

## THE INTEGRATION OF TECHNOLOGICAL RESOURCES IN THE EFL CLASSROOM: A HOLISTIC REVIEW

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### ABSTRACT

By large, recent evidence suggests that modern technologies, and their extensions, have found their way to the heart of people from all walks of life around the globe. Being all the rage now, the widespread, and even rampant at times, use of Information Communication Technologies have changed the face of countless domains. The purpose of this paper is to review recent research on the necessary characteristics that facilitate integrating technology resources in their classrooms as a meaningful pedagogical tool and purports the demand to inculcate a technology-friendly organizational culture in schools worldwide

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### INTRODUCTION

Undoubtdly, modern technologies have amazingly succeeded in invading every nook and cranny of our daily life. Being all the rage now, the widespread, and even rampant at times, use of Information Communication Technologies have changed the face of countless domains. They, absolutely, have broken the mould of education, pushing the teaching-learning process to the next level. Notwithstanding, research

has consistently shown that technology is still underused in the field of education. A set of characteristics, in a sense, or factors in another sense, organized around the nature of the school organizational culture, multimedia culture at schools, teacher's personality, self-esteem, self-concept, computer self-efficacy, attitudes, teachers' prior experience, teacher training needs, and teacher efficacy in relation to target disciplines, are often cited, on the current literature, as the main variables that affect the route and rate of modern technologies integration in education. The purpose of this paper is to review recent research on the necessary characteristics that enable teachers to integrate technology resources in their classrooms as a meaningful pedagogical tool.

### **ORGANIZATIONAL CULTURE**

In recent years, there has been an increasing interest in the introduction of modern technologies into numerous schools across the globe. With a view to getting teachers incorporate modern technologies such as computers, internet, multimedia, and communication technologies in daily practice, schools have been investing a lot of efforts and money. Indisputably, integrating technology into instruction guarantees the implementation of high-quality instruction and the quick responsiveness to emerging issues in education. Although various technologies have been used so widely in many fields, the main concern remains how to incorporate modern technologies successfully in classrooms. Thus, countless are the studies conducted in a way or another to prove that education systems drive development and financial growth of countries. Joining the debate, Schultz (1981) argues that the most important funds of a country are the individuals in that country. With reference to Hackbarth (1996), the technologies that are designed for instructional purposes often whet students' learning in many ways. They encourage them to study, they help connect the new information with the old knowledge, they associate the lesson subject with the real-life experiences of the student, they allow students to reach and evaluate the necessary information, they meet the expectations and needs of the society, they help students describe the world in the way they observe, they help summarize the information to facilitate comprehension, and they increase individual learning.

In his book, *The educational technology handbook: a comprehensive guide: process and products for learning*, Hackbarth concluded that it is mandatory to give support to technology use at schools, and initiate information technology laboratories, reminding us that devices such as projectors and smart whiteboards if are well placed in classrooms, they will make wonders. In line with hackbarth, "schools successful in integrating technology into their curricula generally work on

comprehensive plans for technology use”, Ritcchie (2002). He concludes that rather than acting just as a road map, these plans explain the philosophy of technology use as well as the way of developing teaching-learning activities.

### **ICT POTENTIAL AT SCHOOLS**

A number of Studies (Chen & Chang, 2006; Dexter & Riedel, 2003; O.,Connor, Higgins, & Russell, 2003; Simmons, 2011) have found that technology use at schools has not yet gained its expected potential to develop students’ knowledge and skills. Russel, Bebel, O’Dwyer and O’Conner (2003), in their study, came to the conclusion that teachers use technology mostly in the phase of preparation for lessons. However, one striking point in American schools is the employment of technology experts in schools to support teachers during the phase of technology application. They have argued that teachers need these technology experts, who are representatives of change in American public schools, in classroom practice. However, technology experts are not always available for help when needed (Simmons, 2011; Ausband, 2006; Chen & Chang, 2006; Johnson, 2006; Ma, Andersson & Streith, 2005; Dexter & Riedel, 2003) [6]. .

### **TEACHERS’ ATTITUDES**

Recent studies have unraveled some of the mysteries surrounding the integration of ICT in education, namely teachers’ attitudes towards modern technologies. Recent developments in the field have confirmed that teachers’ attitudes impact the use or misuse, or underuse of these technologies at schools. Interestingly, a large and growing body of literature has put forward that certain individual factors related to the teacher’s personality . A number of authors (Benson, 2004; Hsioung, 2002; Roussos, 2002) have found characteristics such as computer self-efficacy, self-concept, motivation, needs, etc., appear to determine the extent to which modern technologies are integrated or not in educational practice. Arguably, previous research (Compeau & Higgins, 1995; Khorrani-Arani, 2001) has reported that attitudes towards information technology are interrelated with computer self-efficacy since they are deemed to be a significant factor in the interpretation of the frequency and success with which individuals use computers.

### **TEACHERS’ COMPUTER SELF-EFFICACY**

Several studies (Bandura, 1997; Hoy & Miskel, 2001) have attempted to define self-efficacy. According to these studies, self-efficacy is defined as the personal judgement about one’s capability to adopt certain behaviours and actions in order to accomplish certain objectives and

expected outcomes. Koliadis (1997) asserts that the degree of self-efficacy which individuals assign to themselves constitutes a valid predictor of the expected behaviour that the individuals will demonstrate in performing a task. In turn, Compeau and Higgins (1995) defined computer self-efficacy as “judgment of one’s capability to use a computer”. It is fair to say that recent research draws our attention that computer self-efficacy is conditional on a strong sense of self-efficacy. Swimming in the same lake, Karsten & Roth, (1998) hold that a strong sense of self-efficacy enriches human achievement and personal life in many ways. In their major study, Looney, Valacich, and Akbulut (2004) noted that general self-efficacy reflects considerable positive influence regarding computer self-efficacy. Undoubtedly, teachers with a greater sense of computer self-efficacy tend to prefer technologies based on the worldwide web as a vehicle for instruction delivery, whereas teachers with lower computer self-efficacy prefer more traditional methods such as chalk & talk, or traditional lectures. Research shows that computer self-efficacy influences expectations (Compeau & Higgins, 1995) and emotional reactions regarding the effective use of modern technologies (Looney et al., 2004). The bottom line is that teachers who do not deem themselves as proficient computer users are less likely to use them in class practice. Ashton & Webb (1986) corroborates that beliefs regarding teacher self-efficacy are interconnected to teaching practices. It necessarily follows that if, and only if, teachers are to integrate technology into their teaching practice, they have to conceive themselves to be self-efficacious at its use (Ropp, 1999). Albion (1999) holds the view that a positive attitude towards computers and a strong sense of computer self-efficacy are basic preconditions for positive self-efficacy in computer-aided teaching. According to recent reports by numerous scholars (Pajares & Schunk, 2001; Sommerfeld & Watson, 2000), evidence tells that self-efficacy is tied with achievement in different pedagogical settings.

### **SELF-ESTEEM**

Deemed as a critical factor, Self-esteem refers to how much a person “values, approves of, appreciates, prizes, or likes him or herself” (Blascovich & Tomaka, 1991). Baya’a & Daher (2013) have reported that teachers' feelings of self-esteem and control in the existence of ICT increase their Motivation to actually integrate ICT in their classroom teaching activities. Similarly, (Fransson, Holmberg, Lindberg, & Olofsson, 2019) assured that teachers with a high self-esteem are more likely to demonstrate a higher inclination towards developing digital skills to sophisticatedly reshape their teaching and learning practices and to incorporate digital technologies in their working environment. More importantly, out of conviction that digital industry constantly changes they, most of the time, feel the need to work harder to continuously and

fluidly adjust to the technological developments, and correspondingly retain their self-esteem and self-image.

### **SELF-CONCEPT**

The link between self-concept and achievement in education is very idiosyncratic in nature. In this respect, Huitt (1998) reminds us that the more global the self-concept under examination is, the less it correlates with achievement in a specific domain. Reaching the same results, Skaalvik (2003) reports that “generalized self-concept diminishes the ability to explain behavior, but we must examine self-concept as a more multidimensional concept in specific domains”. In line with this, Marsh (Pajares & Schunk, 2001) warned that: “research clearly proves that self-concept and its relationship with other variables cannot be sufficiently understood if we ignore its multidimensional domain-specific nature”. As a concluding remark, it is not surprising to say that self-concept is related to background, previous experience and impacted by teachers’ perception and school situation. In essence, self-concept mirrors years of experience and self-evaluation by reflected appraisals of significant others, via realistic expectations in the behaviour or academic capabilities. In a nutshell, the scrutinizing self-concept components in specific domains regarding teachers’ academic role is a crucial factor in order to integrate modern technologies as pedagogical tool in assorted educational practices.

### **TEACHERS’ PRIOR EXPERIENCE**

A key characteristic that can influence an individual’s computer self-efficacy is prior experience in their use. Ropp (1999) confirms that prior experience is interpreted according to the amount of time an individual has spent working with computers and the different applications they have learnt to use. It has been suggested that teachers’ emotional attitudes to technology determine the workload nature and the time scope regarding computer use in class. Indeed, teachers’ prior experience in the use of technology influences their view of their own efficacy, that is their self-efficacy. Hsioung (2002) notes that this experience in turn greatly affects teachers’ self-confidence concerning the integration of technology in the teaching process. Holding the same view, Slough and Chamblee report that teachers with positive prior experience in the use of technology as an aid to teaching tend to use it in the classroom (Hsioung, 2002). In a report by Software and Information Industry Association (2000), which sums up research into educational technology over the last 20 years, it is explicitly stated that teachers are more effective after receiving extensive training for integrating technology into the school curriculum. In the same publication, it is also reported that teachers who have successfully used communication technologies such as e-mail, newsgroups and mailing lists in order to exchange ideas on educational matters, demonstrate greater progress in self-efficacy and confidence in

their teaching abilities compared to teachers lacking access to such tools. A major study by Gist, Schwoerer, & Rosen (1989) voiced out the benefits of educational tutorials constitute a significant means for the increase of computer self-efficacy. Providing further evidence, a recent study conducted by Wallace (1999 quoted in Khorrami-Arani, 2001) on education and computer students (subject-specific), investigated the correlation between the computer self-efficacy of a 3-item measure (basic, advanced skills and file-software) with main factors such as computer anxiety, computer confidence and computer knowledge, in order to describe the influence and the development of computer self-efficacy. Interestingly, comparisons affirmed that computer students expressed low levels of computer anxiety, and higher levels of computer knowledge and computer confidence in comparison with those who have less contact with computer technologies (Khorrami-Arani, 2001).

### **CONCLUSION**

How to integrate technology in education has been a constant worry for schools around the globe. Based on evidence from an avalanche of studies, to guarantee successful ICT integration in teaching practice, schools should carefully consider the aforementioned characteristics. Teacher training in technology as an educational tool should be the starting point. This very first step is said to be empowering enough. It disruptively changes teachers' attitudes pendulum in favour of modern technologies incorporation and raises teachers' confidence towards technology use as well. Teacher training in education provides them with the necessary skills that they need to upgrade most of, if not all, their current teaching practices. As stated before, teachers' prior experience with modern technologies facilitates incorporating these technologies in future teaching-learning experiences. Revolving in the same orbit, teachers need to have specific subject needs during their technology learning/training. By the same token, the curriculum should stress the importance of technological practices. Teachers should grow on the job, updating the previously gained skills (prior experience), so that they would teach their students the way they want to learn.

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