Mobile Technologies Support Effective Learning

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INTRODUCTION

In today's era of dynamic technological development, mobile communication that is characterized by convenience, rapidness, multifunction, and real time access reflects the spirit of the moment (Hui-YI & Ling- Yin, 2010). The ability to learn in one's own context when on the move in time and space is arguably the central learning affordance of mobile technologies. M-learning is defined as being just in time, situated learning, mediated through digital technology in response to the needs of the user (Traxler, 2009). M-learning is different from other forms of technology-supported learning in the way it can mediate and facilitate learning experiences (Peters, 2009). The advent in recent years of an array of mobile technologies such as multimedia capable cellular phones, iPods and iPhones, iPad, other tablets, and portable netbook computers, has stimulated considerable interest within the education community. This interest revolves around the potential of mobile devices to support learning, based on their ability to enable individuals to connect with others to "produce, consume and store content and conversation" (Traxler, 2010, p.3). This potential, according to Traxler, can lead to a 'blurring' of the line between learning which occurs at the expense of real life-defined within the traditional school environment-to that which occurs as a part of real life, as learners interact with information and each other using mobile devices as part of their natural daily life.

New technologies and digital media have significantly impacted learning (Gee, 2009). Indeed, the use of new digital technology in education and training has contributed to its added value for innovative learning due to its impact on leveraging the cognitive engagement to enhance learning (Ellis & Barrs, 2008). According to Traxler (2010), unlike more traditional desktop technologies, mobile technologies (m-technologies) are more difficult to ignore. He comments that using desktop technologies "takes place in a bubble - in times and places where the user has his or her back on the rest of the world for a substantial and probably premeditated episode (p. 5)." In many ways, mobile technologies have the capacity to redefine what constitutes a learning space, away from the constraints of a fixed place and time towards a conceptualization based on connecting people with each other and information, through virtual collaborative spaces and highly fluid communities.

Recent tablet technologies such as iPads can provide an immersive multimedia experience for users. Their unique multi-touch screen, portability and many other intuitive user interaction features make them into a new type of mobile platform for education and training that will, at least in theory, offer all the functionality and connectivity of a laptop, with the mobility of a smartphone. For example, recent Apple news (www.apple.com) states the iPads have been adopted for education and training in over 1000 institutions and organizations worldwide.

In this book article, we aim to apply the uses and gratification needs (U&G) theory to interpret mobile learning experiences with a group of motorcyclists when they take their mobile training on road safety. We then propose a research study to map U&G needs with measurable constructs. In this study, we were able to test the proposed research with 182 users in the field. Current preliminary results have demonstrated the effectiveness of using tablet technologies for road safety training.

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BACKGROUND

Motorcyclists Road Safety Training

It is crucial to address the road safety training needs using the U&G theory, since road traffic injuries are likely to become the third leading cause of death and injury by 2020, if no further action is taken (Peden et al., 2004). Internationally, motorcyclists and scooter riders, an approximate population of 313 million (Haworth, 2010), are among the most vulnerable road users, in particular young riders. Motorcycle riders account for about 15% of all road crash deaths, and an even higher proportion of serious injuries. Especially in low and middle-income countries, the motorcycle is one of the most frequently used means of transportation. Hence, motorcyclists constitute a large proportion of road crash victims (Mohan, 2002).

The lack of experience of many motorcycle riders has been cited as one potential cause of motorcycle crashes (Winn, 1987; Mullin, 1997). Training of motorcycle riders has therefore been suggested as an important countermeasure for reducing both the number of crashes and the severity of injury (Noordzij et al., 2001). Pre-license motorcycle rider training courses have been made compulsory in several countries (Mullin, 1997). Currently, however, many road safety training methods still focus on traditional paper-based training. Thus, we are motivated to examine whether recent mobile tablet technologies can make motorcyclist training experiences more effective and enjoyable.

What is the Uses and Gratifications Theory?

The Gratification Approach (Katz &Blumler, 1974) posits the fact that individuals use particular forms of media to meet specific needs, namely *cognitive needs*, *affective needs*, *personal integrative needs*, *social integrative needs*, and *tension free needs* (Marston, 2010). According to Bryant & Miron (2004), if these needs are fulfilled, people are likely to repeat the experience.

The Uses and Gratifications Theory (U&G) is hence a media-use paradigm that inquiries into the reasons why people use certain media, and analyzes the gratification derived from usage and access. It further posits that media consumption is purposive, and that users actively seek to fulfill their needs via a variety of uses (Katz & Blumer, 1974). Weibull (1985) argued that individual needs lead people to use specific media to satisfy their needs, which in turn leads them to use a medium again because using it was gratifying. The motivations identified in U&G include intrinsic motivation, engaging in the activity for pleasure, and satisfaction (Palmgreen, Wenner & Rayburn (1981). Extrinsic motivation is also incorporated in U & G, which suggests that gratification is achieved via activities beyond media/IT use. These include the need to search for information, to interact socially, and to escape. In particular, recent studies have reported that people are motivated to use the Internet for convenience, information seeking, interpersonal utility, to pass time, entertainment, escapism, peer identity, and social interactions (Kay, 1998, Ferguson & Perse, 2000).

Papacharissi & Rubin (2000) developed a scale of Internet usage motivation consisting of five categories: entertainment, to pass time, interpersonal utility, information seeking, and convenience: these draw on advances in technology that support the informative and interactive capabilities of the Internet.

The U&G seems especially germane when investigating how users learn through tablets. Analyzing user behavior through this lens can help scholars and professionals to better understand how "members of the audience actively select, and then attend to, specific forms of media content that provide gratifications that fulfill their needs" (DeFleur 2010, p. 193).

Needs are considered as one important personal psychology that shapes new media behaviors. The Uses and Gratifications approach to media use assumes that audiences are aware of their social and psychological needs, and actively seek the media to fulfill them (Palmgreen, 1984). Needs lead to both ritualized (passive) and instrumental (active) use of media (Metzger & Flanagin, 2002). Media usage has been characterized as ritualized and habitual and frequent: those uses which are instrumental tend to be purposeful, selective and goal oriented.

A study by Flanagin & Metzger (2001) revealed that computer-mediated communication better gratifies users in information retrieval, learning play, leisure, persuasion, social bonding, relationship maintenance, problem solving, status, and personal insight.