Evidence-based assessment of digital learning

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Evidence-based digital learning

- US Department of Education 2009 meta-study compared online and face to face teaching
- On average, students in online learning conditions performed better than those receiving face-to-face instruction (effect size 0.2)
- Bigger effect where online instruction was collaborative or instructor-guided compared to where students worked independently
- Giving learners control through active learning, reflection and self-monitoring is effective
- Few studies of K-12 education

What doesn’t work

Instructional videos alone

Online quizzes (generally no more effective than setting homework)

“Inclusion of more media in an online application does not appear to enhance learning” (Means, 2009)
What works

Personalised learning
- Mastery learning works (Kulik et al., effect size 0.5)
- Best when students are grouped, and can discuss

Collaborative learning
- Collaborative learning works (Hattie, 2018, effect size 0.5)
- Best when students have shared goals, know when and how to contribute, share rewards, and reflect on progress

Feedback for learning
- Immediate feedback works well (Hattie, 2018, effect size 0.7)

Visible learning
- Supporting students to reflect on their learning works
- Goal setting and visible progress works (Hattie, 2018, effect size 0.5)
Effective Online Assessment

- Support students to set personal goals
- Set regular assignments and provide rapid feedback
- Show students progress towards their goals
- Set assessed small-group activities
- Help students to regulate their learning (e.g. study time, self-evaluation)
**Assessment Planner**

From ‘How to Teach Online’ (free FutureLearn course)  
https://www.futurelearn.com/courses/teach-online

- What is the purpose of the assessment?  
  Informal, formative, summative, formal

- What do students need to demonstrate?  
  Retention, comprehension, application, reflection, creativity

- Where does the assessment fit into the learning?  

- What is the impact of the assessment on students and carers?  
  Accessibility, technology, familiarity with assessment method, preparation time

- How do you grade?  
  Criteria, feedback to students, use of results

How will the results be used when schools re-open?