

PLANNING TO IMPLEMENT CHANGE: STRATEGIC PILLARS TO LEAD MOBILE LEARNING

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Palabras clave

Mobile learning, strategic management, secondary school, technology integration, innovation.

Resumen

Learning innovation for future education often includes digital approaches, as catalytic converters to enhance learning and to contribute to the development of 21st century skills such as creativity, innovation, critical thinking, communication and citizenship. For years, accessibility and affordability have been crucial barriers for technology integration in education, however, today mobile devices are ubiquitous. There is a need for innovation to future education in the mobile-learning era. However, there is a lack of successful frameworks in secondary education that contribute to highlight its rewards. This study is based on a systematic broad literature review of Strategic Management and Mobile Learning that included 53 academic publications. Results evidence a lack of research in the field specifically in secondary school contexts. As an output, a prototype conceptual framework for the sustained adoption of Mobile learning has been developed. This framework is upheld by five interrelated key pillars, that orchestrate the research findings.

Introducción / Marco Teórico

According to a 2016 Mckinsey study, “How to scale personalized learning”, schools face the significant challenge of having to develop learning experiences to prepare students for the labour market, even if half of the jobs are expected to disappear in the future. Almost 40 percent of employers say, a lack of skills is the main reason for entry-level vacancies (Moursheld, Farrell, & Barton, 2013). To make matters more complicated, work has also evolved from basic technical knowledge to demand a high multiple skilled workforce. More than 60 percent of all jobs, require a high level of critical thinking, creativity, and interpersonal skills (Horn, 2014). Those are fundamental learning skills for the 21st century according a large number of educational literature. As described by (Adell, Esteve, & Gisbert, 2013), digital competency

is included in 100% of 21st century models: The SCANS Skills and Competencies; Definition and Selection of Competencies; enGauge 21st Century Skills: Literacy in the Digital Age; Framework for 21st Century Learning and Nurturing our Young for the Future: Competencies for the 21st Century.

There are numerous studies defining mobile learning, most of them highlight its core characteristics. Literature reveals consensus on mobile learning affordances, including flexible use, ubiquity, anytime-access, portability, continuity of use, timely feedback, just-in-time learning, personalisation, socialisation, active participation, peer coaching, self-evaluation, interactive convenience from the real world, multimodal re-presentation of learning experiences, sources of inspiration outdoors and cultural authenticity (Kukulska-Hulme & Viberg, 2018; Krull & Duarte, 2017; Rikala, 2016; Dalziel et al., 2016; Pimmer, Mateescu, & Gröbriel Urs, 2016; Baran, 2014; Liu et al., 2014; Wu et al., 2012).

The concept evolves in parallel with new affordances, recently mobile learning is included in broader concepts such as seamless learning that refers to the seamless integration of the learning experiences across various dimensions including formal and informal learning contexts, individual and social learning, and physical world and cyberspace (Wong & Looi, 2011; Looi et al., 2010; Hsu & Ching, 2015). Also, social media has gained ground with a growing recognition of mobile learning's significant role. Mobile learning is learning across multiple contexts through social and content interaction using personal electronic devices (Crompton, 2014). Koole (2009) defined mobile learning as a process resulting from the convergence of mobile technologies, human learning capacities, and social interaction. A vast literature has proven multiple mobile learning positive benefits and impacts (Miller 2012; Islam & Grünlund 2016; Fisher 2011; Holomb 2009; Penuel 2006) Furthermore, literature has significantly proven success on specific formulated mobile learning strategies, such as TPACK, Learning Design, resources affordability and availability such as BYOD or space management such as Flipping rooms (Bell 2002; Chai & Siu-Cheung 2016; Camacho 2016; Cambrun & Han 2015; Dalziel, et al. 2016; Hassan & Geys 2016; Penuel, Fishman, Cheng, & Sabelli 2012; Toch 2016; Williams & Larwin 2016; Shirley 2016; Redondo et al. 2014).

Despite the availability of Mobile Learning projects, tools, guides, strategies, frameworks and the consensus developed over last years about the need to make education more digital, a considerable number of school's reality is still quite analogical. Schools, may not have changed as much as desired (Voogt, Knezek, Cox, Knezek, & Brummelhuis, 2013). The educational technology focus today is not on "if" technology should be implemented in education, but "how" (Miltenoff, Keengwe, & Gary, 2011).

There is no universally accepted definition for strategic management. The most common approach concentrates on a strategic process perspective and takes strategic management as a sequence of strategically planned consecutive steps. (Porter, *The Five Competitive Forces That Shape Strategy*, 2008), (Tregore, 1980), (Michael Robert, 1998), (Mintzberg, 1995).

There are countless strategic management tools, models and frameworks, oriented to help firms and managers to develop strategies. The literature is replete with coverage and perspectives on strategic management, substantial issues are essentially the same across authors defining strategic management: establishing organization's mission and setting strategic goals; scan the external and internal environment; evaluate strategic options; develop a plan and allocate resources and monitor results. (Andrews, 1965; Tomson; Strickland, 2003; Korey, 1998; Wright, Pringle, Kroll, 1994; Glueck, 1980; Mintzberg, 1995; Porter, *The Five Competitive Forces That Shape Strategy*, 2008; Hines 1991; Drucker 1993; John R. Drew 1997; Boulter 1997; Jack Koteen 1989; Streib and Poister 2002; Bryson 1995).

William F. Glueck developed several frameworks of strategic management based on the general decision-making process. He defined strategic management as a stream of decisions and actions which leads to the development of an effective strategy or strategies to help achieve corporate objectives. The strategic management process as the way in which strategists determine objectives and make strategic decisions (Glueck & Juach, *Business Policy and Strategic Management*, 1984, p. 5).

Objetivos / Hipótesis

This study focusses on the research question: what are the main characteristics of a strategic management tool to lead Mobile Learning?. A thorough analysis has been conducted in the most widely used and recent literature to identify the key pillars upholding the process of strategic management. We also discuss the implication and limitations of our findings and we present a conceptual framework that organizes, encompasses and orchestrates the current research findings.

Metodología / Método

A systematic review (Hemingway & Brereton, 2009) approach was performed in this study to answer the research question directing this study with the goals of providing an impartial synthesis, summarize and generalize the relevant knowledge, trends as well as to identify and prospect for patterns and gaps and interpretation of findings. Systematic review is the appropriate scientific method to do so (Woodward 1977; Light & Pillemer 1984; Cooper 1988, 1998; Cooper & Hedges 1994; Mulrow 1994; Fink 1998; Tranfield *et al.* 2003; Mertens & Holzner 1992; Fettke 2006; Tranfield *et al.* 2003; Gough, Oliver, & Thomas, 2012). This methodology provides a summary of the research literature, either quantitative or qualitative, that uses explicit, replicable methods to identify and select relevant studies; and uses objective and replicable techniques to analyse and summarise those studies (Cooper, 2010, Hemingway & Brereton, 2009, Borokhovski, & Tamim, 2014). For literature reviews conducted in relation to education, the Web of Science database has been recommended by several previous studies (Fu & Hwang, 2018), other digital bibliographic databased were used (Google Scholar, ERIC, Web of Knowledge EBSCOHost; ProQuest, CNKI). The expressions ("mobile learning" OR "ubiquitous learning" OR "blended learning" Or "M-learning" OR "B-learning" OR "mo-

bile devices”) AND (“systematic review” OR “meta-analysis” OR “trends”) were used. The research process initially yielded 114 publications. Based on titles, 60 were filtered and reading its abstract and key words were revised, refined and article grouping was adjusted and summarize in a meta-data and concept matrix for selected studies A total of 53 full-texts were included in this study.

Resultados

After having carried out the systematic literature revision, the main research findings show that the strategic concept has evolved in school environments similarly to management context. Glueck’s strategic management framework, for its simplicity and adaptability is an effective base for organizing strategic management to lead mobile learning and has been used to illustrate mobile learning framework. The fifth phases of Glueck’s framework guided the development of the framework. The framework is upheld by five self-sustained and interrelated key pillars: leaders, teachers, students, families and educational community; that organizes, encompasses and orchestrates the current research findings in mobile and learning strategic management and integrating principal mobile learning strategies such as Learning Design, BYOD, TPACK and flipped classrooms. The, last phase of the framework includes results evaluation.

Conclusiones

The purpose of this study was to conduct an analysis of established strategic management and mobile learning perspectives in secondary school contexts. The aim was to develop a prototype framework that provided coherence and orchestrated the research findings in identifying the essential pillars. Results are showed employing Glueck’s strategic management framework. Leaders, teachers, students, families and community have been identified as the key pillars upholding and maximizing mobile learning strategies.

The study has recognized the lack of current research in the field, specifically in secondary school contexts. We had to limit the scope of our review to the most relevant literature in order to develop a comprehensive, simple, useful and adaptable framework. In conclusion, this encourages us to study more in depth more perspectives and factors affecting the framework. The findings of these insights are expected to be useful both for academia as well as policy makers as insights for further research and successful mobile learning improvements.

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