The Technological Pedagogical Content Knowledge of EFL Teachers (EFL TPACK)

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INTRODUCTION

ICT-integrated teaching is not as easy as it might seem and it requires compound skills and knowledge base for both teachers and learners. The theoretical framework of the knowledge teachers need to teach with technology has been referred to in the literature by the term TPACK or Technological and Pedagogical Content Knowledge. TPACK is a complex framework that explains teacher knowledge for technology integration and its intertwining concepts.

This heavy demand of teaching professional career is rooted in a string of developments and advancements in technological arena that started in mid-20th century and has been flourishing in this century swiftly. It is not far-fetched to say that every aspect of peoples' lives is changing along with advances of technology in the 21st century. Computers, cell phones, televisions, and other technological devices are no longer considered new inventions, as they are now being used daily by everyone. Education like other fields of science must not fall behind this trend. The curriculum, methodologies of teaching, resources and materials, teachers, students and the school environment need to adapt and change to match the requirements of the modern world in which technology plays an undeniably significant role.

For some people, staying current with technology in the field of education is a more important issue as they look at the progress of ICT (Information and Communications Technology) to be a solution to many pedagogical problems (Pedersen, 2001). This implies a prevalent force in the modern world to embrace technology more than ever. In the field of education, this is translated into smart schools that are equipped with innovative technological facilities such as interactive whiteboards, developed computer laboratories and a variety of software programs.

Many researchers have investigated the effects of ICT on enhancing teaching and learning in different ways. It is believed that ICT can have positive effects on education such as learning efficiency, learning effectiveness, access, convenience, motivation, and institutional efficiency (Hubbard, 2009). With that being said, ICT integration in education is expected to lead to better learning which automatically demands more qualified teaching conditions.

In this era, educational administrators push educators to empower themselves professionally in line with the trend of technological normalization. Hence, many teachers face the dilemma of 'changing' themselves with the new teaching condition. With this pushed change in the educational system, of course come some unintended consequences for the teachers, some of which are actually not so desirable (Pedersen, 2001). Some of these consequences are already evident: ICT integration can take a huge load off teachers if the required resources and skill are present; however, it is also likely that it reduces the teaching quality in environments that lack the needed resources and/or teachers do not possess enough technology

knowledge. As a matter of fact, research suggests that one of the most important personal factors that hinder technology normalization is the lack of ICT knowledge (Mahdi, 2013). Studies in this regard reveal that in order to benefit from all aspects of technology in education, ICT should be integrated in the educational system in a way that it is used by teachers and students every day, as an integral part of the lesson, just like pen and pencil (Bax, 2002). Naturally, this requires much knowledge of technological affordances from both sides.

According to what was presented above, it is obvious that the lack of knowledge to use technology creates a huge burden for teachers to integrate technology in the process of teaching (Yurdakul, et al., 2012). Teaching is known to be one of the most stressful occupations ever since teachers are believed to suffer from different social and political discriminations leading many of them to feel frustrated (Warrad, 2013). Now in the 21st century, the force of technological empowerment and ICT integration in schools has multiplied the stressful nature of the profession for teachers. TPACK or ICT-literacy can be the answer to teachers' prayers regarding successful ICT integration in schools. To make the whole process of education more successful and to protect the well-being of teachers, empowering teachers to handle their job appropriately is a very crucial issue. TPACK is the knowledge of most value in today's world and understanding this complex knowledge is the very first step in the path of successful ICT integration into the process of teaching. With that being said, this chapter aims at investigating the concept of TPACK in terms of education in general and language teaching in particular.

BACKGROUND

Considering the complexity of teaching profession in general, it is not a surprising thing to claim that the knowledge required by teachers to integrate ICT into their teaching is also complex in nature. The idea of creating a construct for explaining this

knowledge goes back to 1986 in the Shulman's description of pedagogical knowledge (PK). In his seminal work, Shulman suggested three categories of content knowledge required to handle the teaching of a specific subject matter: subject matter content knowledge, pedagogical content knowledge, and curricular content knowledge. By the advancement of technology, however, the attention to teachers' knowledge base was naturally drawn to technological arena and the way it is interwoven with other types of content knowledge. Research on TPACK can generally be divided into three main categories (Yurdakul et al. 2012):

1. Definition and measurement of TPACK,
2. Effects of professional development on TPACK, and
3. Evolution of the TPACK.

In the first phase of TPACK research, the studies tried to systematically define TPACK (e.g., Koehler, Mishra, Yahya, and Yadav, 2004) and create a deep understanding of the complex interrelationships between content, pedagogy and technology knowledge and the contexts in which they occur (Yurdakul et al. 2012).

The second phase of TPACK mostly focused on investigating the role of TPACK in the professional development of pre-service and in-service teachers (Koehler & Mishra, 2005). Most studies in this phase were experimental and tried to explore whether teachers' professional development programs can actually influence their TPACK level. Not surprisingly, it was found by most of these studies that teachers' professional development has a positive influence on developing teachers' level of TPACK (e.g., Doering, Veletsianos, Scharber, & Miller, 2009; Graham et al., 2009).

Following this phase, research on TPACK construct shifted to focus on developing an integrated model of TPACK considering its various dimensions separately and in relation to one another. However, the number of studies with a focus on TPACK as a unified and consistent body

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