

Do iPads Enhance Classroom Engagement?

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Executive Summary

In the 2015 – 2016 academic year, all level 5 and 6 Faculty of Science & Technology students received an iPad Air (1st Generation). The aim of this project was to examine the use of these mobile learning devices to aid class engagement. A cohort of Level 5 students in the Health Behaviour module was examined during two lectures, using a low technology (pen and paper) vs. high technology (iPad app) feedback method.

Whilst the initial hypothesis anticipated that class engagement would be higher when using the iPad, results suggest little difference in students' engagement between low technology and high technology sessions.

Aims and Objectives

- To examine class engagement using mobile learning devices, mainly on the iPads provided.
- The objectives of this work were to;
 - To compare and quantify the level of engagement between high vs. low tech usage, *and*
 - To determine the benefits of providing iPads for undergraduates for their studies, *and*
 - To highlight any foreseeable problems.

Methods

Students from the Health Behaviour module (Level 5) were used as participants due to the high number of students' cohort and accessibility. A set of 11 formative questions was delivered throughout 2 scheduled lectures (3 hours, separated by 28 days); with students' completion of these used as a proxy of engagement. Students remained anonymous with no personal details being collected. Procedures were standardised in both lectures using same lecturer, students, classroom and questions. Data were collected in a high technology session (use of 'i-nigma' app and QR codes) vs. low technology session (paper and pen) with questions verbally asked by the supervising academic. Total number of students was also counted manually for both sessions at the beginning of lecture, before a half-time break, after break and just before the lecture finishes. Google Forms, Excel and GraphPad were used to facilitate the data analysis.

Results

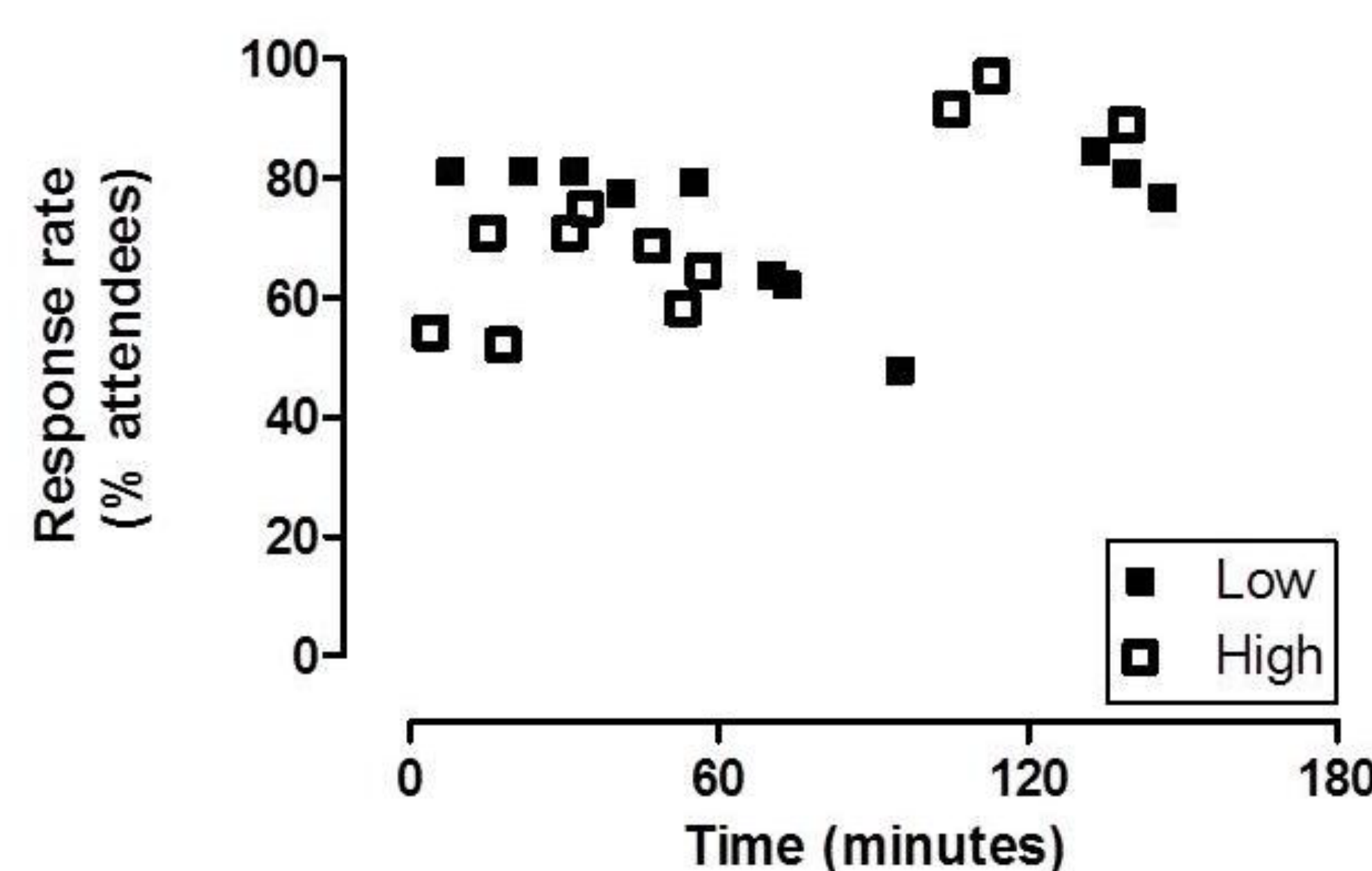


Figure 1: Relative response rate (%) to individual questions during low and high technology sessions

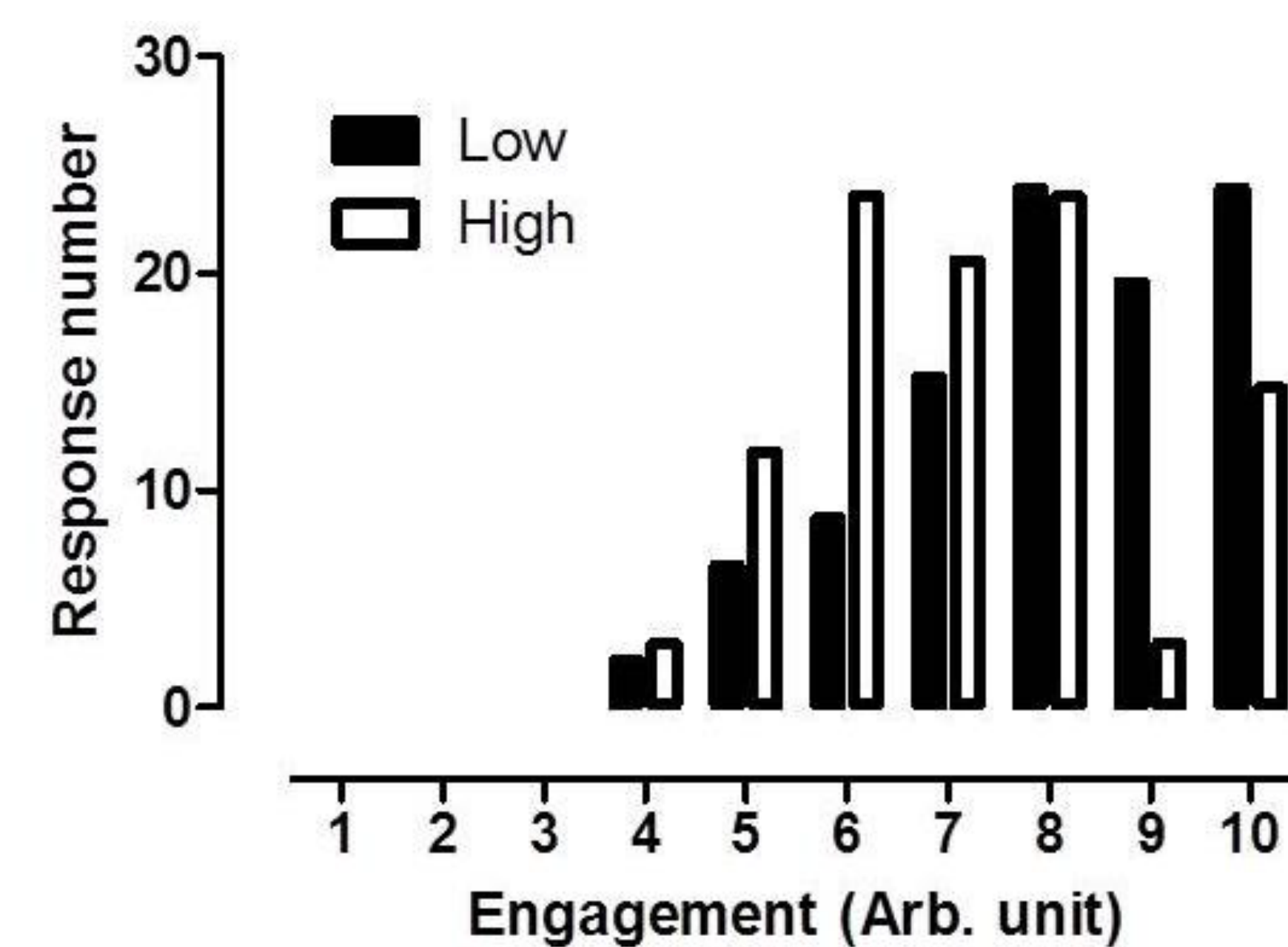


Figure 2: Absolute self-reported engagement between low and high technology sessions.

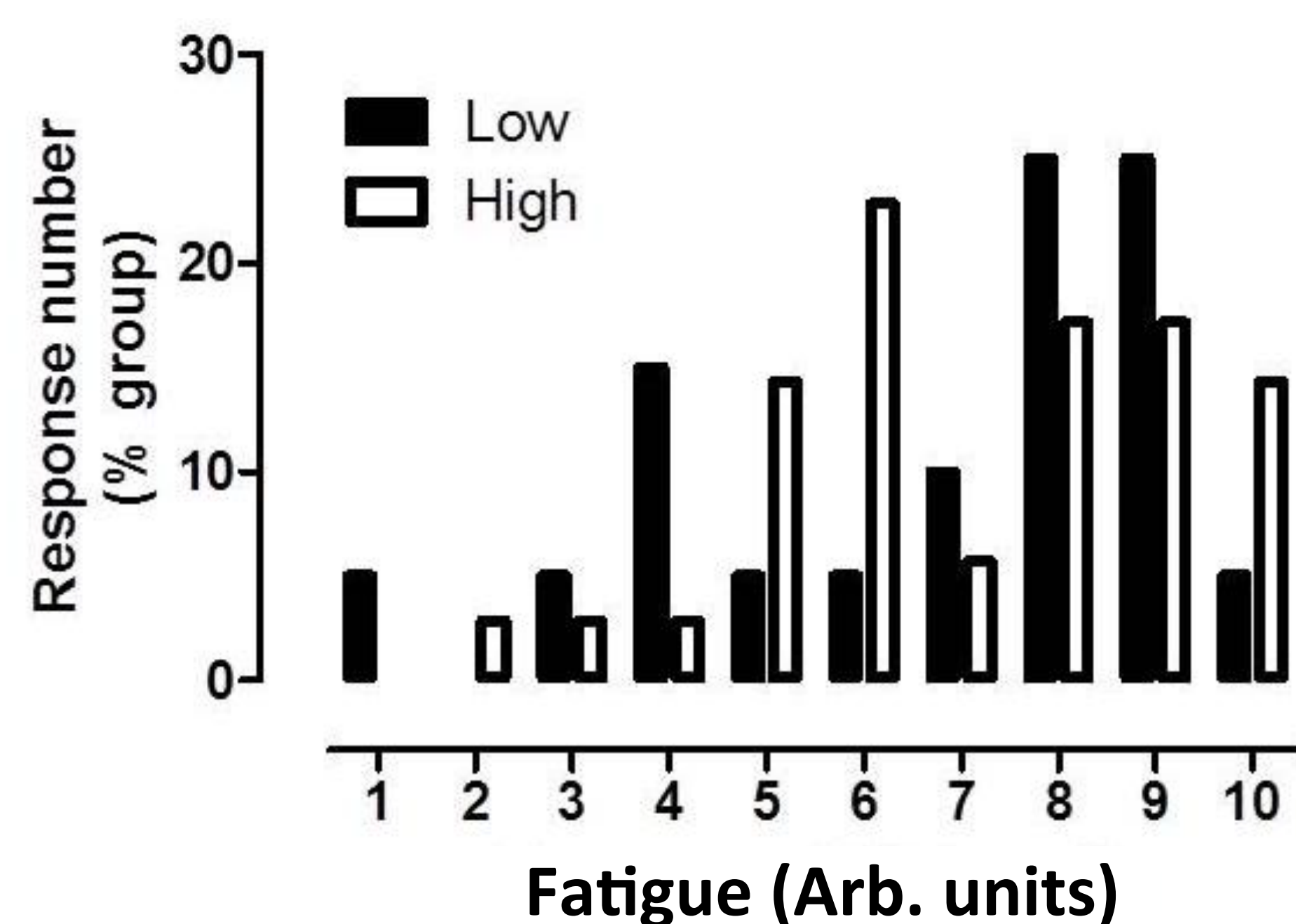


Figure 3: Class fatigue score using the relative % response comparing the low and high technology lectures.

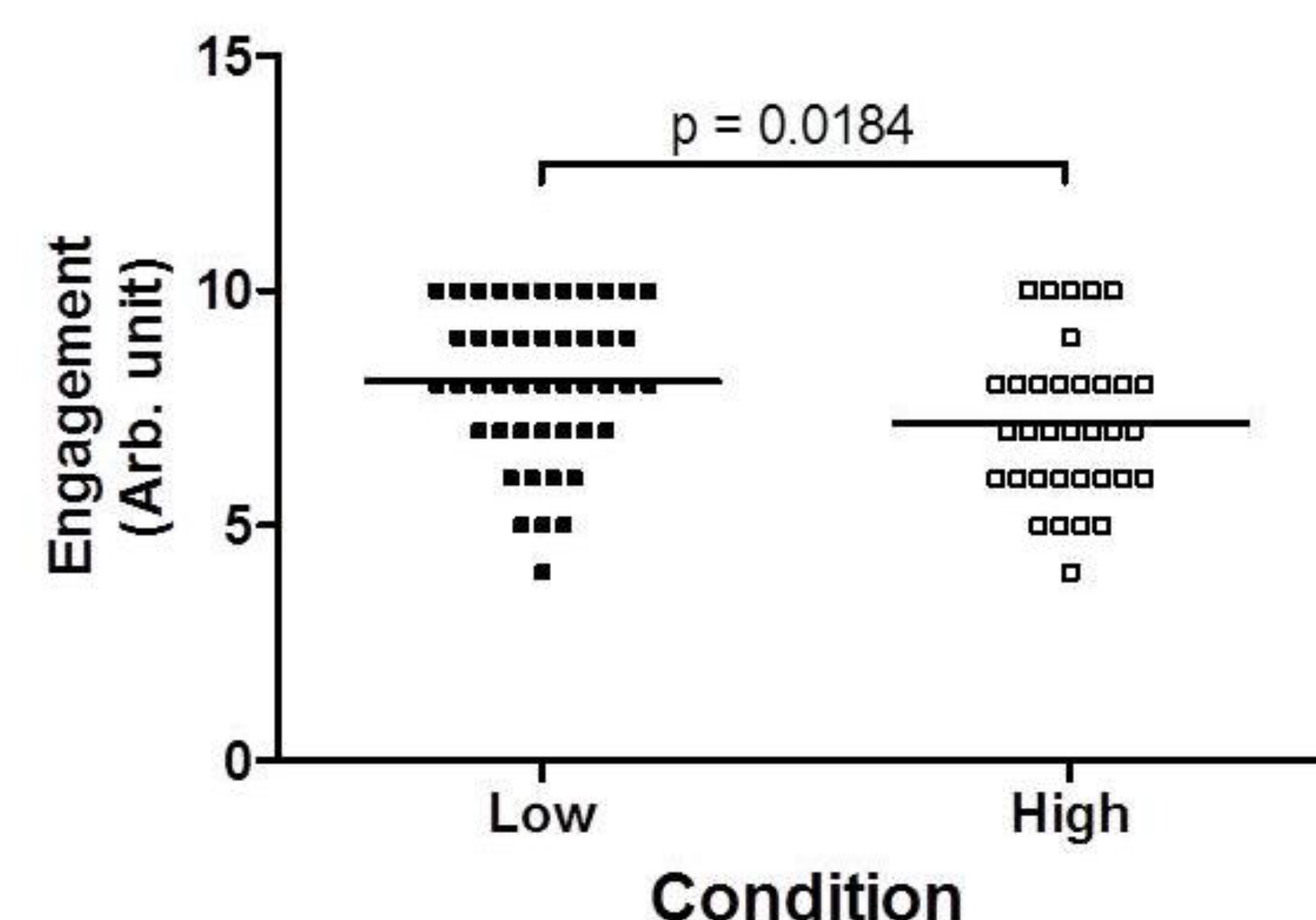


Figure 4: Self reported engagement by individual of low and high technology lectures.

Discussion

Data collected did not provide a strong evidence to supporting the initial hypothesis, that iPads would aid class engagement. There was a reduction in our proxy measures of engagement when the high technology methods were used (Figures 2, 4). Response rate increased during the high technology session, whilst decreasing during the low technology session (Figure 1). This research reflects that there are many potential benefits in using mobile learning devices more to help enhance students' engagement, as well as pitfalls that must be managed.

Recommendations

Further research is needed in other modules, level of studies and degree pathways, with larger sample size to compare results. Continuous monitoring on the usage of class engagement between low and high technology methods of teaching is highly recommended throughout the academic year to see changes. More training opportunities and continuous supports to academics especially, would also be beneficial to help improve their knowledge and skills. The ability to access class attendance via the use of Student Engagement Attendance monitoring system comparing to class engagement is also recommended.

References:

For full report on this research, please scan the QR code or visit: <http://ipadengagementproject.blogspot.co.uk/>

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