SASPA MATHS: FORMATIVE ASSESSMENT

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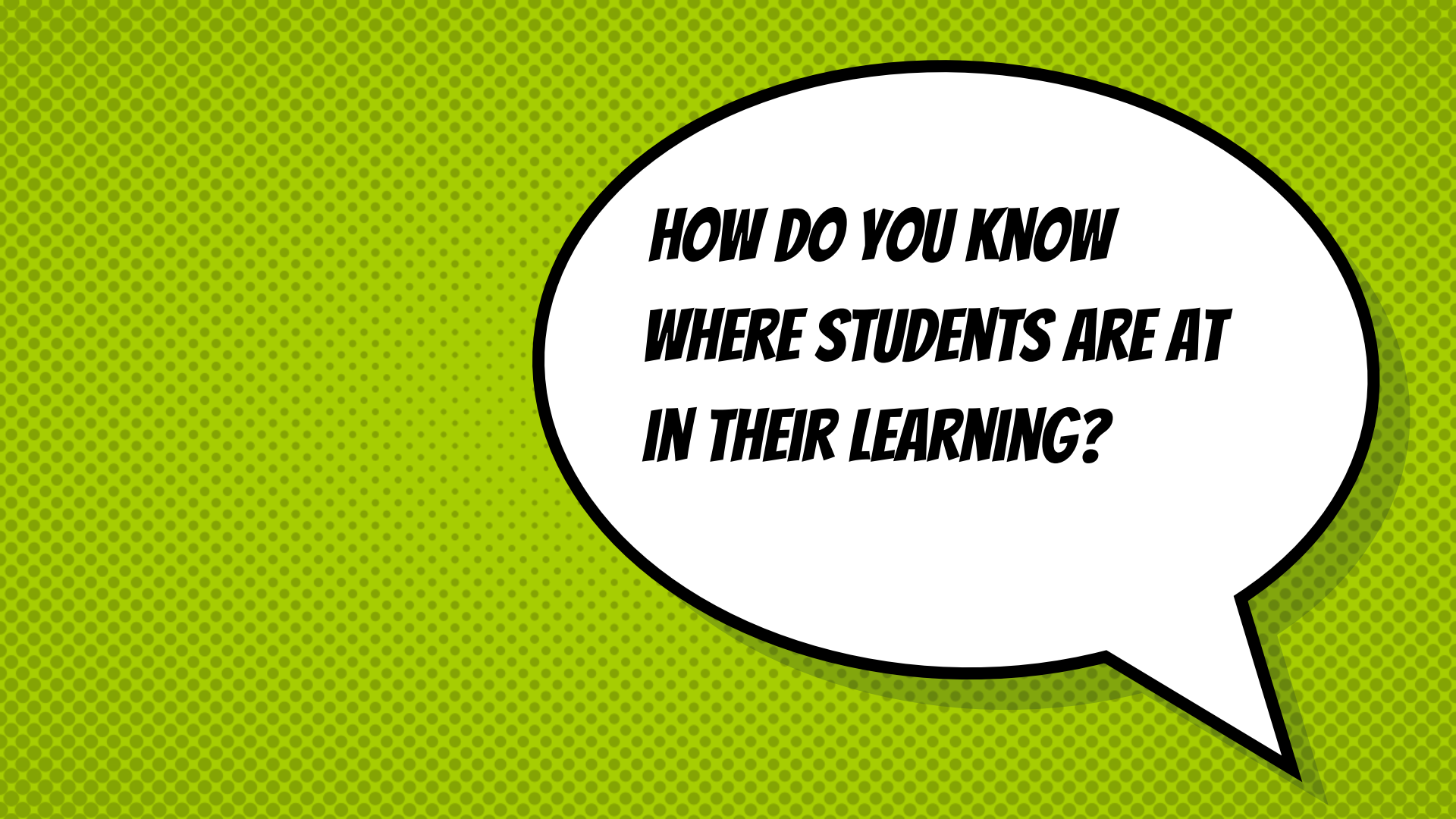
WHAT WILL WE COVER TODAY?

Improve teaching and learning

Focus on Formative Assessment

- Strategies in the classroom
- Leadership strategies

Week	Topic	AC content	AC Achievement	Book	Assessment
1.1					
1.2	Review and Financial Maths Integers, Decimals, Percentages, Rates	Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems (ACMNA208) Solve problems involving simple interest(ACMNA211)	Review Number skills from Y8 Students solve problems involving simple interest	1A 1B 1C	
1.3				1D 1E	
1.4				1F 1G	
1.5				1J	Test (15%) Calculators allowed No help notes
1.6	Linear Equations and Algebraic Expression	Sketch linear graphs using the coordinates of two points and solve linear equations (ACMNA215) Apply the distributive law to the expansion of algebraic expressions, including binomials, and collect like terms where appropriate (ACMNA213)	They expand binomial expressions.	2A 2B	
1.7				2E 2F	
1.8				8A	Test (15%) Calculators allowed No help notes


HOW DO YOU KNOW
WHERE STUDENTS ARE AT
IN THEIR LEARNING?

TEACHING STRATEGIES

MINI WHITE BOARDS

Mini White Boards

Why?

- Visible Learning
- Instant Feedback
- Engaging

1cm Grid Whiteboard - Class Kit (30)

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PEER FEEDBACK

How do you utilise this in your classroom? When do you provide feedback?

EXAMPLE #1

Briefly discuss what you observed in this class activity?


Thirty seconds...

EXAMPLE #2

What was different about this activity?

What teaching strategies were used?

Which feedback activity would you consider more effective?

FEEDBACK

- 264 low and high ability grade 6 students in 12 classes in 4 schools; analysis of 132 students at top and bottom of each class
- Same teaching, same aims, same teachers, same classwork
- Three kinds of feedback: grades, comments, grades+comments

	Achievement	Attitude
Grades	no gain	High scorers: positive Low scorers: negative
Comments	30% gain	High scorers: positive Low scorers: positive

	Achievement	Attitude
Grades	no gain	High scorers: positive Low scorers: negative
Comments	30% gain	High scorers: positive Low scorers: positive

What do you think happened for the students given both grades and comments?

A. Gain: 30%; Attitude: all positive
B. Gain: 30%; Attitude: high scorers positive, low scorers negative
C. Gain: 0%; Attitude: all positive
D. Gain: 0%; Attitude: high scorers positive, low scorers negative
E. Something else

QUESTIONING

QUESTIONING: GOOD PRACTICE

- Establishes where the students are in their learning
- Identifies the learning destination
- Carefully plans a route
- Begins the learning journey
- Makes regular checks on progress on the way
- Makes adjustments to the course as conditions dictate
- No hands up

COMMON ERRORS IN QUESTIONING

Asking

- too many questions at once
- a question and answering it yourself
- questions only of the brightest or most likeable
- a difficult question too early
- questions in a threatening way
- the same kind of questions all the time

Failing to

- correct wrong answers
- give students the time to think
- pay attention to answers see the implications of answers
- to build on answers

Questions as Feedback

Key idea: questioning should

- cause thinking
- provide data that informs teaching

Improving teacher questioning

- generating questions with colleagues
- low-order vs. high-order not closed vs. open
- appropriate wait-time

Alternatives to Questioning

Statement of mind

- X and Y seem contradictory. I don't see how you can believe in both

Statement of interest

- I'm interested in hearing a little more about X

Student referral

- Your views contradict the views of the last speaker

Student questions

- speaker question

  Can you express your confusion in the form of a question?

- class question

  Does anyone else have a question about what X has been saying?

- discussion question

  What kinds of questions should we be thinking about now

Signals

- phatics & fillers
- pass (to another speaker)

Silences

- Deliberate
- non-deliberate

Key idea: questioning should

- cause thinking
- provide data that informs teaching

Improving questioning

- generating questions with colleagues
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- appropriate wait-time

Getting away from Initiation-Response-Evaluation

- Soccer rather than tennis
- 'No hands up' (except to ask a question)
- 'Hot Seat' questioning

Which fraction is the smallest? a) $\frac{1}{6}$, b) $\frac{2}{3}$, c) $\frac{1}{3}$, d) $\frac{1}{2}$.

Success rate 88%

Which fraction is the largest? a) $\frac{4}{5}$, b) $\frac{3}{4}$, c) $\frac{5}{8}$, d) $\frac{7}{10}$.

Success rate 46%; 39% chose (b)

QUESTIONING

Directed Numbers	Measurement	Indices
−6 + 3 + (−7) = ?	Find the area of this shape	What is 2^5/2^2
What three numbers add together to −10?	Draw three shapes with an area of 12cm2	Provide a question that has a solution of 2 cubed.

LEADERSHIP STRATEGIES

WHAT ARE THE LEADERSHIP STRATEGIES?

Students as levers: Feedback

- What am I doing that is helping you learn?
- What can I do to improve and challenge your learning?
- Rate the effectiveness of the following in helping you learn?
- Any other advice for....?

WHAT ARE THE LEADERSHIP STRATEGIES?

PDA Processes

- Present the feedback from students (evidence)
- Focus on improvement
  a. What have they tried that is new?
  b. What risks have they taken?

WHAT ARE THE LEADERSHIP STRATEGIES?

Triangulation: Observations

- Staff identify what they would like observed
- Change in culture
- Not about accountability, about improvement

WHAT ARE THE LEADERSHIP STRATEGIES?

Structural / Timetable

- Keep students in the same classes through 8/9
- Consistent Staffing

OVER TO THE FACILITATORS!