic, heuristic, or procedural strategy checklist to support the problem solving process as needed, OR the support provided does not align with schema-based instruction.		
	5	The teacher presents one new schema in a lesson.		The teacher presents more than one new schema in the same lesson.		

Sequence of Instruction	6	The teacher introduces new problem schemas in story situations with no unknown quantities.			The teacher introduces new problem schema in story situations with unknown quantities.		
	7	Once students demonstrate understanding of schema, the teacher shifts instruction to solving processes (story situations now include an unknown quantity.)		The teacher shifts instruction to solving processes before verifying student understanding of schema.	The teacher includes both understanding of the schema and instruction in solving processes at the same time.		
	8	Once a new schema is mastered, the teacher contrasts it with previously learned schema(ta).			The teacher does not contrast mastered schema with schema(ta) that were previously learned.		
	9	The teacher introduces two-step word problems with previously mastered schemata.			The teacher introduces two-step word problems with schema that are not yet mastered by the students.		
Delivery of Instruction	10	The teacher clearly and sufficiently verbalizes and models reasoning for the schema and/or solution process.		The teacher verbalizes and models reasoning for the schema and/or solution process but not clearly and sufficiently.	The teacher does not verbalize and model reasoning for the schema and/or solution process.		
	11	The teacher engages students in making connections between schema, diagrams, meanings of operations, and procedures.		The teacher demonstrates connections between schema, diagrams, meanings of operations, and procedures but does not engage students, OR the connections are limited due to missed opportunities.	The teacher does not make connections between schema, diagrams, meanings of operations, and procedures.		
	12	The teacher effectively reviews or teaches key vocabulary and/or symbols.		The teacher reviews or teaches key vocabulary and/or symbols but not effectively, OR the teacher reviews or teaches some key	The teacher does not review or teach key vocabulary and/or symbols.		

			vocabulary and/or symbols.			
	13	The teacher consistently discusses mathematical ideas with language that is clear, accurate, and precise.	The teacher discusses mathematical ideas with language that is clear, accurate, and precise but not consistently.	The teacher does not discuss mathematical ideas with language that is clear, accurate, and precise.		
Student Engagement	14	The teacher provides students with sufficient opportunity to verbalize their understanding and/or reasoning.	The teacher provides students with limited opportunity to verbalize their understanding and/or reasoning.	The teacher does not ask students to verbalize their understanding and/or reasoning.		
	15	The teacher encourages students to use mathematical vocabulary and/or symbols throughout the lesson.	The teacher encourages students to use mathematical vocabulary and/or symbols but not consistently throughout the lesson.	The teacher does not encourage students to use mathematical vocabulary and/or symbols.		
	16	The teacher provides students with practice adequate to supporting the development of understanding of the schema or problem solving process.	The teacher provides students with practice somewhat adequate to supporting the development of understanding of the schema or problem solving process.	The teacher provides students with practice inadequate to supporting the development of understanding of the schema or problem solving process.		
Providing Feedback	17	Feedback is consistently linked to mathematical reasoning and schema.	Feedback is not consistently linked to mathematical reasoning and schema.	There is no feedback, OR feedback is not linked to mathematical reasoning and schema.		