Doing what works: A grounded theory case study of technology use by teachers of English at a Korean university

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ABSTRACT

Despite considerable effort and expenditure by the Korean government and universities to promote technology use in tertiary education, few teachers of English in Korea regularly and consistently employ technology in their teaching. Moreover, research into the hindrances and enablers of technology use in English education in Korea has been limited for primary and secondary schools and conspicuously absent on the tertiary level. This case study examines what teachers in a general English department at a private university in Seoul undergo as they consider the use of technology both in and out of classrooms. It attempts to provide a holistic look into teacher decision-making in this context. It employs a grounded theory of investigation underpinned by a close reading of the diffusion of innovations theory by Rogers (2003). Data for the study involves three main techniques: semi-structured interviews, a survey questionnaire, and classroom observations. Analysis follows an iterative, grounded method and includes use of both qualitative and quantitative software programs (Atlas.ti 5.0 and SPSS 16.0 respectively). Results from the study form a substantive theory entitled "what works" which helps explain the myriad of decisions that teachers make while trying to manage personal (internal) and administrative (external) goals and aims. Further, all decisions within this system are underpinned by "what works" for teachers in any situation both in terms of reliability and consistency. Implications suggest that the use of technology in the classroom exacerbates preexisting pedagogical and infrastructure issues, leading to inconsistencies in representation and application, as well as an overall limitation of potential use by teachers.

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1. Introduction

Extensive investment in educational technology in all levels of education continues to spur research throughout the world (Al-Mansour & Al-Shorman, 2012; Baek, Jung, & Kim, 2008; Ertmer, Ottenbreit-Leftwich, Sadik, Senddurur, & Sendurur, 2012; Eteokleous, 2008; Kirkwood & Price, 2013; Mueller, Wood, Willoughby, Ross, & Specht, 2008; Son, 2004; Teo, 2011). This is particularly salient in South Korea where trillions of Won were invested in information and communications technology (ICT) in education by The Ministry of Education & Human Resources Development (MOE & HRD) from 1978 to 2001 through major policies such as the "Beginning Stage", "Rolling Out Stage", "Evolving Stage" and "Expansion Stage" which sought to modernize and globalize the education system (MOE & HRD, 2006). Concurrent and subsequent measures such as "The Comprehensive (or 'Master') Plan for Developing ICT Use in Education" (KEDI, 2007; MOE & HRD, 2003, 2006) in the 1990s attempted to improve infrastructure in schools as well as provide teacher training and promote research. Another substantial plan, "Brain Korea (BK21)", involving a two-phase process, was considered so successful that the first phase (1999–2005) budget of US $1.34 billion was raised to US $2.03 billion in the second (2006–2012) phase (Brender, 2006). Perhaps more significantly, during this time, the government body that oversaw education in Korea (MOE & HRD) changed its name to the "Ministry of Education, Science and Technology (MEST)" to better reflect the growing interest in technology in education (MEST, 2009). However, more recently, the government was able to successfully divide these areas in a controversial move to expressly promote job creation in the information technology (IT) and communications sectors (Yonhap News Agency, 2013). Significant investment in IT in Korean education continues unabated but with more

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emphasis on ICT to acquire employable skills deemed essential to new industries and new media communication (Chung, 2013; Ministry of Science, ICT and Future Planning [MSIP], 2014).

The shift in emphasis to more vocational aims for technology use may represent recognition of the lack of success of more academic or pedagogical goals. During the decades of investment in technological infrastructure in education by the Korean government, few attempts were made to support teachers with classroom implementation. Suh (2004), for instance, surveyed 161 primary and secondary English teachers in the Gangwondo province and found that, of the 90% who reported having had technology training, most did not use or seldom used a computer in the classroom owing to a lack of time. Likewise, Jo (1995) found that overall Korean schools had considerable hardware and software resources owing to strong government support. However, the primary and secondary teachers in the study expressed discontent with the government mandates on computer use in the classroom, which lacked proper logistical support or provisions for training (Jo, 1995). Another study by the Further Education Funding Council (FEFC, 1998) reported that Koreans had pride in and placed a high emphasis on education, and devoted a considerable proportion of the gross domestic product (GDP) to education, including a sub-stantial investment in technology when compared with the United Kingdom. The report, however, like many subsequent studies, did not conduct teacher interviews or surveys on implementation or training and so failed to provide a richer account of the situation. Again, the lack of holistic studies on classroom implementation points to one of the biggest impediments to ICT integration in English programs in Korea: an overall lack of information and verifiable research in the area (Hampel & Stickler, 2005; Kim, 2004; Kim, & Bagaka, 2005; Kim, & Margolis, 2000). As Suh (2004) puts it, "[o]ne of the major challenges facing educational policy in the information age is how to integrate computer technology into the English language learning curriculum" (p. 1040). Significantly, the scarcity of studies into classroom tech-nology integration and particularly on the tertiary level parallels the deficiency of support by the Korean government in this regard.

Moreover, the pattern of considerable initial investment without support followed by lament at the lack of quantifiable results perhaps reflects the persistent international concern that computers are essentially incompatible with teaching in areas not specifically related to technology (Becker, 2000; Cuban, 1997; 2001; Cuban, Kirkpatrick, & Peck, 2001). Contributing to this misperception is an overemphasis on studies showing the negative or inconclusive effects of technology use on student standardized testing achievement such as the large-scale investigation conducted by the United States Department of Education in 2007. Additionally, other more general research has highlighted the possible dangers of using technology including the degradation of society's morals and culture (Bowers, 1998), potential psychological damage for children (Healy, 2004), or even hyperbolic attempts to inextricably link investment in computers to the failures of TV and film use in education (Oppenheimer, 2003). However, a more objective and extensive review of the literature by Schmidt et al. (2014) recently found that technology is "demonstrably playing an important role in improving pedagogy" (p. 286). Consequently, Schmidt et al recommend that researchers focus more thoroughly on analyzing instructional factors in order to have the greatest impact on research and practice.

1.1. Teacher decision-making

Two key areas for theoretical exploration of teacher decision-making relate to contextual beliefs and beliefs about personal empow-erment. Ford (1992) referred to these as "context" and "capability". Context, for Ford, comprises the effects of the external environment together with the individual's beliefs about other people. The second and more significant of the two, capability, is similar to Bandura's (1977) notion of "self-efficacy", which involves a person's ability to be successful in organizing and executing actions toward a specific goal. This further echoes Rotter's (1966) theory of internal and external control, albeit, with more emphasis placed on the external factors affecting teachers' educational influence on students. Another closely related theory, the integrated model of behavioral prediction (Fishbein, 2000; Fishbein & Yzer, 2003), developed from previous work by Ajzen and Fishbein (1980) and Fishbein and Ajzen (1975), is underpinned by "behavioral", "normative" and "control" beliefs which, similar to Ford's (1992) and Bandura's (1977) models, help identify the internal beliefs and mechanisms as well as the external factors that guide an individual's decision-making.

When any of these models is applied to teacher decision-making, a host of concerns come to light related to teachers' internal beliefs about personal and professional goals and aims, external factors in and out of the classroom including administrative and educational dictums, and the practical processes by which these often disparate factors are resolved on a day to day basis. Kelchtermans (1996) attempts to untangle these teaching predicaments by viewing the teacher's professional conceptions of her/himself ("professional self") through five introspective components. These can be expressed as five self-applied questions for educators: (1) What kind of teacher am I? ("self-image") (2) How well do I think I am doing as a teacher? ("self-esteem") (3) Why did I choose this?/What motivates me? ("job motivation") (4) What must I do to be a good teacher? ("task perception"); and, (5) What do I expect of my future professional situation? (Future perspective) (Van den Berg, 2002, p. 604). Another aspect to research in this area involves decision-making in terms of adaptations to emergent in-formation (Fogarty, Wang, & Creek, 1983; Mullock, 2006). Findings from these studies reveal teachers to be proficient experts who "rather quickly access an appropriate solution path based on mental representations of the domain" (Fogarty et al., 1983, p. 23). Other studies conclude that teachers are motivated by a variety of aims which are central to their choices (Issacs, 1994), or that teachers generally try to convey passion for their subject in hopes of propagating student interest (Sutherland & Badger, 2004). In short, as is evident from the literature on teacher decision-making, any new studies that hope to galvanize opinion would necessarily need to employ a theoretical framework with a wide scope rather than simply attempt to isolate individual causal factors.

1.2. Barriers to and enablers of technology use in education

For decades, researchers (e.g., An & Reigeluth, 2011; Franklin, 2007; Pelgrum, 2002; Shedletsky & Aitken, 2001; Venezky, 2004) have continued to add new findings to the long list of factors that either hinder or facilitate technology use. While helpful on the whole, the resulting overabundance of specific barriers to and enablers of integration in practice that have amassed over the last three-plus decades can prove daunting. For example, Becker's (2000) salient observation of the necessary factors for successful integration resulted in a list of over ten variables including items related to teacher comfort and technology training, student-centered, constructivist pedagogy and, an aca-demic atmosphere "where the school's daily class schedule permits allocating time for students to use computers as part of class assign-ments, where enough equipment is available and convenient to permit computer activities to flow seamlessly alongside other learning tasks" (p. 29).