



Research Report

What motivates high school teachers to use web-based learning resources for classroom instruction? An exploratory case study in an Iranian smart school



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ABSTRACT

This exploratory case study reports on the findings of Persian teachers' motivation and use of Farsi-Web-based Learning Resources (FWBLRs) in classroom instruction. Data were inductively gathered from ten teachers' and five students' use experiences of FWBLRs in the context of a smart school in Tehran, Iran. Focus groups and face-to-face semi-structured interviews, repeated in several rounds, were used for data collection. Thematic analysis elaborate on the teachers' perceived pedagogical usability of FWBLRs. Five main motivations of pedagogical usability emerged from the findings: (a) desirability; (b) content accessibility; (c) student-centred teaching support; (d) multimedia interactivity; and (e) feasible classroom instruction via simulation. The study suggests that the effective use of Web-based Learning Resources (WBLRs) would require some considerations, including the use context and corresponding educational policies. This can be of value to the researchers in the field as well as stakeholders of WBLRs. In practice, this can support the development of effective and fun teaching-learning environments.

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1. Introduction

Due to the increased tendency toward learners' digital literacy, Web-based Learning Resources (WBLRs) as pedagogical tools are becoming increasingly important in classroom instruction. Previous research reveal that K-12 learners' information use and behavior have changed from searching for, and using, traditional resources to web resources (Berger, 2010; Murphy & Lebars, 2008; Rahimi, Den Berg, & Veen, 2012; Sadaf, Newby, & Ertmer, 2012). Teachers are encouraged to use WBLRs and social media in order to capture their students' motivation as well as to improve the latter's learning retention (Drigas, Ioannidou, Kokkalia, & Lytras, 2014; Kay, Knaack, & Petrarca, 2009; Light & Polin, 2010; Silius, Kailanto, & Tervakari, 2011), and teachers believe by doing so would enable them to conduct student-centred learning more effectively (Abrizah & Zainab, 2011; Bland, Sabatino, Sedlak, & Sternberg, 1979; Kay et al., 2009; Light & Polin, 2010; Prestridge,

2012; Recker, Dorward, & Nelson, 2004; Silius et al., 2011; Wu, Chen, & Hsieh, 2005).

The use of web-based technology in classroom instruction has been identified as the top priority in Iran and deliberate efforts have been made to ensure that WBLRs are embedded into wider professional teaching practice. However, Iranian teachers' experience with the in-school use of web-technology may be less positive and remains a big challenge (Afshari, Bakar, Luan, Samah, & Fooki, 2009; Hosaini Farhangi, 2006; Moradi & Khalkhali, 2008; Najafi, 2006; Shahbaz, Nasr Esfahani, & Zamani, 2007). What constitutes the challenges in infusion and instruction of ICT in schools and the role teachers should play in the provision of teaching and learning with web-based technologies, however, has only started to be explored in the last few years in Iran. Iranian teachers' lacks of technological skills in integrating optimal use of ICT into the curriculum have been reported as the main reason for this challenge (Attaran, Alias, & Siraj, 2012; IzadiYazdanabadi & Mirzaee, 2011). Studies have reported that the teachers experienced insufficient technical supports at school and limited access to the Internet (Salehi & Salehi, 2012), lacked of pedagogical instruction to facilitate students conduct on Internet searches (Fatahi, Dokhtesmati, & Saberi, 2011), and lack of positive attitude toward teaching in smart schools (Attaran & Siraj,

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2010). However, little is known as to whether inaccessibility and disconnectivity to the Internet, and the presence of censorship and filtering systems of Internet sites by the Iranian government have contributed to this challenge. There have been no studies that delve further into the features of WBLRs that would intensify Iranian teachers' motivation to use such resources in their classroom instruction, and no definite answer about how positive and engaging uses of the Web are carried out, considering the large and varied range of context found in classrooms. Apparently, the Web does not support learning process as a course in the landscape of Iranian K-12 education. As such, educators may not use web resources in their curriculum unless they perceive them as useful tools in terms of meeting their professional information needs.

The use of web resources in education can be influenced by the quality of the information (Casteleyn, Daniel, Dologand, & Matera, 2009) from the user's perception (Klobas, 1995). Our previous research (Mohammadi, Abrizah, & Nazari, 2015) which focused on the concept of information quality which emphasizes on "information fitness for use" (Wang & Strong, 1996), deliberates on the desirable information quality dimensions of WBLRs required by Iranian teachers, which might be critical in terms of the usage of web resources in the Iranian school context. It is important to take consideration the user's (or consumer's) viewpoint of the quality of information because ultimately the user will decide whether he or she will use the information. Within this context, this paper reports on an exploratory case study of Iranian teachers' motivation to use WBLRs in Iranian smart schools using the concept of information quality as the theoretical lens. The Iranian or Farsi teachers involved in this study are the information consumers and decision makers who will determine whether a web resource is fit for use, which may represent the information quality of the resource. It is important to understand Iranian teachers' perceived pedagogical usability in the context of Farsi Web-based Learning Resources (FWBLRs) for instructional use. Therefore, the main goal of this study is to explore what makes web-based technology use more effective in Iranian classroom instruction.

2. Literature review

A growing number of studies have shown that today's students are expected to use a variety of learning technologies in order to succeed in secondary education. They need equal access and satisfying learning in the new digital environment, including the development of new technology tools and self-regulation of attention while working with the online information. Drigas et al. (2014) who reviewed the literature of the representative researches on ICTs, mobile learning and social media application to enhance learning for attention difficulties in various educational settings, disclosed that there is the general agreement that ICT, mobile learning and social media is not only promising technologies but an existing variety of tools to enhance learning. The authors have emphasized the necessity of providing research findings in the application of new technology and social media in order to meet the specific information needs in the field of educational development. McGough and Salomon (2014) wrote that the use of web-based technology especially social media is second nature to students, and schools can secure their place in the academic life of the institution by using these tools and platforms to engage students in relevant ways. Boticki, Baksa, Seow, and Looi (2015) reported that mobile learning engages students in self-directed and collaborative activities and provides a participatory platform for students to actively contribute, share, and give feedback on their learning experiences individually.

Integrating technologies into teaching and learning is seen by many educators as affording opportunities to shift from

teacher-centred to student-centred learning (Moyle, 2008). Most educational researchers agreed that one important variable in the effective technology implementation and effectiveness is the quality of the teacher knowledge of effective technology uses in instruction (Mulford, 2008). Students value high quality teachers who form positive relationships with students and construct relevant and engaging learning contexts with technologies (Moyle & Owen, 2009). Furthermore, recent research suggests that teachers develop a basic understanding of their students' readiness, interest, and learning profile before adopting and adapting the pedagogical principles when teaching with technology, based on differentiation of these four dimensions (Hobgood & Ormsby, 2011): (a) content, i.e. locating and augmenting content; (b) process, i.e. attending to the student-dependent dimension of differentiation, such as student readiness, student interest, and student learning profile; (c) products, i.e. offering options for how students will express their understanding of the target learning goals and objectives; and (d) environment, i.e. the physical space where learning takes place and all the elements within that space that have an impact on student learning. Tess (2013) who summarized the findings of empirical investigations concerning the utility and effectiveness of social media in education settings revealed that although the infrastructure to support social media's presence exists in most institutions today, educators have been slow in adopting the tool as an educational one. The adoptive educators are likely in an experimental stage of implementation as they look for alignment between course activities and the social media applications. Tess (2013) concluded that gaining social media facilities in education require to recruit expert educators who know how to integrate social media in their curriculum effectively.

The evidence reviewed here indicates that the choices teachers make about the technologies they deploy are reflections of the skills, pedagogical values and philosophies that they endorse. It requires the teachers to rethink the resources made available to their students, the curriculum and assessment approaches and a consideration of these constructs in light of collaborative, rather than simply individualistic points of view. It also requires them to reflect upon their roles and capabilities, to revisit their expectations and understandings of learning in light of the educational possibilities now afforded by WBLRs canvassed in social media, mobile learning's and complex software – such as online games and simulations – and to move on from simply expecting students to use word processing software for the presentation of assignments.

3. Method

The study aims to illuminate motivational dimensions of web-based resources in the context of some actual teaching and learning experiences in the actual setting of a smart school in Iran. Employing a case study as the research method, it attempts to answer the following research question: **What motivates the Iranian high school teachers using web-based learning resources for their classroom instruction?**

A case study is known as a research strategy which allows the employment of multiple research methods and different types of data sources. It is an appropriate methodology when the study aims to explore a contemporary phenomenon or a few issues in some natural settings (Eisenhardt, 1989; Pickard, 2007; Yin, 1994). Smart schools were selected as the use context of this research because there are only a small number of educational centres in Iran which are engaged in using web-based learning resources for education effectively. Surfing the web and questioning the number of school teachers and faculty members in Iran, revealed that among these centres, smart schools might be the best case which could answer the corresponding research questions.

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