Efficacy of Cell Phones Within Instructional Design: A Professor’s Perspective

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ABSTRACT

Through qualitative measures, this article seeks to explore the efficacy of cell phones within college-level instructional design specifically through the eyes of the professor. Three main themes evolved from this data: Pedagogical Approaches, Value, and Setting Behavioral Expectations. Based on interviews with ten college professors regarding their experiences with the use of mobile devices within instructional design, findings show that when establishing the right balance with intentional and/or impromptu pedagogical approaches, that value and motivation is evident. Setting behavioral expectations was recommended by all participants in order to convey solid expectations; all expectations were unique, yet successful within the participants’ classroom. Participants discussed their experiences within all of those areas and how they utilize cell phones to motivate students, how they set appropriate boundaries, and the overall effectiveness of the cell phone usage in the college classroom is explored.

KEYWORDS
ARCS Model, Cell phones, Instructional Design, Pedagogical Approaches

INTRODUCTION

Cell Phone Usage

Americans, in general, spend a great deal of time checking their cell phones, upwards of 46 times per day, collectively averaging 8 billion times per day (Eadicicco, 2015). As mobile devices have numerous uses, those times could include family connecting, Internet browsing, and/or tools for student learning (Babu, Sukesh, & Deepika, 2014). Opportunities also present themselves to students of all ages for using a cell phone for entertainment or educational purposes (Babu et al., 2014). In fact, over the last several years, cell phones provided multiple avenues for augmenting classroom learning (Tindell & Bohlander, 2012). With 100% of U.S. adults ages 18-29 owning a cellphone, 92% of those smartphones (Who owns smartphones and cellphones, 2017), the accessibility for allowing or purposefully implementing cell phone use within classrooms is an extremely viable option.

Integrating mobile devices in class instructional design, also referred to as here and now learning (Martin & Ertzberger, 2013), m-learning (Yang, 2012), or anywhere anytime learning (Gikas & Grant, 2013), creates easily accessible learning opportunities (Gikas & Grant, 2013; Yang, 2012, Tindell & Bohlander, 2012). Those overarching opportunities include creating digital projects, promoting collaboration, or simply gathering information with immediacy. Students could quite possibly consider

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the encouraged use of technology during class a reward (Finn & Ledbetter, 2013). In Yang’s 2012
quantitative study with 58 students, the most common response to efficacy questions was that using
the mobile device made learning fun; it was like using a toy. Using various tools such as an online
dictionary enabled students to be more productive while using a device that is within their comfort
zone (Herrara Díaz, Cruz Ramos, & Sandoval Sánchez, 2014). Using the device in the moment that
an idea or follow-up need occurs allows students to send a text or email to professors or classmates
immediately; this solves the problem of remembering to get on computer later for this simple task
(Gikas & Grant, 2013). Efficiency, convenience, immediacy, time management, enhanced motivation,
real-world applicability, and the use of tools such as notes, cameras, and calculators are some additional
examples of the benefits (Gikas & Grant, 2013; Herrara Díaz et al., 2014; Yang, 2012; Smith-Stoner,
2012). While there are educational benefits, students appreciate the ability to have mobile devices in
the classrooms to stay connected personally, non-educationally (McCoy, 2013).

The use of cell phones within course work can prove to be a double-edged sword. Cell phones
increase our responsibilities, can cause anxiety by enabling round the clock obtainability, and can
equate to lower GPAs (Lepp, Barkley, & Karpinski, 2014). In Lepp et al.’s quantitative study using
536 undergraduate college students, cell phones were found to be an answer to boredom in which
students reverted to texting, answering emails, and searching social media. In that vein, university
students surveyed by McCoy (2013) rendered results that entertainment opportunities are derived
from cell phones during monotonous class moments. In fact, 80% of those surveyed claimed that they
used cell phones to combat boredom or to provide entertainment, although students also admitted that
the distractions resulted in missing key instruction and diminished focus during class. Student focus
and academic performance can suffer as a result of these distractions (Kuznekoff & Titsworth, 2013;
Lepp et al., 2014; McCoy, 2013; Wei, Wang, & Klausner, 2012). Conversely, not only are students
imPAIRING their own learning, but cell phones cause educational distractions (alert tones or students
showing pictures or posts to others) that put surrounding students at an educational disadvantage
(Ali, Papakie, & McDevitt, 2012). Otherwise known as phubbing, checking your phone frequently
for educational or personal reasons continues to be highly recognized as a distraction by students
(Ugur & Koc, 2015). These culminating distractions can prove difficult in keeping students engaged
in their overall learning.

**Instructional Design to Motivate Students**

Instructional design, simply put, is planning instruction in a manner in which learning is effective
and engaging; technology is often infused to increase the appeal and provide student motivation
(Kearsley & Culatta, 2016). In fact, Keller’s ARCS Model from 1987 is a motivational tool designed
to increase interest in educational settings (Babu et al., 2014). ARCS is an acronym which stands for
Attention, Relevance, Confidence, and Satisfaction. Understanding the ARCS Model is crucial to its
implementation within instructional design. The ARCS Model, developed in the early 1980s by John
Keller, is solely comprised of steps to improving motivation within an activity. The model posits that
individuals must see the value/satisfaction and expect positive outcomes. Further, with this theory,
individuals ask themselves a series of questions within those four areas when determining value
(Chyung, 2008). According to Bates (2015), teaching methods should include and simultaneously
consider student motivation and the ARCS Model.

Using technology-based activities within instructional design tends to increase motivation and
decrease non-educational cell phone usage (Wei et al., 2012). In that realm, college students engaged
in task-based mobile learning reported increased subject motivation, time-saving capabilities, and
individual and collaborative educational opportunities (Yang, 2012). Additionally, college students
actually expect a level of technology integration to enhance a course (Finn & Ledbetter, 2013).
Moreover, college students are more apt to consider an instructor credible when he/she encourages
the use of wireless technology for enhancing learning (Finn & Ledbetter, 2013). According to students
in a college-level environmental issues course, cell phones provided positive course engagement and
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