

This concise resource is designed to support school teachers and leaders to utilise diagnostic assessment to support teaching.

What is diagnostic assessment?

Diagnostic assessments provide opportunities to reflect on pupils' thinking, strengths, and weaknesses. They can give useful insights into pupil learning, although interpreting the information they produce requires some level of professional judgement from teachers, as there are many reasons why pupils might answer a question in a certain way.

When used effectively, diagnostic assessments can indicate areas for development with individual pupils or across classes and year groups. Some methods can also help teachers isolate the specific misconceptions pupils might hold.

Regardless of what form they take, it is important that teachers know why they are conducting assessments prior to using them. It should be clear what information the assessment is being designed to produce, and how this information will inform subsequent decision making.

For example, it would be inappropriate for a diagnostic assessment to determine whether an individual pupil should receive a literacy or numeracy intervention, unless it had been designed and recognised for this purpose. In contrast, using a series of hinge questions to indicate how well a foundational concept has been learnt throughout a class may be useful for a teacher who is deciding whether to reteach content covered near the start of a term as they think some pupils may not have a good understanding.

With the information diagnostic assessments provide, teachers may:

- decide to adjust the level of challenge of activities
- reteach specific concepts or topics
- adjust curriculum content in the medium or long term
- provide pupils with feedback through which they can address their own areas for improvement
- decide which pupils may need additional, targeted academic support

Putting diagnostic assessment to work – Questions for reflection

1. What assessment tasks will give us the best diagnostic information about the prerequisite knowledge, skills and competencies we want our pupils to develop?
2. Are we clear about the kinds of choices we want information from our assessments to support, and are these choices that we actually can and do act on?
3. How will we best sequence assessments throughout the academic year?
4. When standardised assessments are used, are staff trained in how to interpret the outcomes of the assessment in order to plan the next steps in learning?
5. Are assessments used to diagnose issues at both an individual pupil level and at a cohort or class level?
6. Are assessments being used to inform judicious adaptations to the curriculum?
7. Are teachers confident and able to adapt the curriculum as a result of their diagnostic assessment e.g. take more curriculum time to reteach a concept?
8. Do teachers have the opportunity to work with colleagues to identify efficient approaches to assessment?
9. How are pupils being selected to receive additional support e.g. tutoring? Is reliable data being used to inform those judgements?
10. Is any additional support as a result of diagnostic assessment closely aligned with the curriculum so that that intervention itself may hamper subsequent pupil progress?

Examples of diagnostic assessments to support teaching

Diagnostic assessment	Purpose	Practicalities
<p>Hinge questions</p> 	<p>Hinge questions provide an immediate, often informal check of the initial understanding of every pupil in a class. While not necessarily an indicator of secure learning, they can inform the teacher if pupils have understood what has been taught and, when carefully designed, can identify misunderstandings and misconceptions.</p>	<p>Hinge questions are often multiple choice and are most effective when the ‘wrong’ answers are based around common misconceptions, which may require teacher training or opportunities for collaboration. A whole-class misunderstanding would lead to immediate re-teaching, which is likely to work best when done in a way which is different to the initial instruction. Individual misconceptions can be rectified in-the-moment, or may require more significant academic support. Whole-class success can lead to rich discussions, such as: “What mistake might a pupil have made if they had chosen Answer A?”.</p>
<p>Quizzing</p> 	<p>Having decided through curriculum planning the key concepts we expect pupils to learn, low-stakes quizzes provide a quick way of checking understanding of these and identifying areas needing development.</p>	<p>Quizzes can take many forms: short-answer written tasks, retrieval activities, or targeted verbal questions. Teachers can use the information from quizzes to fill gaps in understanding which are likely to hold pupils back when attempting more complex tasks.</p> <p>A history teacher might quiz pupils on their understanding of the reasons behind the rise of fascism in 1930s Europe before expecting an extended piece of writing on the causes of the World War 2. This might be done via retrieval quizzes carried out regularly at the start of a lesson, followed by re-teaching, then the specific targeting of verbal questions. It is more likely that issues can be specifically diagnosed and addressed during these low-stakes quizzes than during the written marking of a long-form writing task.</p>
<p>Reading fluency scale</p> 	<p>Scales and rubrics can offer a framework to help measure pupils’ level of achievement in areas such as reading fluency. By monitoring fluency levels, teachers can gauge pupil progress as well as the effectiveness of their teaching of reading fluency.</p>	<p>Teachers are likely to require training to understand the essential role of fluency in developing reading comprehension. Teachers seeking to diagnose reading ability may use fluency scales as part of a range of diagnostic assessments to address reading ability and progress.</p> <p>Tools, such as Professor Tim Raskinski’s ‘Multi-dimensional Fluency Scale’, offer quick and manageable diagnostic assessment that teachers can use and record in minutes. This scale is typically used with younger readers; however, it can be used with secondary school pupils who are struggling with reading. Teachers can alter their instruction, such as focusing on approaches to reading aloud, or working with an individual, or a small group, to practise different dimensions of fluency.</p>
<p>Pre-topic ‘mind map’</p> 	<p>Effective diagnostic assessment often comes before a teaching sequence with the purpose of ascertaining pupils’ prior knowledge.</p> <p>Mind maps (sometimes called ‘concept maps’) are used to assess the prior knowledge and understanding of pupils and their readiness to study new material. They can also be used to highlight connections and to organise or categorise ideas and concepts.</p>	<p>A mind map can take many formats, including free recall of ideas and concepts on a blank piece of paper.</p> <p>For younger pupils, those less experienced in using these techniques, or if a teacher is looking to assess specific ideas, a more structured approach can be used: a partially completed mind map or a pre-specified format with clear parameters can help to target pupils’ thinking and can be more useful as a diagnostic tool.</p>

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