

HOW TO WRITE ELD STANDARDS IN A MATH LESSON PLAN

How to Write ELD Standards in a Math Lesson Plan

IN AN INCREASINGLY DIVERSE EDUCATIONAL LANDSCAPE, INTEGRATING ENGLISH LANGUAGE DEVELOPMENT (ELD) STANDARDS INTO LESSON PLANS HAS BECOME ESSENTIAL, ESPECIALLY IN SUBJECTS LIKE MATHEMATICS. THIS IS CRUCIAL BECAUSE STUDENTS WHO ARE ENGLISH LANGUAGE LEARNERS (ELLs) OFTEN STRUGGLE NOT ONLY WITH LANGUAGE BUT ALSO WITH THE CONTENT OF MATH ITSELF. WRITING ELD STANDARDS INTO A MATH LESSON PLAN CAN BOOST COMPREHENSION, ENGAGEMENT, AND OVERALL ACADEMIC SUCCESS FOR ELL STUDENTS. THIS ARTICLE WILL GUIDE YOU THROUGH THE PROCESS OF EFFECTIVELY INCORPORATING ELD STANDARDS INTO A MATH LESSON PLAN.

UNDERSTANDING ELD STANDARDS

BEFORE WE DELVE INTO THE SPECIFICS OF WRITING ELD STANDARDS IN A MATH LESSON PLAN, IT IS ESSENTIAL TO UNDERSTAND WHAT ELD STANDARDS ARE AND WHY THEY ARE IMPORTANT. ELD STANDARDS PROVIDE A FRAMEWORK FOR TEACHING ENGLISH LANGUAGE LEARNERS. THEY FOCUS ON DEVELOPING STUDENTS' ENGLISH PROFICIENCY WHILE SIMULTANEOUSLY TEACHING ACADEMIC CONTENT.

WHY INTEGRATE ELD STANDARDS INTO MATH LESSONS?

THERE ARE SEVERAL COMPELLING REASONS TO INTEGRATE ELD STANDARDS INTO MATH LESSONS:

- LANGUAGE ACQUISITION: MATH HAS ITS OWN LANGUAGE, WHICH CAN BE CHALLENGING FOR ELLs. ELD STANDARDS HELP STUDENTS UNDERSTAND MATHEMATICAL VOCABULARY AND CONCEPTS.
- CONTENT MASTERY: BY FOCUSING ON ELD STANDARDS, EDUCATORS CAN HELP ELLs GRASP MATH CONCEPTS MORE EFFECTIVELY.
- EQUITY IN EDUCATION: ENSURING THAT ELLs CAN ACCESS THE SAME CURRICULUM AS THEIR PEERS PROMOTES EQUITY AND INCLUSIVITY IN THE CLASSROOM.
- ENHANCED COMMUNICATION SKILLS: ELD STANDARDS ENCOURAGE STUDENTS TO ARTICULATE THEIR MATHEMATICAL REASONING, IMPROVING BOTH THEIR LANGUAGE SKILLS AND THEIR UNDERSTANDING OF MATH.

STEPS TO WRITE ELD STANDARDS IN A MATH LESSON PLAN

INTEGRATING ELD STANDARDS INTO YOUR MATH LESSON PLAN INVOLVES SEVERAL KEY STEPS. FOLLOW THESE GUIDELINES TO ENSURE YOUR LESSON IS EFFECTIVE AND ACCESSIBLE FOR ELLs.

1. IDENTIFY THE MATH CONTENT STANDARDS

BEFORE INCORPORATING ELD STANDARDS, CLEARLY DEFINE THE MATHEMATICS CONTENT STANDARDS YOU INTEND TO TEACH. THIS CAN INCLUDE:

- NUMBER SENSE: UNDERSTANDING NUMBERS AND THEIR RELATIONSHIPS.
- ALGEBRAIC CONCEPTS: RECOGNIZING PATTERNS AND RELATIONSHIPS.
- GEOMETRY: UNDERSTANDING SHAPES, SPACE, AND MEASUREMENT.
- DATA ANALYSIS: COLLECTING AND INTERPRETING DATA.

MAKE SURE THE MATH CONTENT ALIGNS WITH YOUR DISTRICT OR STATE STANDARDS.

2. DETERMINE THE ELD STANDARDS

NEXT, IDENTIFY THE RELEVANT ELD STANDARDS THAT CORRESPOND TO THE MATH CONTENT. THE ELD STANDARDS SHOULD FOCUS ON:

- LISTENING: COMPREHENDING SPOKEN LANGUAGE IN MATHEMATICAL CONTEXTS.
- SPEAKING: ENGAGING IN DISCUSSIONS AND PRESENTING MATHEMATICAL IDEAS.
- READING: UNDERSTANDING WRITTEN MATHEMATICAL TEXTS.
- WRITING: EXPRESSING MATHEMATICAL REASONING IN WRITTEN FORM.

REFER TO YOUR STATE OR DISTRICT'S ELD FRAMEWORK TO FIND APPLICABLE STANDARDS.

3. CREATE LEARNING OBJECTIVES

FORMULATE CLEAR, MEASURABLE LEARNING OBJECTIVES THAT INTEGRATE BOTH MATH CONTENT AND ELD STANDARDS. THESE OBJECTIVES SHOULD SPECIFY WHAT STUDENTS WILL KNOW AND BE ABLE TO DO BY THE END OF THE LESSON.

FOR EXAMPLE:

- MATH OBJECTIVE: STUDENTS WILL BE ABLE TO SOLVE MULTI-STEP WORD PROBLEMS INVOLVING ADDITION AND SUBTRACTION.
- ELD OBJECTIVE: STUDENTS WILL USE MATHEMATICAL VOCABULARY TO EXPLAIN THEIR PROBLEM-SOLVING PROCESS IN A SMALL GROUP DISCUSSION.

4. DESIGN ENGAGING ACTIVITIES

SELECT OR CREATE ACTIVITIES THAT FACILITATE BOTH MATH LEARNING AND LANGUAGE DEVELOPMENT. CONSIDER THE FOLLOWING:

- COLLABORATIVE LEARNING: ARRANGE STUDENTS IN PAIRS OR SMALL GROUPS TO ENCOURAGE DISCUSSION AND COLLABORATION. THIS ALLOWS ELLS TO PRACTICE LANGUAGE SKILLS IN A SUPPORTIVE ENVIRONMENT.
- VISUAL SUPPORTS: USE DIAGRAMS, CHARTS, AND MANIPULATIVES TO PROVIDE VISUAL CONTEXT FOR MATHEMATICAL CONCEPTS. THIS CAN HELP ELLS BETTER UNDERSTAND AND COMMUNICATE THEIR IDEAS.
- SENTENCE FRAMES: PROVIDE SENTENCE STARTERS TO HELP STUDENTS ARTICULATE THEIR THOUGHTS. FOR EXAMPLE, "I THINK THE ANSWER IS ____ BECAUSE ____."

5. INCORPORATE FORMATIVE ASSESSMENTS

ASSESSMENT IS CRUCIAL FOR UNDERSTANDING STUDENT PROGRESS. USE FORMATIVE ASSESSMENTS TO GAUGE BOTH MATH UNDERSTANDING AND LANGUAGE PROFICIENCY. EXAMPLES INCLUDE:

- EXIT TICKETS: ASK STUDENTS TO WRITE A BRIEF SUMMARY OF WHAT THEY LEARNED AND ANY QUESTIONS THEY STILL HAVE.
- PEER REVIEWS: HAVE STUDENTS REVIEW EACH OTHER'S WORK AND PROVIDE FEEDBACK USING SPECIFIC LANGUAGE PROMPTS RELATED TO MATH VOCABULARY.
- OBSERVATION: MONITOR GROUP DISCUSSIONS, NOTING HOW WELL ELLS ARE USING LANGUAGE AND ENGAGING WITH THE CONTENT.

EXAMPLE OF A MATH LESSON PLAN WITH ELD STANDARDS

HERE IS A SAMPLE LESSON PLAN THAT INTEGRATES ELD STANDARDS INTO A MATH LESSON FOCUSED ON SOLVING WORD PROBLEMS.

LESSON TITLE: SOLVING MULTI-STEP WORD PROBLEMS

GRADE LEVEL: 4TH GRADE

DURATION: 60 MINUTES

STANDARDS:

- MATH CONTENT STANDARD: SOLVE MULTI-STEP WORD PROBLEMS INVOLVING ADDITION AND SUBTRACTION.
- ELD STANDARDS:
- LISTENING: UNDERSTAND INSTRUCTIONS AND QUESTIONS FROM THE TEACHER.
- SPEAKING: USE MATHEMATICAL LANGUAGE TO EXPLAIN PROBLEM-SOLVING STRATEGIES.
- READING: INTERPRET WORD PROBLEMS ACCURATELY.
- WRITING: WRITE EXPLANATIONS FOR PROBLEM-SOLVING STEPS.

LEARNING OBJECTIVES:

- STUDENTS WILL SOLVE MULTI-STEP WORD PROBLEMS INVOLVING ADDITION AND SUBTRACTION.
- STUDENTS WILL USE MATHEMATICAL VOCABULARY TO EXPLAIN THEIR THOUGHT PROCESS IN PAIRS.

MATERIALS NEEDED:

- WORD PROBLEM CARDS
- WHITEBOARD AND MARKERS
- SENTENCE FRAMES HANDOUT
- MANIPULATIVES (COUNTERS, NUMBER LINES)

ACTIVITIES:

1. INTRODUCTION (10 MINUTES):
 - DISCUSS KEY VOCABULARY RELATED TO WORD PROBLEMS (E.G., TOTAL, DIFFERENCE, HOW MANY MORE).
 - INTRODUCE THE CONCEPT OF MULTI-STEP PROBLEMS.
2. GUIDED PRACTICE (20 MINUTES):
 - DISTRIBUTE WORD PROBLEM CARDS.
 - IN PAIRS, STUDENTS READ AND DISCUSS THE PROBLEMS, USING SENTENCE FRAMES TO ARTICULATE THEIR THOUGHTS.
 - TEACHER CIRCULATES TO PROVIDE SUPPORT AND PROMPT DISCUSSIONS.
3. INDEPENDENT PRACTICE (20 MINUTES):
 - STUDENTS SOLVE ADDITIONAL WORD PROBLEMS INDIVIDUALLY, WRITING THEIR STEPS AND EXPLANATIONS.
 - ENCOURAGE THE USE OF VISUALS OR MANIPULATIVES AS NEEDED.
4. CLOSURE (10 MINUTES):
 - STUDENTS SHARE THEIR SOLUTIONS AND REASONING IN SMALL GROUPS.
 - COLLECT EXIT TICKETS SUMMARIZING WHAT THEY LEARNED AND ANY REMAINING QUESTIONS.

REFLECTION AND CONTINUOUS IMPROVEMENT

AFTER IMPLEMENTING THE LESSON, TAKE TIME TO REFLECT ON ITS EFFECTIVENESS. CONSIDER THE FOLLOWING QUESTIONS:

- WERE THE ELLS ABLE TO ENGAGE WITH THE MATH CONTENT?
- DID THE ACTIVITIES PROMOTE LANGUAGE DEVELOPMENT?
- HOW CAN YOU ADJUST THE LESSON FOR FUTURE CLASSES?

GATHER FEEDBACK FROM STUDENTS AND COLLEAGUES TO REFINE YOUR APPROACH CONTINUALLY. INCORPORATING ELD STANDARDS INTO MATH LESSON PLANS IS NOT A ONE-TIME TASK BUT AN ONGOING PROCESS THAT EVOLVES WITH YOUR TEACHING PRACTICE AND YOUR STUDENTS' NEEDS.

CONCLUSION

Writing ELD standards in a math lesson plan is a vital step toward creating an inclusive and effective learning environment for English language learners. By following the outlined steps, educators can enhance both math comprehension and language skills, ensuring that all students have equitable access to the curriculum. As you design your lesson plans, remember that the ultimate goal is to empower all students to succeed in mathematics while developing their English language proficiency.

FREQUENTLY ASKED QUESTIONS

WHAT ARE ELD STANDARDS AND WHY ARE THEY IMPORTANT IN A MATH LESSON PLAN?

ELD standards, or English Language Development standards, are guidelines that help educators support English language learners (ELLs) in developing their language skills. They are important in math lesson plans because they ensure that ELL students can access mathematical concepts while simultaneously improving their language proficiency.

HOW CAN I INTEGRATE ELD STANDARDS INTO MY EXISTING MATH LESSON PLAN?

You can integrate ELD standards by incorporating language objectives alongside content objectives. This can include using visuals, interactive activities, and collaborative group work that encourages language use in a math context.

WHAT ARE SOME EFFECTIVE STRATEGIES FOR TEACHING MATH VOCABULARY TO ELLS?

Effective strategies include using graphic organizers, visual aids, realia, and context clues. Additionally, provide opportunities for students to practice vocabulary through speaking and writing in meaningful contexts.

HOW CAN I ASSESS ELL STUDENTS' UNDERSTANDING OF MATH CONCEPTS WHILE CONSIDERING THEIR LANGUAGE PROFICIENCY?

Use formative assessments that focus on both content understanding and language use. This could include math journals, verbal explanations, or visual representations of their thinking, allowing ELLs to demonstrate their understanding in multiple ways.

WHAT ROLE DO COLLABORATIVE ACTIVITIES PLAY IN WRITING ELD STANDARDS IN MATH LESSON PLANS?

Collaborative activities promote language development as students engage in discussions and problem-solving together. They help ELLs practice using academic language in a supportive environment, enhancing both their math skills and language acquisition.

HOW CAN I MODIFY MATH PROBLEMS TO SUPPORT ELLS IN MY LESSON PLAN?

You can modify math problems by simplifying language, providing additional context, using visuals, and breaking down complex problems into smaller, manageable steps. This helps ELLs understand the task without being hindered by language barriers.

WHAT RESOURCES ARE AVAILABLE TO HELP TEACHERS WRITE ELD STANDARDS IN MATH LESSON PLANS?

RESOURCES INCLUDE STATE ELD FRAMEWORKS, PROFESSIONAL DEVELOPMENT WORKSHOPS, ONLINE TEACHING COMMUNITIES, AND EDUCATIONAL WEBSITES THAT PROVIDE EXAMPLES OF LESSON PLANS INCORPORATING ELD STANDARDS. ADDITIONALLY, COLLABORATING WITH ESL SPECIALISTS CAN PROVIDE VALUABLE INSIGHTS.

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