# Chapter 4
# Technology Leadership in Turkish Schools: A Systematic Review

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## ABSTRACT

*This chapter aimed to systematically evaluate theses and articles that were published between the years 2000-2019 in Turkey related to school technology leadership in terms of their topics, methods, results, and recommendations. Web of Science, ERIC, SCOPUS, ULAKBIM, and Turkish National Thesis Center were applied. In this context, 42 studies were examined. Findings indicated that technology leadership studies mostly focused on technology leadership competencies, technology leadership behaviors, and technology leadership roles. The descriptive survey design was found to be used frequently in technology leadership studies. According to the perceptions of teachers and principals, it was determined that principals exhibited high levels of technology leadership competencies, behaviors, attitudes, and roles. On the other hand, it was noted that there is a dearth of studies conducted on variables related to technology leadership and the factors that affect the principals being the technology leaders.*

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## INTRODUCTION

Computers and the internet have become important tools in education and training with innovation and development of information technologies. School principals have a significant role in the effective use of information and communication technologies (ICT) in schools, such as being a pioneer, supporter and resource provider of change (Schiller, 2003). Thus, leadership behavior of principals is vital for school development and student success (Diamond & Spillane, 2016; Durnalı, 2019; Hallinger & Heck, 2010; Heck & Hallinger, 2014; Leithwood, Patten & Jantzi, 2010; Leithwood & Sun, 2012). One of the study areas of school leadership is technology leadership, which helps integrate technology with leadership skills (Jacobsen & Flanagan, 2003). Technology leadership requires a school culture that encourages principals to understand new technologies, have personal competency to use these technologies, and use new techniques effectively in the teaching and learning process (Schiller, 2003). Indeed, recent developments in the field of ICT are considered as another important factor in the development of school (Webber, 2003). For example, laptops, tablet computers, smart boards, smartphones, and similar technologies are becoming widespread in the teaching processes (Chua & Chua, 2017; Çukurbaşı, İşbulan & Kıyıcı, 2016). Countries such as Finland, Hong Kong, Singapore, Canada, New Zealand, Great Britain and the United States make ICT widespread in their schools to improve their education systems (Davies, 2010; Tan, 2010; Yee, 2000). In particular, the studies of the International Society for Education Technology (ISTE) on the determination of standards for the use of technology in education constitute a turning point. The National Educational Technology Standards for Administrators (NETSA) on technology leadership, which were published in 2002 and revised in 2009, include chapters on visionary leadership, digital learning culture, excellence in professional practice, systematic development and digital citizenship (Anderson & Dexter, 2005; Barron, Kemker, Harmes & Kalaydjian, 2003; Brown & Jacobsen, 2016; Weng & Tang, 2014). These standards have inspired the developed and developing countries and guided countries to establish their own technology leadership standards (Gürfidan & Koç, 2016; Hafızoğlu, Karadeniz & Dalgıç, 2011). This has caused a search for answers to questions regarding which areas the studies on technology leadership in education in Turkey focus on and what kinds of consequences they lead to.

In 2012, the Movement for Increasing Opportunities and Improving Technology (FATIH) project was put into practice by the Ministry of National Education for the use of ICT in the teaching processes in Turkey (Banoğlu, Vanderlinde & Çetin, 2016; Çukurbaşı et al., 2016; Durnalı, Orakcı, & Aktan, 2019). With the FATIH Project, the central government aimed to integrate technology into teaching processes in all primary and secondary schools, to use ICT effectively and to ensure equality of opportunity. In this context, studies were conducted for various purposes, such as establishing an education information network to create educational e-learning for the development of hardware and software networks for schools (Coşkun & Mardikyan, 2016), the use of ICT in the curriculum, integration of smart boards in schools, and raising the awareness of teachers to use the existing technologies effectively and reliably (Banoğlu et al., 2016; Chua & Chua, 2017; Güven & Kaleli Yılmaz, 2016). The question of *who the actors are to ensure the effective use of the relevant ICT in education and training* has come to the fore. Therefore, the introduction of technology leadership standards for principals has paved the way for carrying out technology leadership studies in schools (Chang & Hsu, 2009; Gürfidan & Koç, 2016). Indeed, technology studies in education in the literature have focused on factors such as pedagogical issues affecting the integration of schools with technology, equality concerns, insufficient professional development, and insufficient technology leadership (Jacobsen & Flanagan, 2003; Weng & Tang, 2014).