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An Empirical Investigation of EFL Teachers' Cultural Perceptions toward the Adoption of ICT. The Case of Secondary Schools in Algeria

دراسة ميدانية للتصورات الثقافية لأساتذة اللغة الإنجليزية كلغة أجنبية تجاه اعتماد تكنولوجيا الإعلام والاتصال. دراسة حالة المدارس الثانوية في الجزائر

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Abstract

Culture has been widely recognised as a major factor affecting teachers' use of Information and Communication Technology (ICT). However, there is very little empirical work that examines cultural perceptions of teachers toward the adoption of ICT in the Arab world. This paper is an attempt to investigate the cultural perceptions of Secondary School English as a Foreign Language (EFL) teachers in Algeria toward ICT. A questionnaire and a semi-structured interview were used in order to collect the data. The findings of the study revealed that EFL teachers demonstrated a moderate positive cultural perception of ICT and were enthusiastic about the cross-cultural aspects of ICT. They were markedly concerned about the proliferation of morally and culturally inappropriate websites and the dangers they may pose for the Algerian students. The informants expressed their interest in having computers that reflect the identity and culture of an Arabic-speaking society. The findings of this research can be useful for decision makers in Algeria, and other Arab countries, to gain a better understanding of the cultural factors that determine teachers' use of technology.

ملخص

الكلمات المفتاحية:

التشاقف

المعتقدات الثقافية

نقل تكنولوجيا المعلومات

العالم العربي.

لقد تم اعتبار الثقافة على نطاق واسع كعامل رئيسي يؤثر على استخدام الأساتذة لتكنولوجيا الإعلام والاتصال. ومع ذلك، هناك القليل من العمل التجريبي الذي يدرس التصورات الثقافية للأساتذة تجاه اعتماد تكنولوجيا الإعلام والاتصال في العالم العربي. لهذا الغرض هذه الورقة البحثية هي محاولة للتحقيق في التصورات الثقافية لأساتذة اللغة الإنجليزية كلغة أجنبية في المدارس الثانوية في الجزائر تجاه تكنولوجيا الإعلام والاتصال. تم استخدام استبيان ومقابلة شبه منظمة من أجل جمع البيانات. كشفت نتائج الدراسة أن أساتذة اللغة الإنجليزية أظهرت تصوراتاً ثقافياً إيجابياً معتدلاً لتكنولوجيا الإعلام والاتصال، وبينما كان الأساتذة متحمسين لجوانب التكنولوجيا عبر الثقافات، كانوا كذلك قلقين بشكل كبير من الانتشار الرهيب للمواقع غير الملائمة أخلاقياً وثقافياً والمخاطر التي تنجر عنها على الطلاب الجزائريين. كما أعرب المستجيبون عن اهتمامهم بامتلاك أجهزة كمبيوتر تعكس هوية وثقافة المجتمع الناطق بالعربية. يمكن أن تكون نتائج هذا البحث مفيدة لصناع القرار في الجزائر والدول العربية الأخرى لاكتساب فهم أفضل للعوامل الثقافية التي تحدد استخدام الأساتذة للتكنولوجيا.

1. Introduction

The global adoption of ICT in education has often been premised on the potential of new technological tools to revolutionise an outmoded educational system, better prepare students for the information age, and/or accelerate national development efforts (Albirini, 2006a). However, it has been observed that teachers and their psychological dimensions appear to be overlooked before and in the aftermath of school reforms, which frequently undermines the implementation of school change and innovation (Bacher, 2013). The problem with the current technology-implementation plans is not only their focus on the potential of the technology per se, but also their failure to base their implementation efforts on research and sufficient information gathering. A key element seems to be left out in both the technology plans and their subsequent implementation processes: the cultural perceptions of the end users and the real agents of change within the classroom arena, namely, the teachers.

While cultural factors play an important role in determining the use of computers in education (Harper, 1987), relatively few attempts have been made to delineate cultural and social variables that foster or impede the adoption of new information technology across national boundaries (Straub, Loch, & Hill, 2001). However, few studies have explored cultural factors that determine the adoption of ICT by citizens in developing countries, especially in the Arab world (e.g. Abu-Samak, 2006; Albirini, 2004; Loch et al., 2003). This is particularly true for most Arab countries that have faced a number of challenges that have slowed the implementation and adoption of their ICT initiatives (Al-Shafi & Weerakkody, 2008). The Republic of Algeria is one such example of developing countries that have recently started a number of ICT development initiatives in the 2000s.

This gap between developed and developing countries can be attributed to a number of challenges ranging mainly from cultural factors (Hill, Loch, Straub, & El-Sheshai, 1998; Straub et al., 2001). For instance, Straub et al. (2001) contend that much of the

technology designed and produced in industrialised countries is culturally biased in favour of their social and cultural systems; consequently, developing countries encounter cultural and social obstacles when attempting to transfer technology, created abroad, into practice at home (Yavas et al., 1992). The present study aims to fill this gap using the two theories of Diffusion of Innovations (Rogers, 2003) and Reasoned Action (Ajzen and Fishbein, 1980) to develop a model that will explain and enhance the understanding of the impact of cultural factors on teachers' adoption of ICT in teaching and learning.

In the domain of education, it has been noticed that teachers' reactions to technological innovations are mediated by their cultural perceptions (Harper, 1987; Watson, 1998). Cultural perceptions are influenced not only by national norms and values but also by school regularities and practices as well (Hofstede et al., 2010). A number of research studies have shown that cultural perceptions of different computer-related technologies are key factors related to both the initial acceptance of these technologies and future behaviour regarding their usage (Al-Oteawi, 2002; Hill et al., 1998; Loch et al., 2003). Hence, studying teachers' cultural perceptions is of paramount importance, particularly in the Arab world, where ICT is not usually a component of the culture. Not surprisingly, authorities in many Arab countries have embraced Information Technologies with unguarded enthusiasm under various cultural influences. This is nowhere truer than Algeria, where this current study was conducted.

Algeria is one of the developing countries that are currently pursuing the technological track in education. Recognising the challenge of the 'Digital Age,' the Algerian Ministry of National Education has recently initiated a national plan to introduce computers and information technology as a main subject for the benefits of first-year students at the level of Secondary Education. To this end, the Ministry has established computer-equipped laboratories or classrooms within secondary schools. It has also connected many schools to the Internet.

In addition, the Ministry created a new specialisation in computer technologies in an effort to increase the number of computer experts in society. According to the Ministry of National Education Report (2006), the introduction of ICT into the Algerian educational system aims ‘to keep pace with the progress and to reach efficient levels of education that permits every learner the chance to know about science, technology and universal culture and at the same time to avoid acculturation’.

Unfortunately, the adoption of ICT in the Algerian schools has not been guided by research. The ‘initiation stage’ (Rogers, 2003), which demands information gathering and planning, has been overlooked in the urgency to implement ICT in schools. A key element that has been left out is understanding the cultural perceptions of the end users toward these new tools (Albirini, 2006b). Such inattention to teachers’ cultural perceptions may generate unforeseen repercussions for ICT diffusion in Algerian schools. In his *Diffusion of Innovations Theory*, Everett Rogers (2003) indicated that an understanding of the culture and local environment in which a technology is introduced is a prerequisite to understanding how best to promote its adoption. In addition, many technology experts have pointed out that the integration of ICT in education should occur in light of the cultural conditions of the country and the prevailing school culture (e.g. Harper, 1987; Thomas, 1987; Watson, 1998). Apparently, unless teachers recognise the importance of ICT for their school and national cultures, they will not accept and use ICT in their classroom practices. This suggests that studies at the early stages of technology implementation should focus on teachers’ cultural perceptions of technology. Starting to understand these information gaps about teachers’ cultural perceptions of ICT was the main drive for the conduct for this study.

Indubitably, the prevalence of ICT has far-reaching effects in the education sector if it is integrated effectively in classroom teaching-learning practices toward preparing and producing outstanding skilled professional cadres in different disciplines. Globally,

language teachers and policy-makers receive strong and constant calls ‘to integrate new technologies into their teaching from the media, government, school administrators, colleagues, parents, and learners, and spite of these calls, the percentage of teachers who have effectively integrated new technologies into their curriculum is still relatively low’ (Schmid, 2011).

Considering the vital role of education, it has become imperative for researchers to identify the cultural perceptions in the minds of teachers regarding the adoption of technology in their classroom practices. Understanding these cultural perceptions is an essential first step in the successful implementation of technology in schools around the world. The research discussed below contributes to this trend by examining the impact of cultural perceptions on EFL teachers’ use of technology at Secondary Schools in the Western district of Chlef in Algeria.

2. Need and Significance of the Study

The huge investments put forth in schools to implement new technologies can be productive only if teachers develop positive attitudes and intention to use technology. This is particularly true in developing countries, where technology has only recently entered the educational environment. This need cannot be ignored within the Algerian context, since, to date, few published studies have examined the status of technology implementation in the Algerian secondary schools.

In Algeria, research studies focusing on the adoption of technology among in-service teachers and students are limited. More specifically, studies on the cultural perceptions of in-service teachers toward the adoption of ICT are either limited or not available. Therefore, the current study assumes significance in addressing in-service teachers’ cultural perceptions of the use of computers as a pedagogical tool in the classroom environment. Such an understanding will help in identifying key determinants of computer use in schools and will provide guidelines to school administrators for the successful use of computers in teaching and learning processes. Fortunately, our study seeks to empirically investigate the impact of

cultural perceptions on EFL teachers' adoption of ICT using a combination of two related theoretical frameworks: Rogers' (2003) Diffusion of Innovations Theory and Ajzen and Fishbein's (1980) Theory of Reasoned Action, which suggests the need for a better understanding of the complex relationship between the culture, the various actors involved, and the degree to which teachers adopt technology in secondary education.

3. The Aim and Objectives of the Study

Given the importance of teachers' cultural perceptions for the success of the implementation of ICT in education, the aim of the current study was therefore to determine EFL teachers' cultural perceptions of ICT in the Algerian Secondary Education. More specifically, the objectives of the present study were twofold:

1. To investigate the cultural perceptions of EFL teachers with regarding the adoption of technology in their society.
2. To explore EFL teachers' cultural perceptions about the relevance of ICT to their secondary schools.

4. Research Questions

Based on the aforementioned aim and objectives, the current study attempted to answer the following research questions:

1. What are the teachers' perceptions about the introduction of ICT into their society, given its own mandates and their own cultural conditions?
2. What are the perceptions of EFL teachers about the relevance of ICT to their schools?

5. Related Review of Literature

5.1 Cultural Perceptions Defined

The first challenge in conducting research involving culture is arriving at understanding what culture is, given the myriad of definitions, conceptualisations, and dimensions used to describe this concept (Straub et al. 2002). For example, Ali, Weerakkody, & El-Haddadeh (2009) define culture as 'values, beliefs, norms and behavioural patterns of a group of

people in a society for national culture, staff of an organisation for organisational culture, and specific professions for professionals'. Hence, culture impacts teachers' intentions to use Information Technologies, including cultural influences, cultural awareness, organisational and national culture. Consequently, culture at the national, organisational, or subunit level exerts a subtle and yet powerful influence on people and organisations and that information flows and information technologies are often closely intertwined with culture (Leidner & Kayworth, 2006).

The membership that all people share is the main feature of culture. Hence, cultural membership is better explained as people who share common features and knowledge that are demonstrated in elements such as artistic accomplishments, language, religion, food, and social characteristics. Culture then plays a pivotal role in how people see the world. This is called cultural perception. Therefore, culture involves how a person lives, speaks, interacts with others and what individuals create, but perception considers how that individual sees the world, or what happens when these two concepts are combined into a single phrase. Cultural perception refers to how people gather information, learn within their specific culture, to inform themselves about their world (Cultural Perception: Definition & Examples, 2017). Culture encompasses all aspects of human life such as knowledge, art, language, traditions, history, religion, customs, norms, and values (Mahmoud, 2015). However, for the purpose of this research, only two levels of culture are used: scholastic and national culture(s).

Based on Rogers' (2003) idea of cultural compatibility, cultural perceptions can be defined as 'the degree to which an innovation is perceived as being consistent with the existing values, experiences, and needs of potential adopters' (p. 15). Within the scope of this study, cultural perceptions refer to the extent to which Algerian EFL teachers' perceptions of the value, relevance, and impact of ICT as it relates to the cultural norms in Algerian society and schools. Thus, cultural perceptions 'embody group understanding

based on common beliefs and values' (Jones & Maloy, 1996, p. 25).

5.2 Teachers' Cultural Beliefs

In the headlong drive to incorporate educational technology in schools, the accommodation of new tools has often taken precedence over the end users' cultural perceptions of the media (Albirini, 2006b). Many researchers have cautioned about the current lack of attention to cultural beliefs and their impact on ICT adoption in developing countries (Hill et al., 1998; Loch et al., 2003). Researchers and scholars from different parts of the world suggest that force-fitting the culture to the technology can create an unfavourable climate for the acceptance of ICT in different organisations in the importing country. For example, Hill, Loch, Straub and El-Sheshai (1998) assert that, unless taken into consideration, sociocultural factors may put ICT transfer at risk in certain developing countries. In the same vein, Loch, Straub, & Kamel (2003) assert that if cultural beliefs and attitudes toward technology are better understood, then the technology itself might be better adapted to the behavioural patterns of the adopting country, rather than the traditional approach of force-fitting the culture to the technology. However, there is a counterbalance to cultural beliefs and values predisposing users to resist innovations (Straub et al., 2001).

Ever since researchers began studying the factors shaping the outcomes of Information Technology (IT) adoption and use, they have focused on the importance of people's beliefs, values, assumptions, and behavioural norms (i.e. culture) (Gallivan & Srite, 2005). A variety of terms have been employed to refer to this domain of study, such as sociotechnical systems, social factors, the social system (Rogers, 2003, 2015), social structure, and culture. Hence, an extensive body of literature shows that attitudes in teaching and learning are essential components for technology implementation (Mumtaz, 2000) and often play a vital role in the achievement of educational aims (Alshumaimeri, 2008). Oyaid (2009) found a positive relationship between teachers' ICT use and

their perceptions towards computers, but it is often the case that teachers' positive attitudes do not imply that they have used technology in their classrooms (Egbert et al., 2002; Gashan & Alshumaimeri, 2015). Additionally, Boulter (2007) noted that there are many factors related to teachers' use of technology, including positive experiences with computers in teaching, and teachers' beliefs and attitudes about technology in teaching. Egbert, Paulus, & Nakamichi (2002) mentioned that teachers' attitudes and beliefs toward using technology in teaching may aid or prevent the usage of ICT in the classroom.

A plethora of research studies have documented the issue of incompatibility between teachers' beliefs and educational innovations (e.g. Al-Mekhlafi, 2004; Bellalem, 2008). In a study conducted in the United Arab Emirates, Al-Mekhlafi (2004) for instance investigated teachers' beliefs and attitudes towards using the Internet in EFL classrooms. He found that although teachers were familiar with using technology and showed a willingness to integrate it in their teaching, the majority did not in fact use the Internet technology in their classrooms. Similar findings about the issue of incompatibility of innovations with the cultural beliefs of its users were documented by Albirini (2006), who for instance studied the effect of technology as an innovation on teachers' beliefs in Syria. He found that importing an educational innovation into Arab countries without taking into account the culture of its users will result in an incompatibility between the innovation and the beliefs of its users, and will ultimately lead to resistance and conflict.

As explained by Pullan & Stiegelbauer (1991, cited in Ertmer & Ottenbreit-Leftwich, 2010), when teachers are asked to use technology to facilitate learning, some degree of change is required along any or all of the following dimensions: (a) beliefs, attitudes, or pedagogical ideologies; (b) content knowledge; (c) pedagogical knowledge of instructional practices, strategies, methods, or approaches; and (d) novel or altered instructional resources, technology, or materials. Similarly, Mueller et al. (2008) noted that

‘although computer-related variables, in general, continue to impact on teachers’ ability to integrate technology, it is positive experiences with computers in the classroom context that build a teacher’s belief in computer technology and confidence in its potential as an instructional tool.

Furthermore, many researchers have suggested that belief systems influence how teachers use technology in the classroom (Ertmer & Ottenbreit-Leftwich, 2010; Roehrig et al., 2007). In a study by Roehrig, Kruse & Kern (2007), teachers with more traditional beliefs will implement more traditional or ‘low-level’ technology uses, whereas teachers with more constructivist beliefs will implement more student-centred or ‘high-level’ technology uses. Additionally, there are beliefs attributed to values which encompass the perceived importance of particular goals and choices (Anderson & Maninger, 2007). Teacher beliefs have been shown to be heavily influenced by the subject and school culture in which they participate (Ertmer & Ottenbreit-Leftwich, 2010). In this regard, Windschitl & Sahl (2002) found that teachers’ beliefs strongly influenced their technology, but the context of their institutions and profession shaped these beliefs.

Although beliefs can have a big impact on the use of technology, cultural context also plays a key role in teachers’ use of technology. Therefore, it is noticeable that the people of a country can be changed easily through geographical contact or through the Internet and the interaction of cultural beliefs across global communities (Islam et al., 2019). Bhugra & Mastrogianni (2004) called this process as ‘acculturation’, ‘assimilation’, ‘deculturation’, or ‘biculturation’.

5.3 The Impact of Cultural Context on the Use of ICT

Teachers are not ‘free agents’ and their use of ICT for teaching and learning depends on the interlocking cultural, social, and organisational contexts in which they live and work (Somekh, 2008, p. 450). Unfortunately, a vast majority of teachers claim that the culture to which they must conform has not adopted a definition of effective teaching that includes the notion

of technology as an important tool for facilitating student learning (Ertmer & Ottenbreit-Leftwich, 2010). Not surprisingly, teachers are hesitant to adopt a technology that seems incompatible with the norms of a subject culture (Ertmer & Ottenbreit-Leftwich, 2010). Likewise, Thomas (1987) indicates that the transfer of technology from industrialised societies to developing countries should take into account the cultural conditions of the importers. Rogers (2003, 2015) asserts that social norms play a vital role in determining the rate of an innovation’s adoption within the boundaries of a social system. Correspondingly, Thomas (1987) and Rogers (2003) note that, despite their indisputable importance, cultural conditions and/or social norms have not been sufficiently studied in the innovation-diffusion research.

Despite the availability of educational technology and the growing trend of employing computers and the Internet in schools, some researchers still see this imported technology as being imposed on society and warning that it could conflict with local needs because it was created in different social contexts and for different cultural backgrounds. Martinez (1999), for example, found that one of the major challenges facing developing countries is to make technology an essential part of the culture of the people. Similarly, Zhuang & Thomas (1987) warned that importing technology into developing countries without sufficient understanding of the indigenous culture could result in an incompatibility between the home culture and the technology. Additionally, it is undeniable that imported computer technology is essential if teachers are to be prepared to face the borderless world we now live in. I think a further point to consider is that the production of materials is a business, and marketing educational products is tightly related to supply and demand. Therefore, in the absence of quality local technology, any society is bound to use and promote imported materials (Boukadi, 2014, p. 86).

The study of cultural perceptions has been found to be essential for accounting for teachers’ overall attitude toward ICT and anticipating their future adoption of

new tools (e.g. Abu-Samak, 2006; Albirini, 2004; Loch et al., 2003; Thomas, 1987). For instance, Abu-Samak(2006) and Albirini (2004) consider cultural perceptions among the five main factors that may determine ICT adoption by educators. Therefore, for a new technology to be placed into an organisation's culture there must be a match of organisational and technological values (Hodas, 1993). Within the school organisation, if the technology is not received well by teachers, there must be a mismatch of values between the culture of schools and that of the technology.

Nistor, Lerche, Weinberger, Ceobanu, & Heymann (2014) reported that little attention has been paid to the cultural factors that affect the adoption of technology. It is worth noting here that Salinas et al. (2017) state that little is known about the effect of cultural contexts on the adoption of ICT in education outside Western countries where research on this topic has been conducted. Nor has there been research about how certain cultural patterns have an impact on the adoption of technology in education.

In summary, current research indicates that, in conjunction with the use of technology over time, teachers' knowledge and beliefs appear to interact with the existing culture to create action. Our understanding of how and under what specific conditions secondary school teachers in Algeria perceive the impact of culture on the adoption of ICT is less clear and may require more highly contextualised investigations of EFL teachers who use technology in their teaching practices.

5.4 Existing studies on teachers' Cultural Perceptions toward ICT in Education

In his theory of Diffusion of Innovations, Rogers (2003) claims that the social system is an important parameter that constitutes a boundary within which an innovation diffuses. The social system may consist of individuals, groups, or organisational systems. The underlying socio-cultural structures in a social system determine the extent to which an innovation is adopted and the time it takes for an innovation to be diffused (Rogers, 2003). Within the boundaries of a social system, social norms play a vital role in determining

the rate of an innovation's adoption. These norms are defined as 'the established patterns of behaviour that tell members of the system what behaviour is expected' (Rogers, 2003). Rogers (2003) and Thomas (1987, cited in Albirini, 2006) emphasised the importance of the cultural/social norms of a given country to the acceptance of technology among its people. Potential adopters may resist a technological tool because it may not fit within their micro- or macro-cultures. Thomas (1987) proposes, 'How acceptable a new technology will be in a society depends on how well the proposed innovation fits the existing culture' (p. 15).

According to Everett Rogers (2003), few studies have investigated the relationship between cultural perceptions and the rate of innovation adoption. For instance, Harper (1987) contended that culture can play a role in the existence of negative attitudes towards computers for two causes: first, "people's apprehension that life is becoming too mechanical, so they resist contributing to a computer culture. The second cause is the concern that there are other social problems that need to be solved before computer education is addressed" (p. 47). Martinez (1999), among other researchers, found that one of the major challenges facing developing countries is to make technology an essential part of the culture of the people.

Additionally, Zhuang & Thomas (1987) warned that importing technology into developing countries without enough understanding of the indigenous culture could result in an incompatibility between the home culture and the technology. Intellectuals from different developing nations were aware of the mismatch between the computer culture and their home cultures. According to Hodas (1996), the diffusion of technologies may be inhibited by the micro culture of a certain institution or organisation. Hence, acceptance of a new technology in a society depends on how well the proposed innovation fits the existing culture. Therefore, there must be a match between organisational culture and new technology in an organisation. Within the school organisation, school culture is an important consideration in terms

of ICT integration (Tearle, 2003). School culture can be defined as the basic assumptions, norms and values, and cultural artefacts shared by school members (Maslowski, 2001, pp. 8–9). These meanings and perceptions indirectly affect attitudes and behaviour in the organisation of schools (Devos et al., 2007). Hence, if teachers do not receive technology well by teachers, there must be a mismatch of values between the culture of schools and technology (Albirini, 2006b). Thus, teachers who have positive perceptions of the cultural relevance of computer technology will apply ICT in education.

The study of the cultural impact on technology's reception has been considered essential for accounting for any positive or negative attitude (Thomas, 1987; Harper, 1987, cited in Abu-Samak, 2006). Unfortunately, however, very few studies have attempted to study the impact of culture on the reception/rejection of new tools. Among the very few researchers examining cultural norms, Li (2002) explored the effects of national culture on students' use of the Internet and the differences between Chinese and British students in terms of Internet use. The researcher found that there were differences in Internet experience, attitudes, usage, and competence between Chinese and British students. Most of these differences were related to students' national culture. Therefore, it could be beneficial to encompass cultural values pertinent to the users' cultural norms for the successful integration of computer applications into the classroom. On the same grounds, Hamdan (2010) contends that educators are often accused of resisting the change, especially in applying ICT, comparable to their colleagues in fields such as economics, aviations, and communications. They are commonly hesitant to indulge using information and communication technologies in schooling on claims of preserving societal culture, traditions, values, local identity and so forth.

Recognising the importance of culture for the successful implementation of Information and Communication Technologies (ICT), Albirini (2004) carried out a study to investigate the cultural

perceptions of high school English as a Foreign Language (EFL) teachers in Syria toward ICT. Using both quantitative and qualitative research methods, this study sought to determine teachers' overall perceptions of ICT as influenced by their national culture as well as school culture(s). The findings pointed to a notable conservatism in participants' perceptions of ICT in education and society at large. Teachers were mainly concerned about the morally damaging effect of ICT (particularly the Internet), its inattentiveness to their cultural and language needs, and its growing primacy at the expense of other societal needs. Therefore, participants of the study urged for the creation of local computers and software that would better serve Syrian identity and culture. In the same vein, Abu-Samak (2006) conducted a study to explore factors that may influence the attitudes towards ICT by Jordanian EFL teachers. The findings showed that Jordanian EFL teachers had moderate positive cultural perceptions of ICT and had no resistance to its use. However, two research studies in our review – Hill et al. (1998) and Loch et al. (2003) – found that cultural factors in Arab countries impeded the adoption of Internet technologies.

From both theoretical and empirical perspectives, cultural perceptions seem to have a significant association with teachers' attitudes toward ICT. It is expected that teachers who have positive perceptions of the cultural relevance of computer technology will have positive attitudes toward ICT in education. Conversely, teachers' negative attitudes toward ICT may be related to their negative cultural perceptions. Overall, implementing effective teaching with technology integration requires changes in teachers' knowledge, beliefs, and school culture (Ertmer & Ottenbreit-Leftwich, 2010).

The above corpus needs to be expanded to truly understand the processes involved in the pivotal role of culture in the uptake of ICT in the domain of education. As Karahanna, Evaristo, & Srite (2005) put it: 'More research studies on cross-cultural information technology adoption and use are needed to develop theories that make a priori prediction on the influence

of culture on the transfer of IT' (p. 3). Clearly, there is a gap for further investigation, and it is here where this study can provide more information about the impact of culture on the adoption of ICT, particularly in relatively unexplored contexts like Algeria.

6. Research Methodology

6.1 Research Design

To achieve the two aforementioned objectives of the study, an explanatory sequential mixed methods design was adopted by conducting two phases of data collection. Phase One involved surveying 56 Secondary School EFL Teachers employed in public schools in the Western District of Chlef. In Phase Two, the implementation of ICT was further explored using qualitative interviews with six Secondary School EFL teachers to provide an in-depth understanding and elaborate on the results of the quantitative analysis, including an explanation of the teachers' cultural perceptions of ICT adoption. This qualitative element was employed to ensure the trustworthiness of the quantitative findings.

The reason for using a mixed method design in this study is to build on the distinctive strengths of each method to add unique perceptions about ICT integration by EFL teachers, which cannot easily be achieved from a study employing a single method. Indeed, research directed from the dual perspectives of qualitative and quantitative data collection and analysis counteracts the disadvantages of a single research method and generates greater depth and breadth of understandings in the interpretation of the data (Check & Schutt, 2012).

6.2 Research Tools

As the current study sought understandings of the cultural perceptions of EFL teachers toward the uptake of ICT in education, the research was based on two main data gathering methods: a structured questionnaire and a semi-structured interview. Drawing on both quantitative and qualitative methods in combination, the explanatory nature of this research has the capacity to develop understandings that using one data source may have been insufficient (Creswell

& Clark, 2017).

To develop an in-depth understanding of EFL teachers' cultural perceptions of ICT adoption in the Algerian Secondary Schools, a combination of qualitative and quantitative approaches was deemed most appropriate to investigate and analyse this phenomenon. In this regard, Cohen, Manion, & Morrison (2011, p. 195) assert that triangular techniques in the social sciences attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and, in so doing, by making use of both quantitative and qualitative data.

6.3 Study Population and Sample

The present study was conducted with 50 (20 male and 30 female) English as a Foreign Language (EFL) teachers who teach in different Secondary Schools in the Western District of Chlef. Additionally, the EFL teachers received a clarification on the objectives and guidelines behind the conduct of the current study, along with the steps taken to ensure the confidentiality of their responses. As of the academic year 2017–2018, the total number of EFL teachers in this district was 79 (29 males, 40%; 50 females, 60%).

As for sampling, the questionnaire informants were EFL Secondary School EFL teachers working in the Western District of Chlef ($n = 50$) while the interview participants ($n = 6$) were selected on the basis of reputational sampling (Denscombe, 2010, cited in Zyad, 2016, p. 69) to gain greater insights into EFL teachers' cultural perceptions toward the adoption of ICT in their classroom practices.

7. Results

7.1 Quantitative Data Analysis

Informants were asked to respond to 16, five-point Likert-type statements. The statements took into consideration the teachers' perceptions of the cultural value, relevance, and impact of ICT as it relates to both Algerian scholastic and national cultures. Cultural perceptions were represented by a mean score on a 5-point scale, where 1 (Strongly Disagree) represents the minimum score of the scale and 5 (Strongly Agree) represents the maximum score. Table 1 illustrates the

frequency of participants' responses to the Cultural Perceptions scale.

Table 1

Frequency Percentages on the Cultural Perceptions Scale

Cultural Perceptions Scale		Percent (%)				
		SD	D	N	A	SA
		1	2	3	4	5
1	* Computers will not make any difference in our classrooms, schools, or lives.	00,0	..0	4,0	62,0	30,0
2	Students need to know how to use computers for their future jobs.	00,0	2,0	2,0	50,0	46,0
3	*Students prefer learning from teachers to learning from computers.	2,0	40,0	38,0	20,0	00,0
4	Knowing about computers earns one the respect of others.	00,0	12,0	42,0	40,0	6,0
5	*We need computers that suit better the Arabic culture and identity.	14,0	52,0	18,0	10,0	6,0
6	Computers will improve our standard of living.	2,0	6,0	20,0	62,0	10,0
7	Using computers would not hinder Arab generations from learning their traditions.	4,0	10,0	16,0	54,0	16,0
8	Computers are proliferating too fast.	00,0	2,0	14,0	60,0	24,0
9	People who are skilled in computers have privileges not available to others.	00,0	6,0	20,0	56,0	18,0
10	*Computers will increase our dependence on foreign countries.	8,0	30,0	18,0	36,0	8,0
11	*There are other social issues that need to be addressed before implementing computers in education.	6,0	50,0	22,0	16,0	6,0
12	The increased proliferation of computers will make our lives easier.	00,0	4,0	20,0	62,0	14,0
13	*Computers dehumanize society.	00,0	16,0	22,0	40,0	22,0
14	Working with computers does not diminish people' relationships with one other.	2,0	24,0	30,0	44,0	00,0
15	*Computers encourage unethical practices.	2,0	40,0	20,0	30,0	8,0
16	Computers should be a priority in education.	00,0	22,0	16,0	42,0	20,0

Scale: **SD**=Strongly Disagree, **D**=Disagree, **N**=Neutral, **A**=Agree, **SA**=Strongly Agree

Note: *negative items were reversed before scoring

The quantitative data were analysed from two perspectives: a school culture and national culture. Concerning the school culture perspective, the majority of the informants agreed or strongly agreed that students need to know how to use computers for their future jobs (96%), and that computers should be a priority in education (62%). Also, a high percentage of the informants disagreed or strongly disagreed with the four negatively stated items 1, 10, 13, and 15, indicating that computers will make a difference in

their classrooms, schools, and lives (92%). However, a high percentage of them (38%) were neutral about whether or not students preferred learning from teachers to learning from computers.

From a national culture viewpoint, the majority of the respondents agreed or strongly agreed that the increased proliferation of computers would make their lives easier (76%), computers would contribute to improving their standard of living (72%), and that knowing about computers earned one the respect of others and ensured privileges not available to others (46%). Besides, some of the informants considered that working with computers did not diminish people's relationships with one another (44%), or encourage unethical practices (42%).

Additionally, most of the informants agreed or strongly agreed (66%) that there was a need for computers that would better suit Arabic culture and identity. The majority of the informants (84%) stated that computers were proliferating too fast. However, over half of the respondents (56%) stated that there were other social issues that needed to be addressed before implementing computers in education.

Table 2

Distribution of Mean Scores on the Cultural Perceptions Scale

Cultural Perceptions Scale	Mean Score	Std. Deviation	Mode Score
Cultural Perceptions	3.49	0.415	3

After reversing the negatively stated items, the mode score for the Cultural Perceptions Scale was 'Neutral' (3). The range of informants' mean scores was between 4.40 and 2.42. Participants responded most favourably to item 2 (mean=4.40), and least favourably to item 5 (mean=2.42). Consequently, teachers' perceptions of the cultural relevance of computers were somehow midway between neutral and positive. The overall mean score on the Cultural Perceptions Scale was 3.49 with a standard deviation of 0.41 (Table 2).

7.1 Qualitative Data Analysis (semi-structured Interview)

In addition to data collected through a quantitative questionnaire, semi-structured face-to-face interviews were conducted with six EFL teachers from the Western District of Chlef to gain a deeper understanding and elaborate on the results of the quantitative analysis with regard to the cultural perceptions of EFL teachers toward ICT. As Creswell & Clark (2017) suggest, a mixed methods design is useful when the quantitative or qualitative approach, each by itself, is inadequate to best understand a research problem and the strengths of both quantitative and qualitative research (and its data) can provide the best understanding.

The majority of the informants were aware that ICT was bringing about noticeable changes in the character of the Algerian school and society. These changes were viewed with a mixture of hope and discomfort on the part of the participants. On the one hand, informants considered ICT to be a new gate opened on the outside world. What interviewees particularly valued about this feature was not only getting updated with the events of the world but also staying in touch with different cultures and people. For some interviewees, this helps enhance 'cultural education' with the added advantage of having a way for communicating directly with people around the world. One respondent reported that:

Today, the widespread of different forms of ICTs enables us to stay connected with the outside world not solely getting news, but it goes further by communicating (facebooking, twittering) with other people from different cultures only with one click on the mouse of the computer. We are no longer isolated in this information era.

Therefore, it is clear that when teachers and students use the Internet while communicating with people all around the world, they have the chance to learn how they think and how they behave.

The administrative support could have a key responsibility toward ICT integration in all subject matters in schools. In this respect, one of the respondents emphasised that 'school administration should build "a culture of innovation and

collaboration" among the teachers ... which promotes the large use of computers. Finally, building a culture of collaboration and knowledge-sharing among teachers can enhance ICT integration. "... I believe that administrative incentives have the power to facilitate the use of computers by more teachers," one teacher proposed. However, another participant was disappointed about the low-level use of Arabic on the Internet in comparison with other main languages on the international stage. One interviewee mentioned that "I cannot imagine a language as great as Arabic.... with a huge number of people speaking it ... has such a low and shy presence on the net. According to me, Arab citizens in general and students in particular are indeed deprived of many benefits from exploiting this international network."

Additionally, most of the respondents expressed their big concern regarding the issue of ethicalities and values that the Internet is bringing into the Algerian culture. One of the responding teachers reported:

Saying that ICT's use is unethical and immoral means by sense that the one who said it suffers from a terrible ignorance because computers or whatever are only means and tools between our hands and human beings are equipped with minds to discriminate between what is right or wrong and what is ethical and unethical. To sum up, we as teachers and parents should stand against such claims and seek development for our children as they are future citizens under the light of ICT.

Another respondent also stated similar words with regard to morality behind computers and the Internet:

I strongly disagree with those who said that using ICTs in our schools or society threatens our Identity or Culture as Muslims. Whilst you know where you came from, you surely know where you are going.

However, most interviewees were hesitant that the diffusion of immoral websites may influence the younger generation. Thus, they strongly recommended that children should never use the Internet on their own. For example, an interviewer remarked that, "making computers and the Internet available for children never means giving them the total freedom to do what they wish, but parents should all the time be after them. Therefore, it is our responsibility as

teachers, parents and authoritarians to guide computer users (pupils, students) to a safe and secure utilisation.” In the same vein, another interviewee asserted that, “We as teachers and parents teach and encourage our students to use computers, but we should keep an eye on them because it is nowadays a real threat ... we can consider the Internet as a double-edged sword. Therefore, we must be alert when students use this means and the government should control immoral websites.”

More importantly, one of the responding teachers unequivocally commented in a few words, “Do what you Know and Know what Do as far as the uptake of technology is concerned.” In accordance with this claim, most of the teachers’ responses seemed to believe in that it is humankind who manipulates computers in the way they prefer and dictate their values and ethics depending on how they put them to use. According to some interviewees, allowing these culturally inappropriate websites to emerge for the common Algerian people is just another way of facilitating ‘a cultural invasion’ in this digital world. As one interviewee indicated, ‘it seems there are people who are dedicated to spreading immorality among the members of our society... I really do not understand what the point of this is (...) what we can do is to block these pornographic websites ... otherwise we would be aiding this form of cultural invasion to go deeper into our society. One has to be always cautious when children are using it.’ Moreover, three other interviewees considered the widespread of immoral websites as a new emerging form of ‘Cultural Imperialism’. One informant stated, ‘Most of the developing countries nowadays do not follow their culture and values in doing something but they actually tend to be influenced by the values and cultures of the West.

To gain a deeper understanding of English teachers’ attitudes concerning the cultural non-neutrality of computers, the researcher of the present study asked interviewees about their reactions to the statement, ‘Computers are said to reflect only the values and ways of thinking of those who make them.’ This statement provoked mixed reactions among the participants. On the one hand, one of the interviewees strongly agreed

by making an analogy with the relationship between language and culture, ‘We cannot learn a language without its culture. Surely they [Computers] bring new values and morals from Western civilisation.’ On the other hand, three of the interviewees agreed reluctantly to the statement, ‘Computer is a means ... indeed it is a flexible one and we can use it in the way we want. I can say that computers are made for every human being regardless of sex, age, ethnic group, and religion.’ In the same vein, another teacher stated:

Unless you open the door, your Identity won’t be threatened whatever you do. Therefore, when surfing on the net, exchanging views, opinions and dealing with foreigners, this indeed enriches your background as a human being except if you forget who you are because the aim behind the use of technologies is to connect and share your views, customs and traditions with others but not to adopt their own.

In the stance of the majority of the interviewees, the problem is not directly related to the computer itself as ‘hardware’ but instead to the ‘appropriate software’ that people want to use.

As for the school culture, most of the interviewees suggested that if computers were to be used in teaching and learning, the Algerian Ministry of National Education should specify adequate programs that educate students ‘morally and culturally’ about the improper material on the Internet. They also insisted on providing surveillance on students from the part of both their teachers in schools and from their parents at home. In other words, the use of the Internet or any form of ICT by students is under the responsibility of everyone in society. One of the respondents proposed, ‘The Ministry of National Education ought to foster sensitive programs in school milieu on the dangers of the improper aspects of the Internet for the benefit of our students.’ In summary, most of the interviewed teachers showed anxiety about the morally damaging effects of certain materials found on the net.

Despite the fact that teachers welcomed the notion of sharing information with people from different cultures ushered in by ICT, they were simultaneously aware of the culturally inappropriate content of materials available on the Internet.

In conclusion, the qualitative data added a new dimension to the quantitative data by providing an explanation for the impact of EFL teachers' cultural perceptions on the adoption of Information Technology. These findings are highly significant, since they demonstrate a readiness among Algerian EFL teachers to use computers in the classroom.

8. Discussion

The main purpose of this study was therefore to explore Secondary School EFL teachers' cultural perceptions of ICT adoption in the Western District of Chlef in Algeria. The current study made use of the theoretical framework emerging primarily from the Theory of Diffusion of Innovations by Rogers (2003) and the Theory of Reasoned Action by Ajzen and Fishbein (1980). This was meant to provide a better understanding of the position of Algerian teachers with regard to the integration of ICT and to explore what factors affect this integration.

Informants' responses to the 16 items on Cultural Perceptions scale ranged between neutral and positive with a mean score of 3.49. From a school-culture perspective, the great majority of informants recognised that students need to know how to use computers for their future jobs and that computer usage will transform their classrooms, schools, and lives. Therefore, they perceived that computers should be a priority in education. However, a high percentage of them were neutral about whether or not students preferred learning from teachers to learning from computers. Moreover, approximately half of the EFL teachers thought that possessing knowledge of computers earned one the respect of others and guaranteed privileges not available to others. In addition, the majority of informants stated that the increased proliferation of computers would make their lives easier and contribute to improving their standard of living. Similarly, most of the informants agreed that using computers does not hinder Arab generations from learning their traditions. Likewise, more than half of the informants thought that the use of computers did not encourage unethical practices. The majority of respondents disagreed that computers increased national dependence on foreign

countries or dehumanised society. Also, the majority of them felt that there were more persistent social issues that should take priority over computer use in schools. It was therefore not a complete surprise that the majority of the informants (84%) agreed that computers are proliferating too fast. In addition, most of the interviewees expressed their enthusiasm toward computer programs that better reflected and suited Arabic culture and identity.

Concerning teachers' cultural perceptions of ICT, the overwhelming majority of the interviewees were content with the use of ICT. Through computer technologies, people had the chance to communicate with people from other countries who speak different languages. They formed intercultural communications and learned about each other's cultures and languages. They have become well aware of a new type of communication such as chat, e-mail and all these new means of communication have brought about new 'authorships' and discourse of communication (Kern, 2006). In this respect, people have become critical of what is stated or put on the Internet. For example, people have been more aware of the latest news and developments on the globe with just one click. Accordingly, all these benefits of computers and the Internet have contributed to the overall development of education and humanity.

The qualitative data showed mixed views concerning the cultural perceptions of ICT integration in education. On the one hand, the interviewees were slightly positive about the cross-cultural and cultural effects of technology. On the other hand, they were worried about the morally and culturally inappropriate aspects of ICT and especially the Internet. This result showed an apparent discrepancy with the quantitative survey data, which showed that most of the informants disagreed that computers encourage unethical practices. For instance, Al-Oteawi (2002), in his study, revealed that Saudi teachers desist from using the Internet in the classroom because of their notable conservatism and the fear of encountering unethical material.

From the findings of both the surveys and the interviews, most EFL teachers responded that they

were less concerned about the computer itself and more about its related programs that would better serve the Algerian identity and culture. They enthusiastically showed their eagerness to use Arab-made software that integrates the values, ethics, and customs of the Arab people. This claim is consistent with Fodje's (1999) argument at the International Conference for Technology in Education:

What the world needs today is not talent in producing new technologies but talent in understanding the impact of technology on the society and individuals... Educational programmes in the Third World heretofore have been designed around the Western ideals. These need to be reworked to reflect the indigenous cultures and promote human values while at the same time producing the talent for 'controlled' technological advancement (Fodje, 1999, p. 1.).

The majority of the interviewees expressed little concern about the cultural non-neutrality of computers; they thought it was the user who ultimately determined how these tools were used. This is in line with what Chandler (1996) calls a 'voluntarist' approach: the individual chooses a tool and controls its use. In addition, teachers were reluctant to endorse the Internet for teaching and learning 'because of concerns about the evil aspects of the Internet'.

Interestingly, the majority of the informants felt the urgent need for the production of computers that better suit Arabic culture and identity. This conclusion is consistent with the findings of the study, conducted by Albirini in 2004 with 314 teachers, that EFL teachers in Syria were 'emphatic' about the need for Arabic software and programs that reflected Arabic identity and values (Albirini, 2004, p. 131). Apparently, the creation of local computer applications and software may foster the initial cultural acceptance of ICT as well as future behaviour regarding its usage.

Additionally, many of the informants noticed that there were more important social issues to be addressed before implementing computers in education. Therefore, it was not surprising that almost all of the informants agreed that computers were proliferating too quickly. The above conclusion implies that balancing resource allocation among

competing areas of need is a critical issue in Arab countries. This result is in line with the findings of Abu-Samak's (2006) research which explored the factors that might influence the attitudes of Jordanian EFL teachers toward ICT.

It seems that the cultural perceptions of ICT among EFL teachers in Algeria were similar to those of EFL teachers in Jordan (Abu-Samak, 2006) and other parts of the Arab World (Al-Oteawi, 2002; Albirini, 2006a). Although Albirini (2004) found that Syrian EFL teachers in Hims did not feel ICT was a threat to Arabic culture and neither did this current study, Kibbi (1995) reported that the lack of Arabic software was a significant reason for the limited implementation of ICT in schools. However, this is contradictory to what Akinyemi (2003) noticed in his examination of the perspectives of some Omani students on web-based learning and possible cultural interference. He found that web-based learning poses an obvious threat to Arab culture and religion.

9. Conclusion

While the study of teachers' cultural perceptions is universally an upon-agreed need, it is more so in Arab countries, being at the receiving end of the computerisation process. Researchers have pointed to teachers' cultural perceptions as one of the main factors influencing ICT adoption (Abu-Samak, 2006; Albirini, 2004; Loch et al., 2003). The findings of the current study support this conclusion. The participants' enthusiasm about the advent of ICT into their schools seems to be conditional; different cultural issues must be resolved before the new tools are fully accepted. Although teachers supported the entry of ICT into the school system, viewing it in light of the demands of this globalised world for technologically capable generations, they simultaneously expected a careful plan that would take into account preparing teachers and students for this innovation. Likewise, the participants welcomed the advent of ICT into Algerian society and were apprehensive about the immorality that the Internet might bring into the Algerian culture. Besides, teachers urged for the creation of Arab-made computers and software that would reflect Algerian values and better serve Algerian culture.

Teachers' deep anxiety about the morally and culturally inappropriate materials on the web and their unwelcome effects on Algerian children and students should receive due attention to the part of the Ministry of National Education. The Ministry may need to employ Internet content blocking systems, apply stringent laws about Internet use, and/or implement awareness programs in schools for the benefits of students. Such steps would alleviate teachers' concerns and simultaneously motivate them to use ICT in their classrooms with the least amount of anxiety. It is also necessary for teachers themselves to increase their awareness of the importance of this issue in order to be able to guide students in the right way during their access to the Internet.

A common denominator among the quantitative and qualitative data was the optimism and eagerness of EFL teachers for the need of software and programs that are compatible with the Arabic character, values, and customs. Policy-makers should spare no efforts to address this issue. Adequate funds should be allocated for the creation of software that is pertinent to Arab students and acceptable to Arab teachers. Also, the findings of this study revealed that Algerian society becomes remarkably more receptive and enthusiastic toward ICT integration in the Arab region.

Given the significant influence of cultural perceptions in determining EFL teachers' attitudes toward ICT, future studies may consider investigating further the role of culture on EFL teachers' attitudes towards ICT and the rate of adoption of such innovations in settings other than Algeria in the Arab region. It is evident that culture is a significant factor influencing the decision to accept or reject an innovation as well as the rate of adoption of an innovation, particularly in developing countries.

Conflict of Interest

The author declares that he has no conflict of interest.

References

- Abu-Samak, Z. T. (2006). An exploration of Jordanian English language teachers' attitudes, skills, and access as indicator of information and communication technology integration in Jordan. Unpublished PhD dissertation, Florida State University.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Akinyemi, A. (2003). Web-based learning and cultural interference: Perspectives of Arab students. In A. Rossett (Ed.), *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 1858–1862). Phoenix, Arizona, USA: Association for the Advancement of Computing in Education (AACE).
- Al-Mekhlafi, A. (2004). The internet and EFL Teaching: The Reaction of UAE secondary School English Language Teacher. *Journal of Language and Learning*, 2(2), 88–113.
- Al-Oteawi, S. M. (2002). The perceptions of administrators and teachers in utilizing information technology in instruction, administrative work, technology planning and staff development in Saudi Arabia. Unpublished doctoral dissertation, Ohio University, United States.
- Al-Shafi, S., & Weerakkody, V. (2008). The use of wireless internet parks to facilitate adoption and diffusion of e-government services: an empirical study in Qatar. *Proceedings of the 14th Americas Conference on Information Systems (AMCIS 2008)*, 322.
- Albirini, A. (2004). An exploration of the factors associated with the attitudes of high school EFL teachers in Syria toward information and communication technology. Unpublished doctoral dissertation, the Ohio State University.
- Albirini, A. (2006a). Teachers' attitudes toward information and communication technologies: the case of Syrian EFL teachers. *Computers & Education*, 47(4), 373–398. <https://doi.org/https://doi.org/10.1016/j.compedu.2004.10.013>
- Albirini, A. (2006b). Cultural perceptions: The missing element in the implementation of ICT in developing countries. *International Journal of Education and Development Using ICT*, 2(1), 49–65.
- Ali, M., Weerakkody, V., & El-Haddadeh, R. (2009). The impact of national culture on e-government implementation: A comparison case study. In P. 1–13. S. F. California (Ed.), *Proceedings of the 50th Americas Conference on Information Systems. AMCIS 2009*.
- Alshumaimeri, Y. A. (2008). Perceptions and Attitudes toward Using CALL in English Classrooms among Saudi Secondary EFL Teachers. 4(2), 29–46.
- Bacher, A. (2013). Investigating teachers attitudes toward the adequacy of teacher training programs and CBA-related Instructional materials: A case study of the Algerian intermediate school teachers of English in the region of Biskra. Unpublished Doctoral Thesis, Mohammed Khider University, Biskra (Algeria).
- Bellalem, F. (2008). An Exploration of Foreign Language Teachers' Beliefs about Curriculum Innovation in Algeria: A Socio-Political Perspective. Unpublished doctoral dissertation, King's College, University of London.
- Bhugra, D., & Mastroraggi, A. (2004). Globalisation and mental disorders: Overview with relation to depression. *British Journal of Psychiatry*, 184(1), 10–20. <https://doi.org/10.1192/bjp.184.1.10>
- Boukadi, S. (2014). Critical approach to integrating ICT into second language learning. In R. AL-Mahrooqi & S. Troudi (Eds.), *Using Technology in Foreign Language Teaching*. Cambridge Scholars Publishing.
- Boulter, C. (2007). EFL and ESL Teacher Values and Integrated Use of Technology in Universities in the Asia-Pacific Region (Issue April). Unpublished PhD thesis, Queensland University of Technology, Australia.
- Check, J., & Schutt, R. K. (2012). *Research methods in education*. Sage Publications.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education* (7th ed.). Routledge.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research* (3rd ed.). Sage publications.
- Cultural Perception: Definition & Examples. (2017). <https://study.com/academy/lesson/cultural-perception-definition-examples.html>
- Egbert, J., Paulus, T., & Nakamichi, Y. (2002). The impact of CALL instruction on language classroom technology use: A foundation for rethinking CALL teacher education. *Language Learning & Technology*, 6(3), 108–126.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher Technology Change. *Journal of Research on Technology in Education*, 42(3), 255–284. <https://doi.org/10.1080/15391523.2010.10782551>

- Gallivan, M., & Srite, M. (2005). Information technology and culture: Identifying fragmentary and holistic perspectives of culture. *Information and Organization*, 15(4), 295–338. <https://doi.org/10.1016/j.infoandorg.2005.02.005>
- Gashan, A. K., & Alshumaimeri, Y. A. (2015). Teachers' Attitudes toward Using Interactive Whiteboards in English Language Classrooms. 8(12), 176–184. <https://doi.org/10.5539/ies.v8n12p176>
- Hamdan, M. Z. (2010). E-learning in Syria. In U. Demiray (Ed.), *Cases on Challenges Facing E-Learning and National Development: Institutional Studies and Practices. e-Learning Practices. Volume II*.
- Harper, D. O. (1987). The Creation and Development of Educational Computer Technology. In R. M. Thomas & V. N. Kobayashi (Eds.), *Educational Technology—Its Creation, Development and Cross-Cultural Transfer* (pp. 35–63). Pergamon Press. <https://doi.org/10.1016/B978-0-08-034993-0.50008-3>
- Hill, C. E., Loch, K. D., Straub, D., & El-Sheshai, K. (1998). A Qualitative Assessment of Arab Culture and Information Technology Transfer. *Journal of Global Information Management*, 6(3), 29–38. <https://doi.org/10.4018/jgim.1998070103>
- Hodas, S. (1996). Technology Refusal and the Organizational Culture of Schools. *Education Policy Analysis Archives*, 1(10), 1–23. <https://doi.org/10.1016/B978-0-12-415040-9.50106-8>
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind*. (3rd ed.). McGraw-Hill.
- Islam, M. R., Wahab, H. A., Burmeister, C. F., & Chowdhury, S. R. (2019). Cultural Globalization: A Critical Analysis of Identity Crises in the Developing Economies. In N. Faghih (Ed.), *Globalization and Development: Economic and Socio-Cultural Perspectives from Emerging Markets* (pp. 369–385). Springer International Publishing. https://doi.org/10.1007/978-3-030-14370-1_16
- Jones, B. L., & Maloy, R. W. (1996). *Schools for an information age: restructuring foundations for learning and teaching*. Westport : Praeger.
- Karahanna, E., Evaristo, J. R., & Srite, M. (2005). Levels of culture and individual behavior: An integrative perspective. *Journal of Global Information Management*, 13(2), 1–20. <https://doi.org/10.4018/jgim.2005040101>
- Leidner, D. E., & Kayworth, T. (2006). A review of culture in information systems research: Toward a theory of information technology culture conflict. *MIS Quarterly*, 30(2), 357–399.
- Loch, K. D., Straub, D. W., & Kamel, S. (2003). Diffusing the internet in the arab world: the role of social norms and technological culturization. *IEEE Transactions on Engineering Management*, 50(1), 45–63. <https://doi.org/10.1109/TEM.2002.808257>
- Mahmoud, M. M. A. (2015). Culture and English Language Teaching in the Arab World. *Adult Learning*, 26(2), 66–72. <https://doi.org/10.1177/1045159515573020>
- Martinez, E. (1999). Boosting public understanding of science and technology in developing countries. *World Conference on Science*. <http://www.nature.com/wcs/c16.html>
- Ministry of National Education. (2006). *Programme d'Anglais Deuxième Langue Etrangère (Troisième Année Secondaire)*. Algérie: Commission Nationale des Programmes –Mars 2006.
- Mueller, J., Wood, E., Willoughby, T., Ross, C., & Specht, J. (2008). Identifying discriminating variables between teachers who fully integrate computers and teachers with limited integration. *Computers & Education*, 51(4), 1523–1537. <https://doi.org/https://doi.org/10.1016/j.compedu.2008.02.003>
- Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of Information Technology for Teacher Education*, 9(3), 319–342. <https://doi.org/10.1080/14759390000200096>
- Ništor, N., Lerche, T., Weinberger, A., Ceobanu, C., & Heymann, O. (2014). Towards the integration of culture into the Unified Theory of Acceptance and Use of Technology. *British Journal of Educational Technology*, 45(1), 36–55. <https://doi.org/10.1111/j.1467-8535.2012.01383.x>
- Oyaid, A. (2009). *Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in education*. Unpublished PhD thesis, University of Exeter, UK.
- Roehrig, G. H., Kruse, R. A., & Kern, A. (2007). Teacher and school characteristics and their influence on curriculum implementation. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching*, 44(7), 883–907.
- Rogers, E. M. (2003). *Diffusion of innovations*. (5th ed.). New York. Free Press.
- Rogers, E. M. (2015). Evolution: Diffusion of Innovations. In *International Encyclopedia of the Social & Behavioral Sciences* (Second Ed., Vol. 7, pp. 378–381). Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.81064-8>
- Salinas, Á., Nussbaum, M., Herrera, O., Solarte, M., & Aldunate, R. (2017). Factors affecting the adoption of information and communication technologies in teaching. *Education and Information Technologies*, 22(5), 2175–2196. <https://doi.org/10.1007/s10639-016-9540-7>
- Schmid, E. C. (2011). Bringing Technology into the Classroom. *ELT Journal*, 65(1), 89–91. <https://doi.org/10.1093/elt/ccq078>
- Somekh, B. (2008). Factors affecting teachers' pedagogical adoption of ICT. In J. Voogt & G. Knezek (Eds.), *International Handbook of Information Technology in Primary and Secondary Education*. Springer International Handbook of Information Technology in Primary and Secondary Education, vol 20 (pp. 449–460). Springer.
- Straub, D., Loch, K. D., & Hill, C. E. (2001). Transfer of Information Technology to the Arab World : A Test of Cultural Influence Modeling. *Journal of Global Information Management*, 9(4), 6–28. <https://doi.org/10.4018/jgim.2001100101>
- Thomas, R. M. (1987). The nature of educational technology. In R. M. Thomas & V. N. Kobayashi (Eds.), *Educational Technology—Its Creation, Development and Cross-Cultural Transfer* (pp. 1–23). Pergamon Press.
- Watson, D. M. (1998). Blame the technocentric artefact! What research tells us about problems inhibiting teacher use of IT. In G. Marshall & M. Ruohonen (Eds.), *Capacity building for IT in education in developing countries* (pp. 185–192). Springer.
- Windschitl, M., & Sahl, K. (2002). Tracing teachers' use of technology in a laptop computer school: The interplay of teacher beliefs, social dynamics, and institutional culture. *American Educational Research Journal*, 39(1), 165–205.
- Yavas, U., Luqmani, M., & Quraeshi, Z. A. (1992). Facilitating the adoption of information technology in a developing country. *Information & Management*, 23(2), 75–82. [https://doi.org/https://doi.org/10.1016/0378-7206\(92\)90010-D](https://doi.org/https://doi.org/10.1016/0378-7206(92)90010-D)
- Zhuang, J., & Thomas, R. M. (1987). Computer technology transfer to developing societies: a Chinese-language case. In R. M. Thomas & V. N. Kobayashi (Eds.), *Educational Technology—Its Creation, Development and Cross-Cultural Transfer* (pp. 65–89). Pergamon Press.
- Zyad, H. (2016). Integrating Computers in the Classroom: Barriers and Teachers' Attitudes. *International Journal of Instruction*, 9(1), 65–78. <https://doi.org/10.12973/iji.2016.916a>

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