

**IB DP Psychology**  
**Higher level**  
**Paper 3 – resource booklet**

The sources in this examination have been collated to assess the claim that the integration of technology into learning environments improves academic outcomes for students.

**Source 2**

A study was conducted to investigate whether the use of technology-enhanced learning tools improves academic performance compared with traditional teaching methods. 163 students aged 15–16 at two secondary schools were assigned to one of two conditions: a technology-enhanced condition (using interactive simulations, online quizzes, and video-based instruction alongside classroom teaching) or a traditional condition (classroom teaching with textbooks and written exercises only).

Academic performance was measured using a standardised end-of-unit assessment scored from 0 to 100.

**Table 1** shows the mean scores and standard deviations for each condition.

**Table 1: Mean and standard deviation academic performance scores by learning condition**

<b>Condition</b>	<b>Mean score</b>	<b>Standard deviation</b>
Technology-enhanced	68.4	12.3
Traditional	61.7	14.1

### Source 3

A researcher conducted semi-structured interviews with students to explore how technology-enhanced learning may affect engagement and understanding. 20 participants aged 15–17, drawn from three schools that had introduced interactive learning platforms, took part in the study.

Thematic analysis identified the following themes:

- Participants described interactive simulations and visual tools as helping them grasp abstract concepts they had struggled with when using textbooks
- Some reported that online quizzes with immediate feedback exposed gaps in their knowledge and motivated them to revisit topics
- Many found technology distracting, particularly notifications from social media and messaging apps on personal devices
- Several felt overwhelmed by the sheer volume of digital resources and struggled to distinguish essential from supplementary content

## Source 4

A quantitative study investigated whether the effect of technology-enhanced learning on academic performance differs depending on the type of subject studied. Participants were 220 students aged 14–16 who had used a technology-enhanced learning platform for one academic term. Students were studying either a science subject (biology or chemistry) or a humanities subject (history or geography).

Academic performance was measured using standardised end-of-term assessments scored from 0 to 100. Mean scores and standard deviations were calculated for each subject type, comparing students who used the technology platform with those who did not. The findings are shown in **Table 2**.

**Table 2: Mean academic performance scores by subject type and technology use**

Subject type	Technology users (mean)	Technology users (SD)	Non-users (mean)	Non-users (SD)
Science	72.1	10.8	63.4	13.2
Humanities	65.3	11.9	62.8	12.5

## Source 5

A study investigated whether the interactivity level of technology tools affects academic performance. 170 students aged 15–17 from five secondary schools were rated on the interactivity of their primary technology tool using a 1–10 scale.

- Level 1: Entirely passive tools, such as watching pre-recorded lectures
- Level 5: Moderately interactive tools, such as online quizzes with feedback
- Level 10: Highly interactive tools, such as simulations with real-time feedback and variable manipulation

Academic performance was measured using a standardised assessment scored from 0–100.

**Figure 2** shows the mean examination score at each interactivity level.

**Figure 2: Mean examination scores by interactivity level of technology tools used**

