

Hinge Point Questions

What are they?

They are simply a tool to help the teacher and learner know what the learner needs to do next.

Teachers can use questions to check on student understanding before continuing the lesson. We call this a "hinge point" in the lesson because the lesson can go in different directions, depending on student responses. By explicitly integrating these hinge points into instruction, teachers can make their teaching more responsive to their students' needs in real time.

They are often multiple choice questions (or at least these are easier to design) but can be more open ended in nature. But, either way the purpose of the question is to illicit what the learner understands.

- A hinge question is based on the important concept in a lesson that is critical for students to understand before you move on in the lesson.
- The question should fall about midway during the lesson.
- Every student must respond to the question within two minutes.
- You must be able to collect and interpret the responses from all students in 30 seconds
- You need to be clear on how many students you need to get the right answer in advance - 20-80% depending on how important the question is

Points to Remember:

Can't ask in a traditional way...hands up...doesn't engage students. Rather all students must be participating.

Some alternative ideas:

- ABCD cards (everyone must participate)
- Mini-whiteboard (everyone must have an answer...you hear everyone)
- Poll Everywhere (less risk, everyone answers)

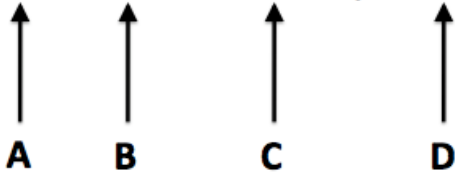
What makes a good hinge point question:

- Careful planning and time
- Multiple Choice ability

Examples of Hinge Point Questions:

Where is the verb in this sentence?

- A lion roared ferociously at me.



Which of these is alliteration?

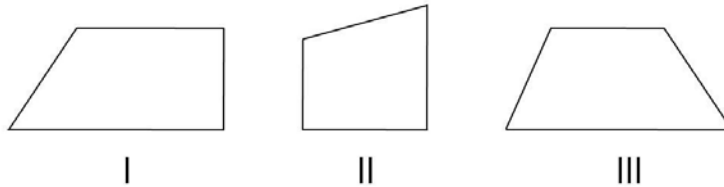
- A – the hot sun glared down
- B – sweetly smiling sunshine
- C – night fell suddenly
- D – the tree stooped in despair

A good hinge question needs a lot of careful planning but you will be *really* impressed with the results. There's no hiding with the mini white board there to expose every teensy misapprehension so that you can swoop, falcon-like, and restore the beautiful smile of understanding to even the most perennially confused student. (That was for all you English teachers! 😊)

Take a few minutes in pairs to rate the following five hinge point questions as 'Strong' (+), 'Average' (=), or 'Weak' (-) and be ready to justify your rating.

Hinge point question 1: Trapezia

The lesson is about the characteristics of trapezia. Responses are collected on mini whiteboards. The lesson continues either with most students working in pairs sorting pictures of trapezia on cards, or with the students who understand the characteristics pairing up with those who chose B or C, and the teacher working with those who chose A.



Which of the figures are trapeziums?

- (A) III
- (B) I, III
- (C) II, III
- (D) I, II, III

Hinge point question 2: Adverbs

The lesson is about the characteristics of adverbs with students learning to identify the adverb in a sentence. Responses are collected with ABCDE cards. The lesson continues either with students working in small groups writing simple sentences and underlining the adverbs, or with those students who chose the correct answers doing this, while the teacher works with those who answered incorrectly.

Identify the adverbs in these sentences:

The boy ran across the street quickly.

(A) (B) (C) (D) (E)

Jayne usually walked across the street in a leisurely fashion.

(A) (B) (C) (D) (E)

Fred ran the race well but unsuccessfully.

(A) (B) (C) (D) (E)

Hinge point question 3: Magnetic forces

The lesson is about magnetic forces with students learning to recognise the characteristics of objects attracted by magnets. Responses are collected using ABCD cards. The lesson will continue either with most students working in small groups to design an experiment to classify objects attracted to magnets or with those students who understand the characteristics of magnetic objects paired up with those who do not.

Which object can be picked up with a magnet?

- (A) An iron nail.
- (B) A copper wire.
- (C) A piece of wood.
- (D) A piece of glass.

Hinge point question 4: Condensation

The lesson deals with the condensation of vapours into liquids. Students are learning to understand the process of water vapour in the air condensing onto cooler surfaces.

Responses are collected using ABCD cards. The lesson continues, either with most students working in small groups to begin an experiment on condensation points and air temperature, or with those students who understand the process of water vapour condensation (B) doing the experiment while the teacher works with those who chose A, C, or D to discuss how to set up and carry out a simple experiment that would rule out their wrong answers.

Jill put a glass of ice water outside on a warm day. Droplets formed on the outside of the glass. What happened?

- (A) Air molecules around the cold glass condensed to form droplets of liquid.
- (B) Water vapour in the air near the cold glass condensed to form droplets of liquid water.
- (C) Water soaked through tiny holes in the glass to form droplets of water outside the glass.
- (D) The cold glass causes oxygen in the air to become water.

Hinge point question 5: Global warming

The lesson looks at the causes of global warming. Students are learning to understand that a major cause of global warming is thought to be the release into the atmosphere of carbon dioxide. Responses are collected using ABCD cards. The lesson continues, either with most students working in small groups to design an experiment to measure the effects on temperature of the build-up of CO_2 , or with those students who understand the connection between increased atmospheric CO_2 and global warming (C) pairing up with those who answered something else to read and discuss information on global warming on the internet.

Scientists believe that a major cause of global warming is:

- (A) decreasing average distance of the Earth from the Sun due to a slowing down of the Earth in its revolution around the Sun
- (B) decreasing concentration of stratospheric ozone due to so many CFCs being emitted into the air
- (C) increasing concentration of atmospheric CO_2 due to all the emissions from automobiles and factories
- (D) increasing concentration of atmospheric water vapour due to all the water being evaporated from the oceans, rivers, and lakes.

Some examples of hinge point questions

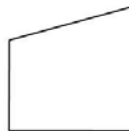
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Why questions matter

What matters? All of the above and more. Questions really do matter in learning.

Questions and curiosity

First, they stimulate curiosity. Almost all of my learning as an adult has this dynamic. Something intrigues me and I follow it up as I'm curious to find the answer. This is the great joy of having the internet as a resource. It has made this type of inquiry and research possible.

Questions and diagnosis

Good questions diagnose your strengths and weaknesses. You don't know what you don't know and questions uncover the often uncomfortable truth that you know less than you thought you know.

Questions and improvement

Questions and searching for answers are fundamental to the process of learning. Roger Schank has been using this approach in all sorts of contexts, and this truly structured Socratic approach, works well when used by a skilled practitioner.

Questions and motivation

To create the conditions for learning, as opposed to just delivering content, questions are the true stimulus.

Activity:

- Organize yourself into departments.
- Think of one lesson in a unit of study that you can work on together.
- Choose one important, critical topic within that lesson.
- Try to come up with one or two key hinge point questions to check for student understanding and decide what percentage of correct answers you would need before moving on.

Department:

Unit of Study:

Topic:

Hinge Point Question #1:

Hinge Point Question #2

Percentage Needed to Move on:

