

Influence mobile devices to the educational process

Mária Szivósová

University of Economics in Bratislava
Faculty of Economic Informatics, Department of Applied Informatics
Dolnozemska cesta 1
Bratislava, Slovak Republic
e-mail: Maria.Szivosova@dec.euba.sk

Abstract

Mobile devices definitely belong to new learning technologies that offer great scope for learning. The rapid development of information and communication technologies and globalization itself also contributed to significant changes in the learning process. The traditional paradigm, procedures, methods that have been used for centuries, of course, they are no longer sufficient in such a large exponential growth of information. Requirements to improve the efficiency of the educational process has increased significantly. The main content of this paper is to clarify the impact of mobile devices on the educational process.

Key words: *e-learning, generation Z, mobile learning, mobile app*

JEL: *M30*

1. Introduction

Mobile Learning (m-Learning) is a revolution in e-Learning.

Throughout history, new technology has brought about revolutions—the Agricultural Revolution, the First and Second Industrial Revolution, the Modern Revolution and the Digital Revolution are some examples. Is m-Learning going to spark the next educational revolution?

While educators have been busy trying to understand and teach to Millennials and Generation Y over the past several years, a new generation of mobile natives has been growing in the background. Generation Z, which includes those born after 1995, now fills our K-12 classrooms, and they've brought their mobile habits with them. The Growing and Learning with Mobile Infographic will give you a better understanding of the Generation Z students, including the role mobile devices play in their home and school lives.

2. Mobile Trends around the World

Studies show that, by the year 2017, the percentage of smartphone users in the US will reach 80 percent – triple the percentage of users we saw in 2011. In the UK, this number is set to reach slightly more than 80 percent, while in China and India, the percentages are set to rise at a slower rate. Globally, mobile learning is growing at a rate of 18.2 percent per year, suggesting that learning organizations will need to adopt appropriate technologies in order to keep up with growing demand.

2.1 Mobile in the Classroom

Today's middle scholars use mobile devices for everything from checking grades to writing papers. Of those students using mobile devices:

- 78% use devices to check grades
- 69% to take notes

- 56% to access text books
- 64% to write papers
- Teachers are also on the move, with 45% using a tablet or e-reader in class in 2014, up 20% from 2013.

2.2 Impact on Student Achievement

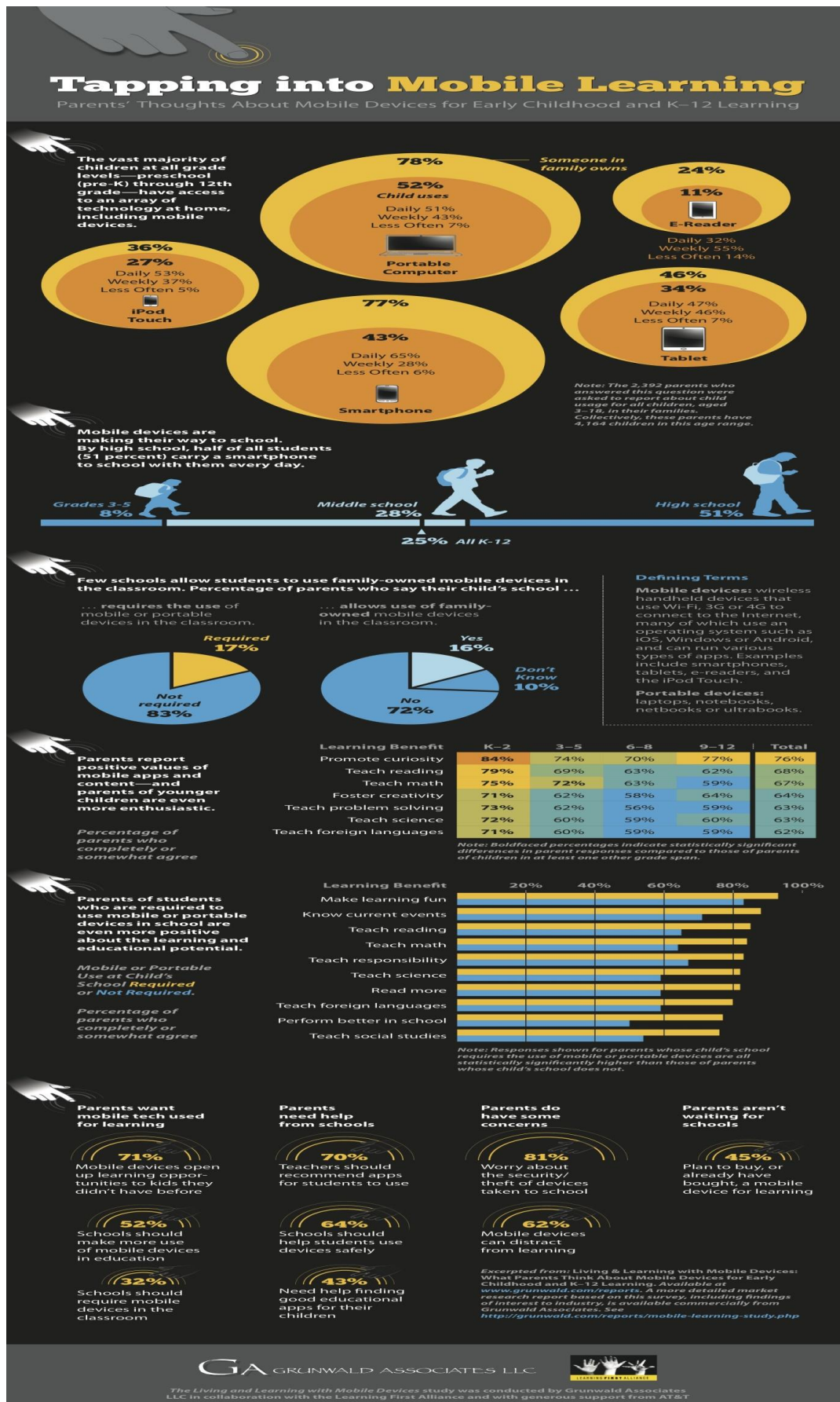
Studies show that standardized test results are higher in classes where students have access to mobile devices. In one case, test scores of low-income students climbed as much as 30 percent after being given access to smartphones – an increase attributed to the fact that students were able to keep connected with teachers and classmates, even while at home.

Mobile learning is a hot topic right now, with great expectations from advocates that mobile devices could transform education, engage students and personalize learning. The reality is a more nuanced—and less homogenous—story.

How parents perceive the value of mobile devices, how they see their children actually using family-owned mobiles for productive (and not so productive) purposes, and what parents think of the possibilities, is a tale of both abundant potential and missed opportunities for mobile learning

The What Parents Think About Mobile Devices for Learning Infographic highlights the perceptions of parents of a mobile generation, from preschoolers through high school-age students. Given schools' increasing interest in engaging students with mobile learning—during and beyond the school day—and in “bring your own device” (BYOD) models, parents more than ever could be key partners in contributing to this new frontier in learning. Parent perceptions matter. Their support and influence can smooth the way for educational technology in schools and help overcome the limitations of school coffers, without which digital initiatives can stall

Picture1: The What Parents Think About Mobile Devices for Learning



3. How m-Learning is Changing the Future of e-Learning

3.1 The ubiquitous nature of mobile devices is beneficial for those interested in m-Learning.

Learners and educators have much to gain from m-Learning. Lesson plans are no longer based around textbook exercises or “Next” button driven online courses. Instead, mobile learning breaks you free from your desk! You can access resources anywhere, anytime. With apps like CourseMill® Mobile, learners can even download courses and files to your phone for offline study as well. Conveniently accessible m-Learning materials provide ideal performance support, just-in-time learning and lead to innovations like augmented reality.

3.2 Augmented Reality and m-Learning

It might sound like something out of the Matrix or Star Trek, but augmented reality technology can make learning more interactive and enriching. What exactly is it? The simple definition is: a technology that superimposes a computer-generated image on a user's view of the real world, thus providing a composite view. For a real-world example, let's look at the 2014 IKEA catalog and its accompanying app.

After launching the IKEA Catalog app, you use your smartphone or tablet camera to zoom in on an orange cross at the bottom right of certain product pages. An icon then appears on the device display, allowing you to access the augmented reality features. You close the catalog and place it wherever you're considering new furniture in your room.

The app uses the size of this physical, real-world IKEA catalog to come up with the approximate dimensions of the virtual furniture that is about to appear on screen. You can rotate, reposition and manipulate that image until you think the furniture or decor looks just right, before confirming the selection from a scrollable list. Finally, a virtual version of the new sofa, desk or bookcase with your room in the background is shown onscreen—allowing you to visualize how your new furniture will work and make sure it will fit in your room!

Picking out furniture isn't quite the same as taking an e-Learning course, but imagine the possibilities for learning! You could put triggers (images that activate media when scanned by an augmented reality-enabled device) all around your work space so that when employees scan them, they can quickly access information about that object or space. For example:

- Doctors in training could use their mobile phones to view videos demonstrating the proper usage of different surgical tools or overlay a digital image of a patient's X-rays onto a mannequin for added realism.
- Mechanics in training could use augmented reality to watch video of a repair process for any part of a vehicle just by pointing their phone at that part.
- Scientists in a lab could quickly learn safety procedures and protocols for working with the different equipment.

From augmented reality to anywhere, anytime learning, m-Learning is the wave of the future. Are you ready to develop mobile-friendly learning? It's easy when you use an authoring tool like Lectora® Inspire.

4. How to Create a Successful Mobile Learning Strategy

More and more learners are using their mobile phones and tablets to get information when and where they need it. Regardless of whether they are in the middle of a crowded office or in a doctor's waiting room, today they have the power to access knowledge when it is most

convenient for them, thanks to **mobile learning**. In this article I'll shed some light on the secrets behind developing a mobile learning strategy that is on target and offers your audience a memorable and compelling mobile learning experience.

1. **Learn as much as possible about who your learners are.**

The key to creating a successful mobile learning strategy is knowing as much as possible about whom you are designing for. Does your **audience** already use their mobile devices on a regular basis? What information do they already have, and what do they need to take away from the mobile learning experience? Are they ready and willing to use their mobile device to access mobile learning courses, or are they still a bit hesitant? You need to know what they expect from the mobile learning course, where they will be accessing it, and how much time they can devote to the experience. You can learn more about your learners through online **surveys, focus groups**, and interviews.

2. **Repurpose your existing eLearning content to make it mobile friendly.**

The content you currently have in your eLearning course cannot be directly imported into your mobile learning course. It can, however, be modified in order to seamlessly integrate into your mobile learning strategy. You can **repurpose the eLearning content** you already have to make it effective for **mobile training**, so that your learners can get the information and skill set development they need when they need it. For mobile learning courses, it is best to keep the content as digestible as possible. You'll have to keep in mind that your learners are going to be accessing the mobile learning course on the go, meaning they won't have an abundance of time to sit down and participate in a 30 minute module. Break lengthy text blocks into bullet points, and highlight key ideas with bold or colored **fonts**.

3. **Remember that you are dealing with a distracted audience.**

Virtually all learners are distracted to some degree. Even those who are taking traditional online courses may have their mind on other things while they are participating. However, you have to remember that mobile learners are going to be accessing your mobile learning course wherever, whenever. As such, they are going to be dealing with a myriad of **distractions** while they are trying to absorb information. This is why it is crucial to create engaging, information-packed, and powerful content. You have to grab their attention from the very beginning, and hold it by providing them with key pieces of knowledge they need to receive real world benefits.

4. **Learners may be rushed, but the design should not be.**

Your learners are only going to have a few minutes, on average, to access your mobile learning course. More often than not they are going to be rushed, therefore they need to get as much information as possible as quickly as possible. However, this does not mean that the **mobile learning design** and development process should be rushed as well. This will simply diminish the quality and the **effectiveness of the mobile learning course**. There is a way to cut down on **development time** while still offering your learners a valuable mobile learning course. You can create templates to reuse for your mobile learning courses, wherein you can change the content and **multimedia elements** in a pre-made layout.

5. **Use tracking data to fine tune the mobile learning experience.**

By using a mobile learning tool that is compliant with SCORM (Sharable Content Object Reference Model), you can track learner activity in order to determine what is

working and what may need to be fine tuned. For example, if you discover that only a small percentage of your learners are able to complete one of the mobile-friendly modules you've created, then it may be time to assess the difficulty level. On the other hand, if one of your mobile learning courses is faring well, maybe you should consider following up with supplemental content that explores additional aspects of the same topic. This will help you to design mobile learning courses that are relevant and valuable, rather than focusing your time and attention on those that may not be as useful to your audience.

6. **Don't force mobile learning upon your audience.**

Unfortunately, not all of your learners are going to be ready and willing to try the mobile learning experience. There may be some who prefer to stick with traditional eLearning and are going to be resistant to your **mobile learning strategy**. It is important not to force it upon your learners, or else they simply won't be **motivated** to learn. Instead, ease them into the mobile learning experience. Encourage them to complete supplemental mobile learning courses that will expand their comprehension, so that they can see, firsthand, how a mobile learning course might benefit them. If you find that a majority of your learners aren't using the mobile learning tools you've developed, then it may be time to do additional **audience research**, or get their **feedback** to find the reasons behind their resistance to mobile learning.

Use these tips to create a successful mobile learning strategy that will help you design mobile learning courses that always hit the mark.

5. Conclusion

Thanks to the growing popularity of mobile devices in recent years, more and more learners are now turning to their tablets and smartphones to develop their skill sets and absorb invaluable knowledge on a daily. In this article I shared several ways that can help you boost the effectiveness of your mobile learning course. The simple truth is that learners today are used to accessing information when and where they need it. Their mobile devices give them the ability to explore new ideas or expand their educational horizons in a matter of seconds. In other words, a mobile learning experience is effective simply because it gives learners the opportunity to learn anytime, anywhere, without limitations. M-learning - this is a new way of e-learning.

The paper was published with the financial support of the EUNIS Slovakia.

References

- [1] Christopher Pappas, (2015), <http://elearningindustry.com/7-ways-boost-effectiveness-mobile-learning-course>
- [2] Williams, G, (2015), <http://elearningindustry.com/7-alternative-lms-trends-for-2015>
- [3] <http://elearninginfographics.com/what-parents-think-about-mobile-devices-for-learning-infographic>

* Online full-text paper availability: doi:<http://dx.doi.org/10.15414/isd2016.s9.04>