INDIVIDUALISED INSTRUCTION

COST	EVIDENCE	IMPACT	EFFECT
		+4	0.27

Moderate impact for very low cost based on limited evidence.

WHAT IS IT?

Individualised instruction involves providing different tasks for each learner and support at the individual level. It is based on the idea that all learners have different needs, and that therefore an approach that is personally tailored — particularly in terms of the activities that pupils undertake and the pace at which they progress through the curriculum — will be more effective.

Various models of individualised instruction have been researched over the years in education, particularly in subjects like mathematics where pupils can have individual sets of activities which they complete, often largely independently. More recently, digital technologies have been employed to facilitate individual activities and feedback.

KEY FINDINGS

1. Individualised instruction can be an effective approach to increasing pupil attainment. It can, however, be a challenging approach to implement given the increased requirements on the teacher to organise and monitor individual activities.

2. Studies of Individualised instruction with older pupils of secondary age tend to show higher effects. It may be that the impact is increased when pupils are more skilled at managing their own learning.

3. There is evidence that digital technology can be used effectively to provide individualised instruction. Many of these studies use digital technology alongside small group tuition, with teachers providing targeted instruction to the pupils that are not engaging with the technology.

4. Small group learning might be another promising approach to meeting differing learner needs without reducing the total amount of teaching time that pupils receive.

HOW EFFECTIVE IS THE APPROACH?

On average, individualised instruction approaches have an impact of 4 months' additional progress.

Behind this average, there is a large amount of variation. Some of this may be explained by the challenges of implementing the approach effectively, without diminishing engaged learning time. For classroom-based approaches, it appears that the role of the teacher may become more managerial, with the increased need for organising and monitoring learning activities leaving less time for high quality pedagogical interaction. Because of this, individualised instruction may be better used as a supplement to usual class teaching, rather than a replacement.

Some recent studies have used digital technology with diagnostic assessment and feedback to individualise instruction, and positive impacts on average. For example, technology may enable more immediate feedback on the individualised tasks (for more detail on the impact of feedback see here).

A small number of studies have examined including peer feedback as part of individualised instruction. The results in these studies are positive, on average.

Arab World Research

Evidence from the Arab World shows that individualized instruction is a promising strategy for meeting students' needs and improving their learning. Studies in Saudi Arabia, United Arab Emirates, Jordan, Algeria, and Oman reported that when teachers differentiated their instruction and designed learning tasks based on the individual students differences, their achievement, engagement in their learning, and self-confidence improved.

Researchers have highlighted some potential barriers for teachers to use individualized instruction as a teaching approach in their classroom. Examples include lack of teacher training, large classroom size, and lack of educational equipment and instruments are among the main obstacles.

To date, research in individualized instruction is limited in this region despite the few reported benefits. More research is needed in this area, especially to collect data regarding the reality of the perception and use of teachers of the differentiated teaching strategy. Furthermore, longitudinal studies are needed to investigate the long-term impact of online platforms used for individualized instruction on students motivation, engagement, and performance. More future research should be conducted

over a larger sample size in order to validate the findings.

BEHIND THE AVERAGE

Studies in secondary schools show higher effects (+4 months) than primary schools (+3 months). This may indicate that a level of independence and established self-regulation strategies are beneficial for individualised instruction to be effective.

Effects tend to be higher in science (+4 months) than mathematics or reading (+3 months).

A number of studies indicate that teaching assistants can support individualised approaches effectively.

Approaches using digital technology to individualise instruction show that they are as effective as those without technology.

Studies have been undertaken in 12 countries around the world with broadly similar effects.

CLOSING THE DISADVANTAGE GAP

Disadvantaged pupils may be more likely to be affected by higher school absence rates and lower attainment, on average, when compared to their more advantaged peers. This means disadvantaged pupils may be more likely to progress through school with gaps in their understanding, which will affect how quickly and easily they can acquire and connect new learning.

For pupils identified as having low prior attainment or at risk of falling behind, individualised instruction may allow the teacher to provide activities that are closely matched to a pupil’s attainment. Provided they have the skills to manage their learning independently, this can support pupils to consolidate their learning and practice skills or develop mastery before progressing to the next stage of the curriculum. More targeted assessment and feedback may also support pupils to address misconceptions or overcome specific barriers to learning.

HOW COULD YOU IMPLEMENT IN YOUR SETTING?

Individualised instruction aims to improve outcomes through providing targeted support to learners. In order to ensure that the approach is effective, schools should

consider how they will provide:

- Accurate assessments of pupil learning gaps and needs.
- Activities that are closely matched to pupil's level of knowledge, understanding or skills.
- Individualised feedback either from teachers or peers.

In some studies, these elements have been provided through digital technology – for example, through intelligent tutoring systems that provide responsive feedback and assessment.

Individualised instruction interventions can be delivered through a range of models including independent learning, classroom-based activities supported by a teacher or teaching assistant and the use of digital technologies which have been developed to support individual activities with assessment and feedback.

School leaders should consider how best to monitor approaches to ensure individualised instruction is implemented effectively. Ensuring individualised instruction activities are used to supplement (and not replace) high-quality teacher interaction is important. School leaders may also consider small group approaches to provide learners with effective practice, monitored and supported by a teaching assistant.

When introducing new approaches, schools should consider implementation. For more information see **Putting Evidence to Work – A School's Guide to Implementation.**

WHAT DOES IT COST?

The average cost of individualised instruction is very low. The costs to schools are largely based on teacher professional development, training and the cost associated with digital resources and software for individualised approaches.

Adopting individualised instruction will also require a small amount of additional staff time compared with other approaches as interventions are largely delivered during lesson time.

HOW SECURE IS THE EVIDENCE?

The security of the evidence around Individualised Instruction is rated as limited. 198 studies were identified that meet the inclusion criteria for the Toolkit. Overall, the topic

lost three additional padlocks because:

- Only a small percentage of studies have taken place recently. This might mean that the research is not representative of current practice.
- A large percentage of the studies were also not independently evaluated. Evaluations conducted by organisations connected with the approach – for example, commercial providers, typically have larger effects, which may influence the overall impact.
- There is a large amount of unexplained variation between the results included in the topic. All reviews contain some variation in results, which is why it is important to look behind the average. Unexplained variation (or heterogeneity) reduces our certainty in the results in ways that we have been unable to test by looking at how context, methodology or approach is influencing impact.

As with any evidence review, the Toolkit summarises the average impact of approaches when researched in academic studies. It is important to consider your context and apply your professional judgement when implementing an approach in your setting.

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