Mobile Learning and Commuting

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Executive summary

This paper aims to offer a discussion on the current status of mobile learning and commuting, specifically for those who commute for work and school. Through a review of one man's experience of mobile learning and commuting, a discussion on the history and growth of mobile learning and commuting is provided. Insights on how commuters currently utilize mobile learning in their daily lives are considered, and an examination in areas of mobile learning which work adequately and others which may need improvement are touched upon as well. The future of mobile learning and commuting is presented, with a focus on how it may change how we learn going forward and future technologies that might support it. Finally, we determine that mobile learning and commuting presents vast opportunities for learning without the restrictions of time and place. It is a transformative opportunity to make learning more accessible during commutes. Potential recommendations to improve mobile learning and commuting include further research in making it a viable and rewarding learning opportunity, focusing on the usability experience when designing instruction under a commuting context, as well as bringing awareness of it as a viable learning opportunity to the greater community.

Mobile learning and commuting

In the world we live in today, time is a precious commodity with many individuals, especially those who commute, having a sense that they don't have enough time in their day. Mobile learning is seen as a welcome method of learning, giving rise to more learning opportunities which were not available before and once limited learning to a specific place, time and method. For the millions of daily commuters around the world, especially those who have significant commutes, this provides opportunities to learn like never before. It is also in opposition to traditional views of how learning can be accomplished. This paper explores the relationship between mobile learning and commuting, specifically for those individuals who commute to work and school, and how mobile learning is used and applied in their everyday life. An article review on how transformative mobile learning was during the daily commute for one individual, provides a catalyst for the discussion on the general sentiment concerning mobile learning and commuting. With a focus on the background of mobile learning, we analyze its growth and how it came to be as we know it today. We continue with a look at how commuters currently utilize mobile learning, its current state and usability experience for commuters, as well as an example of an available app that makes mobile learning more accessible for commuters. A comparison follows, of its advantages and disadvantages in learning and how it’s affordances can be improved for the commuting learner. The future of how mobile learning and commuting will unfold and develop is looked at, as well as future technologies that could further advance mobile learning and commuting. Proposed areas of improvement and research are also discussed and recommended to add to the growing field and its advancement.

An Experience of Mobile Learning and Commuting

In the Medium article “How to Transform your Commute into a Powerful Learning Experience”(Kohli, 2019), the author relates his experience turning his almost four hour daily commute to work, from New Jersey to downtown New York City, into an opportunity to further his career and reduce the feeling resentment he has of spending such a significant part of his day getting to work and getting back home (Kohli, 2019). The author paints a common scenario for many individuals who have long commutes to work or school and find themselves with a large time block, which is often wasted on unproductive activities such as browsing the internet or listening to music (Kohli, 2019). Realizing that the significant daily commute to work could be an opportunity to expand his professional learning he signed up for a Coursera course. The author found immense satisfaction in learning this way, as well as turning his long commute into a productive time frame during his day (Kohli, 2019). After the initial positive learning experience, he continued to further his learning on subjects he felt passionate about, and it was transformative in his overall experience with both learning and commuting (Kohli, 2019). Kohli’s positive experience with mobile learning and commuting paints a growing trend toward regaining ownership of the daily commute by transforming our devices into opportunities to learn, as long commutes are becoming more of a reality for many people. While the author does give a basic idea of how people utilize mobile learning during their commute, he doesn’t get into details about its practice and what characteristics make it work and others that hinder it. Seemingly straight forward, there are however several factors to consider when utilizing mobile learning in a commuting context such as logistics, psychological factors and physical constraints. While there is immense satisfaction in taking control back of one’s time spent, especially the idle time of commuting, there is still much work and understanding on how to best adapt mobile

learning for the commuter and how to set up our mobile technologies to support this use. While well-intended, the author leaves out several realities of the mobile learning experience and the average commuter.

History and Growth of Mobile Learning and Commuting

Mobile learning and commuting are a relatively young concept and surfaced more out of necessity due to commuting and making the most out of that time, than a formal method of learning. There is not a significant amount of research or data on its sustained used and is a growing area of study with much more to learn "… there is also a lack of research that relates m-learning with the commuting context" (Gil-Rodríguez & Rebaque-Rivas, 2010, p.267). Mobile learning and commuting are becoming increasingly more important to understand, especially as the world is more connected than ever before and there is a demand for learning and training to be more flexible in terms of delivery and time (Gil-Rodríguez & Rebaque-Rivas, 2010). While there is daily use of devices for activities such as emailing, text messaging, checking social media or even utilizing the camera functions (Vosloo, 2012), during their daily commute many people still don't make the connection between learning and the device that they carry around with them at all times. As commuters, many learning opportunities were once only attributed to printed books that could be carried around with you and could be viewed as the original form of mobile learning (Denk, Weber, & Belfin, 2007). It could be done without the constraints of time or a location but was not the most efficient way to learn. There were many issues such as carrying around large and heavy books, or not being able to write down notes as a few issues among other inefficiencies. To understand mobile learning as it is used now, it is important to understand that its roots are in eLearning and was part of the shift towards "learner-centered pedagogies" (Crompton, 2013, p. 11) where the student is viewed as being more autonomous and

directed in their learning. As advances in technologies occurred, there was also an increasing demand for learning to be able to be more adaptive and "…learn anything at anytime, anywhere and in any way" (Qiu, 2019). These factors were large contributions to how people were able to utilize mobile learning in new ways, where location and time were not significant factors and limiting in acquiring knowledge in both school and work training contexts. Although not formally taught as an opportunity to learn, as commuting times are getting longer (Bennardo, 2019), and it becomes a reality for many people to be dedicating a large amount of time getting to school or work, the need to be able to learn-on-the-go is becoming a viable option for people to learn.

How Commuters Currently Utilize Mobile Learning

As commuting is a growing reality for many individuals to get to school or work, there are many different methods utilized to learn using mobile technologies. Some of these devices include smartphones, tablets, and e-readers (Gil-Rodríguez & Rebaque-Rivas, 2010). The use of a specific device often depends on the type of learning activity to be done and the physical environment during a commute. For example, many commuters find that as long as they have a place to sit, e-readers offer the best opportunity for reading while commuting as well as taking notes on (Gil-Rodríguez & Rebaque-Rivas, 2010). Audio recordings of lectures on a smartphone or tablet are a more suitable learning activity when seating is lacking during a commute and physical space is an issue, such as on an overcrowded bus or subway cart (Gil-Rodríguez & Rebaque-Rivas, 2010). Therefore, the type of device used is not always consistent and influenced by several factors, which at times are not in the control of the learner. The learning activities completed among commuters varies, with many using their smartphones to conduct research, reading and writing (Smale & Regalado, 2014). All activities that logically make sense to do

while travelling and not having access to traditional learning tools found in a non-commuting environment. The activities tend to be ones that do not need many large physical technologies, such as a laptop, and could easily be accomplished on a handheld device. The length of a learner's commute also influences the type of mobile learning activities they engage in. Many learners do not read, or start new sections of readings, on short commutes and tend to listen to more audio-related material of courses (Gil-Rodríguez & Rebaque-Rivas, 2010) during those types of commutes. Substantial mobile learning applies to those who have longer commutes and have the appropriate length of time to engage in a particular learning activity. While shorter commutes provide opportunities to engage in learning activities which can be done quickly. The learner's physical and psychological state also influences the type of activity they conduct. At the end of a long working day, many learners are tired and don't have the same cognitive capacity to conduct heavy learning activities. Therefore, they tend to carry out learning activities such as checking their email or searching for course related activities and resources (Gil-Rodríguez & Rebaque-Rivas, 2010). One example of a mobile learning platform for commuters is the Concordia University App ("The Concordia app," 2017). The app allows users to perform several learning activities such as checking class material and providing interactions with other learners on Moodle, the learning management system used by the university. Other activities, such as searching the library for course related material or checking course grades, are all possible through the mobile app. We can see that several factors influence the type of activities conducted when mobile learning is done in a commuting context. These include the physical environment of the individual when commuting, the length of time their commute requires, and the individual's physical and psychological state as well when commuting.

Mobile Learning and Commuting: The Good and the Bad

Mobile learning and commuting are a promising and alluring method of education for many people, and the accessibility factors across time and place make it unique and break traditional notions of how we can learn. While very promising and having the potential to bring learning to many more people, it is not a perfect method by any means. It is still a new area within mobile learning, and the growing pains of it are tangible and can be frustrating, making learning tasks while on the go more difficult. Most people have a positive response when experiencing mobile learning and commuting, such as the reflections described in the article "How to Transform your Commute into a Powerful Learning Experience" (Kohli, 2019). They view it as an opportunity to take back control of their time and further their learning. To understand the aspects of mobile learning and commuting which currently work well we need to take a look at its affordances. One positive aspect that makes learning while commuting possible is having the course or learning content readily available on mobile devices (Ally, 2013). When learning is adapted to mobile use, whether it is by an app, utilizing the institutions learning management system (Yu-Liang Ting, 2005), or an adapted audio recording of a lecture, the purposeful design helps the commuter learn in an unconventional environment. The ability to communicate and interact with others, through forum postings or even text messages, supports collaborative learning and the opportunity to do it while commuting keeps the learner engaged and motivated (Denk et al., 2007). Reading is also another mobile learning activity often done by commuters. When course literature is adapted to e-readers many learners utilize it during their commute. The utility of an e-reader makes it possible to leave textbooks at home and compactly carry several readings or books, with many students citing positive experiences in reading on e-readers (Smale & Regalado, 2014). While advances in technological devices such as

smartphones with better capabilities, and an increase in network coverage are also factors which support mobile learning for the commuter (Denk et al., 2007). These are just some of the affordances that mobile learning brings to commuters, and we can see that they both bring the "flexibility and convenience" in learning (Ally, 2013, p.5). While many elements work in mobile learning and commuting, because of its infancy of being viewed as a learning opportunity, there is a lack of awareness and consequently many factors that can make it difficult and challenging. One of the challenges many commuters face is in the actual interactions with the devices used in learning. A smartphone's small screen size can often be a limiting factor when attempting to carry out learning activities while commuting, as well as battery life and memory capacities of the device (Denk et al., 2007). When commutes are over an hour, as it is for many commuters trying to get to the core of a city, these factors can hinder the potential of mobile learning as the inability to utilize the device efficiently becomes a roadblock. Since mobile learning and commuting are done remotely, the lack of internet connection and accessibility can also be an issue (Gil-Rodríguez & Rebaque-Rivas, 2010). While many commuters have data plans, there is a portion of commuters who don't and the availability of a reliable internet connection on public transit would open the doors for many mobile learning activities such as researching, downloading readings or emailing. There are also environmental factors that can hinder learning while commuting such as a lack of seating, a crowded train or bus, or a high level of noise (Gil-Rodríguez & Rebaque-Rivas, 2010). While learning activities can be adapted to varying environmental factors, such as listing to audio of lectures when seating is not available (Gil-Rodríguez & Rebaque-Rivas, 2010), they must be taken into consideration when designing courses or material geared toward commuters. Another factor is the adaptability of learning content to a mobile device. As commuting individuals do not have traditional screens sizes and

capabilities (such as to print) there must, therefore, be an adaptation to "…smoother delivery of learning content, and the innovations in content creation" (Yu-Liang Ting, 2005, "Discussion: future challenges", para.2). Another significant factor to make mobile learning more accessible in a commuting context is the awareness of it and to help change people's attitudes and traditional notions of how learning can be done (Ally, 2013). When educational institutions and workplaces are aware of the potential of mobile learning for commuters and have a positive attitude toward viewing it a legitimate learning context, there will be more investment in it.

The Future of Mobile Learning and Commuting

To improve mobile learning and commuting, there will have to be many stakeholders involved in implementing its effectiveness and benefiting the average commuter. Governments at different levels will have to financially invest in the digital infrastructure (Danova, 2018) to support the need for connection to a reliable internet network, as well as an ability to support the devices which individuals use to learn while commuting. Some suggestions are to provide charging stations, better wifi capabilities, and more buses and subways during peak times of the day on public transportation. As with any new educational change or addition there will be growing pains and mistakes to be learned from as we move forward (Daughtery & Berge, 2017), and as educational institutions and workplace learning shift toward adapting pedagogy and learning for mobile learning and commuting further research will need to be conducted on how to best adapt learning through sound learner-centered instructional design (Palalas & Fahlman, 2010). There will also have to be a shift in the traditional way that learning is viewed as the future of mobile learning and commuting is growing (Ally, 2013). Methods and technologies we normally use to learn will have to adapt to this demand, such as the role of the teacher and the use of laptops and desktop computers (Ally, 2013). There will also need to be further research

done on mobile learning and commuting, specifically on issues such as design, evaluation, practicality and learner support (Ally, 2013) to further improve its use and efficiency in learning. The application of future technologies to mobile learning and commuting will enhance the learner experience with the anticipations of also making it more seamless. Some future technologies include location-based learning, utilizing GPS capabilities of devices, and augmented reality making virtual interactions possible (Oller, 2012). Despite the need for future research and studies on mobile learning and commuting, it will change the way learning is accomplished and "will be disruptive and a game changer" (Daughtery & Berge, 2017, p. 116) across many different contexts.

Conclusion

While mobile learning and commuting is not yet a perfect integration of technology and learning, as someone who has a significantly long commute which is close to three hours in between school and home, the possibilities of taking learning out of the control of time and place are both exciting and hopeful. Exciting as it offers value to our commute time, which is getting longer for most individuals, and opens a door of possibilities to extend learning with technological devices that are widely used, owned, and understood for most. It is hopeful as it makes learning more accessible not just for commuters, but for a broader community of learners for whatever reasons, cannot learn in the confines of a specific time and place. Through an analysis of a young professional's personal experience of mobile learning and commuting, a look at how mobile learning and commuting became a learning context and how it is currently used, we get a sense of the role it plays in learning today. A brief comparison of what elements of mobile learning and commuting are currently working adequately, and as well as a look at areas that need more work to improve its efficiency and use are further discussed. A look ahead to the

future of mobile learning and what possibilities we can expect is explained, as well as future technologies making mobile learning and commuting more accessible and seamless are presented. Mobile learning and commuting are a learning context that will open the door of possibilities for many individuals, and as educational technologists and instructional designers, we should embrace the integration of technology and learning making education more accessible.

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