Education Endowment Foundation

USING DIGITAL TECHNOLOGY TO IMPROVE LEARNING

Summary of recommendations

1

Consider how technology will improve teaching and learning before introducing it

- New technology can often appear exciting. However, it can become a solution in search of a problem unless it is introduced in response to an identified need. It is often useful to link the introduction of new technology to wider planning, for example, a review of assessment policy.
- Schools should consider the pedagogical rationale for how technology will improve learning. The principles of how to use technology successfully are not distinct from questions of how to teach effectively or how children learn.
- Without a clear plan for support and implementation, technology is much less likely to have an impact. This includes considering what initial training will be needed, what time and resources are required, and what ongoing support should be available.
- Decisions about whether to introduce technology should also include an analysis of the costs of implementing the technology, alongside the expected benefits. This should include both the upfront costs and any ongoing requirements.

2

Technology can be used to improve the quality of explanations and modelling

- Technology has the potential to help teachers explain and model new concepts and ideas. However, how explanations and models are conveyed is less important than their clarity, relevance and accessibility to pupils.
- Introducing a new form of technology will not automatically change the way teachers teach. The introduction of interactive whiteboards provides an example that highlights the need to consider the pedagogical rationale for adopting a form of technology, and for carefully planning the training required to enable teachers to use it effectively.
- Technology can help teachers model in new ways and provide opportunities to highlight how experts think as well as what they do, but may be most effective when used as a supplement rather than a substitute for other forms of modelling.

3

Technology offers ways to improve the impact of pupil practice

- Technology has the potential to increase the quality and quantity of practice that pupils undertake, both inside and outside of the classroom.
- Technology can be engaging and motivating for pupils. However, the relationship between technology, motivation and achievement is complex. Monitoring how technology is being used, including by checking that all learners have the skills they need to use it effectively, is likely to reduce the risk that technology becomes a tool that widens the gap between successful learners and their peers.
- Some forms of technology can also enable teachers to adapt practice effectively, for example by increasing the challenge of questions as pupils succeed or by providing new contexts in which students are required to apply new skills.
- Using technology to support retrieval practice and self-quizzing can increase retention of key ideas and knowledge.

4

Technology can play a role in improving assessment and feedback

- Technology has the potential to improve assessment and feedback, which are crucial elements of effective teaching. However, how teachers use information from assessments, and how pupils act on feedback, matter more than the way in which it is collected and delivered.
- Using technology can increase the accuracy of assessment, and the speed with which assessment information is collected, with the potential to inform teachers' decision-making and reduce workload.
- Technology can be used to provide feedback directly to pupils via programmes or interventions, but in all cases careful implementation and monitoring are necessary. Feedback via technology is likely to be most beneficial if it supplements, but is aligned to, other forms of feedback.