

## Smartphones within the Academia: Viewpoints and Perceptions on Both Sides of the Barricade (Short Paper)

**Yaron Ariel**  
Yezreel Valley College  
[yarona@yvc.ac.il](mailto:yarona@yvc.ac.il)

**Vered Elishar-Malka**  
Yezreel Valley College  
[veredm@yvc.ac.il](mailto:veredm@yvc.ac.il)

### סמארטפונים באקדמיה: עמדות ותפיסות משני עברי המתרס (מאמר קצר)

**ורד אלישר-מלכה**  
המכללה האקדמית עמק יזרעאל  
[veredm@yvc.ac.il](mailto:veredm@yvc.ac.il)

**ירון אריאל**  
המכללה האקדמית עמק יזרעאל  
[yarona@yvc.ac.il](mailto:yarona@yvc.ac.il) Email

#### Abstract

This study examined the viewpoints of lecturers and students regarding the roles of smartphones in the classroom: how legitimate is it to use them in class, and in what ways? Does the usage of smartphones impair in-class learning processes, and if it does, can we tie specific uses with specific disruptions to the class? Conversely, could it be that using smartphones in class might benefit learning processes? Our inspection sought to uncover the possible existence and nature of attitudinal gaps between students and lecturers by comparing viewpoints and perceptions from both sides of the lectern. The study was conducted among lectures (n=236) and undergraduate students (n=336) from seven academic institutions in Israel. Respondents answered an online questionnaire that included questions about their smartphone usage patterns, perceptions regarding the legitimacy of using smartphones in class, and assessments concerning the smartphone's potential contribution to and disruption of learning processes in the classroom.

**Keywords:** Smartphones, students, lecturers, learning processes, attitudinal gaps.

#### Theoretical background

Recent years have seen a steady growth in the volume of research devoted to the integration of smartphones into the academic learning environment (Campbell, 2013). This study sought to examine lecturers and students uses and perceptions of smartphones within the academic classroom.

*Proceedings of the 14th Chais Conference for the Study of Innovation and Learning Technologies:  
Learning in the Technological Era*

Y. Eshet-Alkalai, I. Blau, A. Caspi, N. Geri, Y. Kalman, S. Etgar (Eds.), Raanana: The Open University of Israel

## Smartphone usage

The nature of teaching in academic institutions requires lecturers to extensively use digital technologies in their interactions with students and the academic system. Nevertheless, Ritzhaupt et al., (2013) have identified a digital divide between students and lecturers based on (a) unequal access, (b) frequency of using technology within the classroom and (c) knowledge about how to implement information and communication. Studies have acknowledged the potential of smartphones for long-distance learning (Traxler, 2009), collaborative learning (Corbeil & Valdes-Corbeil, 2007), and encouraging content creation (Hartnell-Young & Vetere, 2008). Kukulska-Hulme (2010) maintains that students are active in technology-based social support network to improve their academic performance. These networks are almost invisible to the lecturers. However, they have a high impact on the students' academic lives.

H1: There would be a difference in the frequencies of smartphone usages between students and lecturers.

H2: There would be a difference in the legitimacy accorded to the use of smartphones during class between students and lecturers.

H3: There would be a difference in the estimated contribution made by the smartphone to in-class learning between students and lecturers.

## Methodology

A questionnaire was developed to address: (a) background information; (b) smartphone usage patterns; (c) assessing the legitimacy of performing various actions on a smartphone during class; (d) perceptions of the possible contribution (harmful or beneficial) of the smartphone-equipped environment to classroom. The questionnaire was sent to large academic institutions in Israel via institutional email accounts of lecturers and undergraduate students. Data from 336 students and 236 lecturers were collected over two weeks.

## Results

### *Smartphone usage patterns*

The most frequent actions among lecturers were: online social networks, music listening, and watching videos. The most frequent actions among students were: surfing the web, texting, and using online social networks. An index of smartphone usage was created (Cronbach's  $\alpha = .86$  for students, and  $.77$  for lecturers) with a mean index of  $3.76$  ( $SD = .74$ ) for students and  $3.78$  ( $SD = .7$ ) for lecturers. An independent sample T-Test did not indicate significant difference ( $t(519) = .12, p > .05$ ). Therefore, H1 was not confirmed.

### *Smartphone use for teaching purposes*

Among lecturers, 46% had never made use of smartphone apps as teaching aids; about a quarter used them rarely, only 10% used them often and regularly. 35% actively forbidding the use of smartphones during class, and an additional 13% occasionally enforced this rule. Only 14% of lecturers often asked students to look up class-related queries on their smartphones, and 36% do so occasionally. A majority of lecturers (92%) did not encourage silent smartphone usage as a substitute or preventative measure for class disruption.

### *Legitimacy of smartphone use during class*

There are some similarities in the illegitimacy both groups attributed to highly visible activities: Listening to music using a headset connected to a smartphone was considered illegitimate by 88%. Similarly, among students, 73% considered it as illegitimate. The disparities were even more substantial regarding usages that can be defined as concealed: there was a difference between students who considered it legitimate to place the device on the table in plain sight (74% legitimate, 7% illegitimate), and lecturers who considered this a legitimate action (62% legitimate, 16% illegitimate). The disparity was even broader for using the smartphone under the table: 68% of lecturers considered illegitimate as opposed to 35% of students. A legitimacy index for smartphone usages was created (Cronbach's  $\alpha = .70$  among students, and  $.84$  among lecturers). The index mean was 2.96 (SD=.91) for students and 2.37 (SD=.79) for lecturers. A significant difference ( $t(531) = 7.82, p < .001$ ) was found. Thus, H2 was confirmed.

### *Contribution of smartphone use to in-class learning*

Lecturers perceived smartphone use as harmful to important in-class processes of learning and internalizing the material such as classroom discussion, summarizing lesson content, the ability to pay attention and concentrate, and maintaining an atmosphere of learning. The positive contributions of the smartphone are in widening the scope of possible classroom activities (72%), and knowledge enrichment (57%). In contrast, students attribute much lower levels of smartphone contribution to class in general, except for texting as a substitute for chatter (31% among students and 20% among lecturers). Students report that smartphones contribute mainly by widening the scope of pedagogical activity (45%) and helping them follow visual presentations (38%). An index of smartphone contribution assessment was created (Cronbach's  $\alpha = .83$  among students, and  $.87$  among lecturers). The index mean was 3.35 (SD=1.03) for students and 3.47 (SD=1.31) for lecturers. However, there was no significant difference ( $t(519) = 1.2, p < .05$ ) between lecturers and students and therefore, H3 was not confirmed.

## **Discussion**

The present study reveals disparities in perception between lecturers and students regarding smartphone use during academic classes. These disparities pertain both to the legitimacy of different activities carried out using the smartphone during class, and to the positive and negative effects attributed to its use. The level of smartphone usage is high among both groups; students, more than lecturers, view smartphone activities as legitimate to undertake during class. However, most of the activities they found legitimate were of the least noticeable type of disturbance. Both students and lecturers saw smartphone as a potential tool to enrich lessons and expand knowledge but reported that it interfered with classroom discussion and internalization of the material.

Given that the presence of the smartphone in the classroom is not likely to cease in the foreseeable future, it is appropriate to try and reduce these disparities. It seems reasonable to assume that the coordination of expectations between lecturers and students regarding the acceptable modes of smartphone use will lead to an improvement in the classroom atmosphere, making it easier to focus on the beneficial uses of the smartphone as a learning aid.

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