Examining the Relationships Between English Teachers' Lifelong Learning Tendencies with Professional Competencies and Technology Integrating Self-Efficacy

Nihal Şen[1] · Hatice Yildiz Durak[2]

Abstract
The aim of this study is to examine the lifelong learning tendencies of English teachers, their professional competencies, and their self-efficacy in integrating technology. For this purpose, a descriptive survey model was used in this study. The participants of the research consist of 561 English teachers working in institutions (private and state) affiliated to the Ministry of National Education selected from every geographical region of Turkey. Participants work in primary, secondary, and secondary education institutions. Non-random stratified purposive sampling method was used in the sample selection of this study. Personal Information Form and 3 different scales were used for the data collection process of the research. Analysis of the data was performed by one-way analysis of variance (ANOVA), t-test, and simple linear regression analysis. As a result of this research, it was seen that there is a positive correlation between English teachers' technology ıntegrating self-efficacy, professional competency, and lifelong learning tendencies. It was determined that teachers' self-efficacy in integrating technology and professional competencies are predictors of their lifelong learning tendencies. In addition, it was observed that there was a significant difference in English teachers' self-efficacy in integrating technology, lifelong learning tendencies, and professional competencies according to gender. English teachers' professional competencies differ according to the type of institution, while their self-efficacy in integrating technology differs according to the type of institution and age. It is thought that the results of this study will contribute to raising awareness about the impact of teachers' self-efficacy and professional development on technology integration on issues surrounding their lifelong learning tendencies.

Keywords Adult learning · Lifelong learning · Technology integrating self-efficacy · English teachers

✉ Hatice Yildiz Durak
   hatyil05@gmail.com

Extended author information available on the last page of the article

1 Introduction

Lifelong learning is all kinds of learning activities throughout life in order to develop knowledge, skills, and competencies within a personal, social, and occupational perspective (Ministry of National Education [MoNE], 2014). Therefore, individuals with lifelong learning skills are individuals who have various high-level thinking skills, can use digital technologies for research, inquiry, and self-development, develop self-regulation and evaluation skills, have high communication skills, and can work collaboratively in social and professional environments (Kozikoğlu & Altunova, 2008). 2018; Voogt & Roblin, 2012; Durak & Tekin, 2020). The main purpose of lifelong learning is to ensure that people are prepared for the new conditions in society. It can be said that it is to provide continuity by expanding the boundaries and aims of education. Quendler and Lamb (2016) emphasized that the development of individuals' lifelong learning competencies is important when trying to create a change in the values and attitudes of the workforce and society towards sustainable development, and this importance is more evident for educational institutions. Along with lifelong learning, the need to develop various competencies has emerged in order to adapt flexibly to the rapidly changing world (Dabbagh & Castaneda, 2020). The pace of this change has made reskilling efforts even more critical for today's employees (Pelster et al., 2017). In the context of the skills required by these changes, the development of teachers' qualifications in various fields is critical (Vo & Nyugen, 2010). As a matter of fact, teachers should follow new technologies and new educational approaches in an effort to improve themselves, regardless of professional experience, in order to train individuals in the society according to the needs of the age, and use these technologies and approaches for a more effective teaching and better preparation of their students for life (Durak & Şahin, 2018). Therefore, a lifelong learning attitude is one of the factors that can affect teachers' professional competencies (Selvi, 2011).

Professional development is a key concept for teaching, and Diaz-Maggioli (2003) defines professional development as a reflective process that results in fruitful results when sustained. Professional development is activities that develop an individual's knowledge, expertise, and other characteristics as a teacher, and different professional development features may be required in different areas. The fact that English is seen as one of the most important communication tools in the international arena and students encounter many difficulties in this field has highlighted the professional development of English teachers (Babanoğlu & Yardimci, 2017). According to Godwin-Jones (2015), today's language teachers must be sufficiently educated to take advantage of the opportunities provided by digital technologies. Tseng and Yeh (2019) stated that many technological tools should be integrated into language teaching in order to improve the language skills of their students. For more effective English teaching, English teachers should be empowered to take advantage of the educational opportunities offered by digital technologies (Abuhmaid, 2011). In this context, the current situation of teachers regarding professional competencies (Golonka et al., 2014; Mavroudi &

Tsagari, 2018), perceptions of technology self-efficacy (Ekici et al., 2012; Yildiz Durak, 2021a), and lifelong learning tendencies should be taken into account. Based on these situations, this study deals with the relationship between lifelong learning tendencies, special field competencies, and technology integration self-efficacy in the context of various personal and situational variables in the focus of English teachers.

1.1 Importance of Research

In order to effectively integrate digital technologies into language teaching, it is important that English teachers have the competence to integrate technology that combines instructional and content knowledge with technological knowledge (Liu & Kleinsasser, 2015). On the other hand, the role of lifelong learning tendencies is important in ensuring the sustainable development of teachers' technology use and professional competencies. According to Demirel and Akkoyunlu (2017), teachers must first acquire lifelong learning skills in order to build a society composed of information literate individuals who are lifelong learners. A holistic view of the variables related to teachers' lifelong learning skills is important as a reference for future action plans to develop teacher competencies. It is thought that evaluating the factors of lifelong learning tendencies at the teacher level independently from each other may be a limited approach in understanding the process. On the other hand, in order to improve teachers' attitudes about lifelong learning, increase their awareness, and support their competencies, first of all, their current status regarding lifelong learning tendencies should be determined (Şahin & Durak, 2018).

In addition, it is important to determine the situation according to personal demographic characteristics and professional status variables of teachers in order to increase lifelong learning opportunities, presentation, and access, to develop a lifelong guidance and counseling system for teachers, to monitor and evaluate (Durak & Tekin, 2020). The skills of using digital technologies are important for the development of lifelong learning skills (Loureiro et al., 2012). In addition, it has been assumed in the literature that it directly affects the integration of digital technologies and professional development (Fidan et al., 2020; Starkey, 2010).

The current study, which examines the relationships between English teachers' lifelong learning trends, professional competencies, and technology integrating self-efficacy, is expected to guide the institutions responsible for the professional development of teachers, especially those who teach in technologically enriched English language classes. As a matter of fact, it may be important to keep these relationships in mind when structuring in-service training.

This study also examines the role of personal and situational variables related to lifelong learning trends, technology integration self-efficacy, and professional development, allowing the evaluation of the role of these variables in coping with the challenges in developing competencies and technology integrating self-efficacy. Mavroudi and Tsagari (2018) emphasize that before starting the development process of technology-enriched educational environments, designers/developers should make a comprehensive analysis of the different technological

and educational factors and characteristics of the educational environment. On the other hand, Mavroudi and Hadzilacos (2013) state that user-centered instructional design models for online learning emphasize learner characteristics such as demographic information, needs, preferences, and experiences. In the integration of digital technologies, it has been observed that knowledge, competence, beliefs, intentions, and attitudes are related to teachers' gender and (e.g. Sang et al., 2010) age (Lau & Yuen, 2013). Similarly, in the literature, personal and situational variables are also effective in professional competence and lifelong learning (e.g. Starkey, 2010; Durak & Tekin, 2020). In this study, attention was drawn to the importance of demographic variables for future teachers to improve the lifelong learning tendencies of English teachers, to improve the use of technology in education, and to enrich the understanding of 21st-century teaching practices. In addition, factors such as English teachers' seniority, course load, number of students, education level, type of institution, the socio-economic level may affect how teachers integrate technology into teaching, their lifelong learning tendency, and professional development. Therefore, it is thought that the findings of the current research may be useful to the field in order to determine the reflections of these variables and to see the effect of the context.

1.2 Aim of the Research

The research aims to examine lifelong learning tendencies, professional field competencies, and technology integrating self-efficacy of primary, middle and secondary school English teachers' in Turkey. In line with the aim of the research, the sub-problems of the research were determined as follows:

1. How are the English teachers' professional field competencies, lifelong learning tendencies and technology integrating self-efficacy?
2. Do English teachers' professional field competencies, lifelong learning tendencies, and integrating technology self-efficacy differ according to

   a. Gender,
   b. Age level,
   c. Seniority,
   d. Education level
   e. Type of institution,
   f. Socio-economic level,
   g. Course load,
   h. The number of students?

3. Are English teachers' professional field competencies and technology integrating self-efficacy a meaningful predictor of lifelong learning tendencies?
4. Is English teachers' technology integrating self-efficacy a predictor variable between their professional field competencies and lifelong learning tendencies?

2 Conceptual Framework

2.1 Lifelong Learning

Lifelong learning is defined as the basic competencies and requirements that are considered necessary for a person to realize himself and continue his job throughout life (Selvi, 2011). With the acquisition of these abilities, the continuous development of society and individuals is aimed. Lifelong learning has also been seen as a way to overcome problems (Cornford, 2002). Besides, lifelong learning is defined as the activities that a person performs throughout life to improve knowledge, abilities, and competencies in a particular field (Demirel, 2009). Formal and informal education practices, all educational activities that are and are not included in traditional education are within the scope of lifelong learning (Friesen & Anderson, 2004). In this context, lifelong learning is defined by a wide variety of learning opportunities. Lifelong learning is also a guiding principle to ensure the continuity of learning environments (European Commission [EC], 2000). As a result, lifelong learning can be defined as all the skills necessary for the individual to realize himself, adapt to society, maintain professional development and keep up with the requirements of the information society.

2.1.1 English Teachers' Lifelong Learning Tendencies

English has become a widespread communication tool around the world. More and more people are trying to learn English as a second language. This has made teaching English very popular. Since English is the most preferred language in political, cultural, educational, and economic relations, institutions must meet the changing needs of students and innovations in language exams and programs (Korkmazgil, 2015). In 2018, the European Commission updated the lifelong learning competencies. These competencies are literacy, languages competence, science, technological, engineering and mathematical competence, digital competence, personal, social, and learning competence, civic competence, entrepreneurship competence, and cultural awareness and expression. Having communication competencies in a foreign language is one of the lifelong learning competencies (MoNE, 2014). Language proficiency emphasizes the importance of learning languages as a means of communication in business and multilingual societies (European Commission, 2018). Also, it is aimed to increase the teacher's abilities, content knowledge, pedagogical content knowledge and technological-pedagogical content knowledge.

2.2 Professional Competencies of Teachers'

The concept of professional competence is defined as the employee's professional abilities, knowledge, skills, and ability knowledge in a certain work environment (European Commission Communities, 2005). Gathering the knowledge, skills, and attitudes required for qualified implementation is also expressed as competence. Teacher competencies are expressed in the form of knowledge, abilities, and

behaviors that teachers must carry to fulfill their profession in the most useful and effective way (MoNE, 2017). Schools will provide the training of these individuals. The quality of schools is also related to the education that teachers will provide. The fact that the teacher has professional competencies can be an indication that the education will be of high quality (Durak & Tekin, 2020). In this context, it is possible for the teacher to be effective by taking advantage of the opportunities to improve himself before and while teaching (Özdemir, 2016).

2.2.1 Professional Field Competencies of English Teachers'

Professional field competencies for English teachers consist of the following: planning and organizing English teaching processes, monitoring and evaluating language development, improving language skills, having professional development in the field of English, working together with school, family and society (MoNE, 2017). According to Godwin-Jones (2015), language teachers should be competent in the target language and be able to follow developments in order to benefit from the opportunities provided by digital technologies. It is important to follow the learning and teaching methods that require English teachers to lead technology and the opportunities offered by digital technologies in order to effectively sustain their professional development (Mavroudi & Tsagari, 2018). It can be said that the main way of empowering English teachers to benefit from these opportunities is to support their lifelong learning competencies.

On the other hand, Bragg et al. (2021) globally, with the COVID-19 pandemic, schools and universities, students, and teachers have had to make heavy use of online collaboration tools and digital apps to enable and support continuing education. It can be said that this situation has led to permanent changes in the structure of education provision and the professional competencies of teachers.

2.3 Technology Integrating Self-efficacy

Self-efficacy, which is a concept, became important in a person's success in a task. According to Bandura (1986), self-efficacy is effective in starting, continuing and completing a task. The perception of the individual about his ability to be effective forms the basis of the concept of self-efficacy. In this context, the self-efficacy of integrating technology refers to the self-confidence level of teachers in using technology effectively in learning environments (Yildiz Durak, 2021b). In addition, teachers' self-efficacy in integrating technology is one of the most important variables in the successful integration of technology into educational environments (Atman-Uslu & Usluel, 2019; Yildiz Durak, 2019).

Technological developments and the urgent necessity of distance education due to the pandemic are rapidly changing the learning and teaching methods that require teachers to lead technology. These changes include not only access to digital technologies but also an increased emphasis on preparing teachers to use technology effectively in their classrooms (Durak & Saritepeci, 2017; Wang & Lu, 2021). However, it is stated in the literature that teachers have problems integrating technology,

and even teachers who are familiar with technology are insufficient in integrating technology into education effectively (Heitink et al., 2016). In addition, this competence may be affected by demographic variables such as age and gender (Lane & Lyle, 2011).

2.3.1　English Teachers' Self-Efficacy for Technology Integration

Technology should be used commonly in foreign language education (Ahmadi, 2018). Lailiyah and Cahyono (2017) consider the use of technology as an opportunity for teaching English and state that English teachers should be aware of these opportunities and use them to improve their teaching. On the other hand, the main purpose of learning English is to provide communication and interaction (Cuq & Gruca, 2003; Gibson, 2002; González-Lloret, 2020). The transition to online learning environments with the pandemic process has created challenges for language educators whose main goal is to help students improve their target language proficiency by encouraging meaningful and authentic interaction between students and providing adequate feedback (Choi & Chung, 2021). This situation reveals how important the self-efficacy of integrating technology is for English teachers. Also, although many digital resources for teaching English are available on various platforms, the self-efficacy of integrating technology is essential to integrate technology into teaching, adapt e-contents to online platforms, design high-quality lessons that enable students to feel connected to their learning processes, and have sustainable language learning experiences.

2.4　The Role of Professional Competencies in English Teachers' Lifelong Learning Tendencies

Schools are one of the leading institutions where lifelong learning skills should be acquired. Schools can fulfill this responsibility only if teachers are equipped in this sense. Lifelong learning skills are of vital importance in terms of increasing the quality of both the teacher and the education system (Yenice & Tunç, 2019). In order for English teachers to perform their duties effectively and to equip their students with lifelong learning skills, they must also have lifelong learning skills (Selvi, 2011). In addition, since English is an international communication language, it is of great importance to examine English teachers' lifelong learning competencies (Savuran, 2014).

2.5　The Role of Self-efficacy for Technology Integration in the Relationship Between English Teachers' Lifelong Learning Tendencies and Professional Competencies

The learning motivation of the adult is related to the need for information, awareness, previous experiences, self-perception, a tendency towards life-centered learning, duties, roles, and responsibilities of the adult. The most important theoretical model in adult learning is the andragogical model used in adult learning (see Knowles, 1975). In this

context, the self-directed learning approach plays a very important role in preparing adults after university for life (Boyer et al., 2014). The self-directed learning approach is a very effective approach to ensure adult participation and training (Ellinger, 2004). According to Turner (2007), self-directed learning is a process in which adults control their learning by being aware of their own learning processes for a purpose. This approach can be adapted in the context of teachers' development.

In the self-directed learning approach, the most important problem is that the teacher, as an adult, takes own responsibility and decides what, where, when, and how to learn. At this point, the teacher's professional development needs and lifelong learning attitudes and competencies come to the fore. The teacher explores relevant options in the context of his/her need and determines a path for learning. The competence to use and integrate technology can be defined as a structure for what, where, and how the teacher will learn and present to the student. In addition, the desire of adults to learn; may differ depending on their interests, education level, socio-economic and socio-cultural environment, demographic characteristics. For this reason, it is expected that the personal characteristics of the teacher will differentiate the motivation process to meet their professional needs.

In the context of this theoretical basis, one of the main objectives is to ensure the continuity of the necessary knowledge, skills, and competencies in the information society, and lifelong learning is considered important for the acquisition of various competencies, ensuring their continuity and developing effective teaching and learning methods. In addition, lifelong learning will enable teachers to learn about the learning opportunities offered and to have easy access to learning environments. Digital technologies are widely used in many branches in many fields. Digital technologies in English education can be effective in interacting with different learning styles for meaning construction, providing original language learning materials, improving listening and speaking proficiency, and improving learners' interest and motivation (Huang et al., 2021). For this reason, the effective use of digital technologies can be considered more important for English teachers. Based on all these, it is seen that technology is an important part of the professional competencies that English teachers should have (Lai et al., 2016; Ahmadi, 2018). At the same time, another important part of the professional competence of English teachers is that they should have lifelong learning trends (Al Asmari, 2016). Teachers must be prepared to adapt rapidly to new contexts brought about by technological developments, acquire skills, and continue learning. Likewise, the use of technology is considered to be an important element of lifelong learning skills (e.g. Gürkan, 2017). Thus, with the use of technology, it is seen that an English teacher can both develop lifelong learning skills and have the professional competencies that an English teacher should have.

3 Method

3.1 Research Model

In this study, descriptive survey model was used to examine the relationships between English teachers' professional competencies, Survey models are approaches

that aim to describe a past or present situation as are. The subjects of the research are tried to be defined in their own conditions and as they are. There is no effort to differentiate them in any way (Karasar, 2009: 77).

3.2 Research Participants

The participants were 561 English teachers (voluntary participation) selected from 21 provinces in all geographical regions of Turkey who work in institutions affiliated to the MoNE. In addition, the participants work in primary, middle and secondary education institutions. In the sample selection of this study, a non-random stratified purposeful sampling method was used. This method is used because it allows to show, describe and compare the characteristics of subgroups (Büyüköztürk et al., 2017).

79.7% of the participants are women and 20.3% are men. 447 of the participants are women and 114 of them are men. It was determined that the majority of the participants were between the ages of 31-40 with 54% and 303 people. It is seen that 20.9% of the participants are 117 people between the ages of 20-30, 104 people between the ages of 41-50 with 18.5%, and 37 people aged 51 and over with 6.6%. It is seen that 82% of the participants are bachelor's degree with 460 people, 18% of them postgraduate with 101 people. 26.7% of the participants have professional seniority of 6-10 years.

3.3 Data Collection Tools

The scale created for the data collection process of the research was prepared and applied to English teachers online.

Personal Information Form: It was developed by the researcher and applied by taking an expert opinion. The Personal Information Form consists of 9 questions and includes the following information: *"gender, age, professional seniority, educational status, type of institution, education level, socio-economic status of the school environment, weekly course load and the total number of students".*

English Teacher Professional Field Competencies Scale: In order to measure the professional field competencies of English teachers', the scale was used. This scale was developed by Çelik et al. (2018). There are 36 items and consist of 3 sub-dimensions: Language Skills Supporting Competencies (1-16), Assessment and Evaluation Competencies (17-27) and Organizing Learning-Teaching Environment Competencies (28-36). It is seen that the responses to these items are 5-point Likert structure as "strongly disagree, disagree, partially agree, agree and strongly agree". For these scales, a reliability coefficient value above 0.70 is accepted as high reliability. In this study, the Cronbach Alpha internal consistency coefficient is .97.

Technology Integrating Self-Efficacy Scale: This scale will be applied to learn English teachers' technology use and self-efficacy. It was developed by Karataş (2014). This scale consists of 21 items and has a single sub-dimension. It is seen that the

responses to these items are scaled in a 5-point Likert structure as "strongly disagree, disagree, hesitant, agree, strongly agree". The Cronbach's alpha internal consistency coefficient calculated in this study for the whole scale is .977.

Lifelong Learning Tendencies Scale: The scale was used in order to learn the life-long learning attitudes of English teachers. This scale was developed by Diker-Coşkun and Demirel (2010). It consists of 27 items and has 4 sub-dimensions. It is seen that it is a 6-point Likert structure. Items are scored in reverse in 2 sub-dimensions titled "lack of curiosity and lack of regulation in learning" in the scale. The Cronbach's alpha internal consistency coefficient calculated in this study for the whole scale is .928.

3.4 Data Analysis

The data were analyzed by the researcher using the SPPS (Statistical Package for Social Sciences) 24 program. Descriptive statistics were used in the analysis of the data collected by quantitative methods. The demographic characteristics of English teachers (gender, age level, seniority, education level, school type, school socio-economic level, course load, the number of students in the school) were examined with the personal information form, frequency, percentage, arithmetic mean, and standard deviation. English teachers' special field competencies, lifelong learning tendencies, and technology integration self-efficacy were determined by arithmetic mean and standard deviation.

Preliminary analyzes and assumptions were tested in order to perform t-test and ANOVA analysis. The skewness and kurtosis values were examined for the normality of the distribution of continuous variables. These values were found to be between $\pm$ 2.5. A histogram graph was created for the same data. In addition, the Kolmogorov-Smirnov test was used to examine normality. The p-value of this test result was found to be bigger than .05. The distribution was found to be normal. According to the categories, the mean scores were compared and the samples were found to be unrelated. The homogeneity of the variances of the scores of dependent variable of the groups with Levene's test was checked in all analyzes and found suitable for the analysis (p> .05).

English teachers' special field competencies, lifelong learning tendencies, and technology integration self-efficacy, and the demographic characteristics of teachers were determined using one-way analysis of variance (ANOVA) and t-test. It was determined by simple linear regression analysis whether English teachers' special field competencies are a significant predictor of lifelong learning tendencies. The self-efficacy of English teachers' in integrating technology, whether there is a variable between their field competencies and lifelong learning tendencies was examined by regression analysis.

4 Findings

4.1 Findings Related to the First Research Question

In order to find an answer to the first research question, the arithmetic mean and standard deviation results were examined. Relevant findings are presented in Table 1.

Table 1 Participants' lifelong learning tendencies, self-efficacy to integrate technology, and field competencies values

Scale	Number of items (k)	Minimum	Maximum	$\overline{X}$	$\overline{X}$ /k	SD
Lifelong Learning Tendencies	27	71.00	16000	139.3779	5.161	19.91481
Persistence	6	6.00	36.00	31.6203		4.47974
Motivation	6	10.00	36.00	33.5134		3.44346
Lack of Regulation of Learning	6	6.00	36.00	30.0909		7.23365
Lack of Curiosity	9	9.00	54.00	44.1533		10.31494
Technology Integrating Self-efficacy	21	21.00	105.00	84.7094	4.03	15.59496
English Teacher Special Field Competence	36	36.00	180.00	151.4135	4.21	19.73720
Competencies to Support Language Skills	16	16.00	80.00	66.9822		9.34821
Assessment and Evaluation Competencies	11	11.00	55.00	46.7576		6.21333
Competencies for Organizing Learning-Teaching Environment	9	9.00	45.00	37.6738		5.36611

When Table 1 is examined, the arithmetic mean of English teachers' special field competencies ($\overline{X}$ = 151.4135; SD= 19.73) has the highest average, the arithmetic mean of lifelong learning tendencies ($\overline{X}$ = 139.3779; SD= 19.91) to the high level average and the arithmetic mean of the self-efficacy for integrating technology ($\overline{X}$ = 84.7094; SD= 15.59) is seen as a high level of average.

4.2 Findings Related to the Second Research Question

ANOVA, t-tests and descriptive statistics were used to find the answers to the second research question.

4.2.1 Differentiation According to Gender

T-test was used to determine whether the English teachers' self-efficacy in integrating technology, lifelong learning tendencies and special field competencies differ significantly according to gender. Relevant findings are presented in Table 2.

When Table 2 is examined, there is a significant difference between English teachers' self-efficacy to integrate technology according to gender (p <.05). Male English teachers' self-efficacy to integrate technology ($\overline{X}$ = 87.9825; SD= 15.96) is higher than female English teachers ($\overline{X}$ = 83.8747; SD= 15.40). On the other hand, the effect size, eta-square ($\eta2$), was taken into account in order to decide to what extent gender had an effect on English teachers' self-efficacy to integrate technology. The effect size value was calculated as $\eta2$= .011. Accordingly, it can

Table 2 T-test results of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies by gender.

Scale	Gender	N	$\overline{X}$	Sd	t	Df	p
Technology Integrating Self-efficacy	Female	447	83.8747	15.40638	-2.522	559	.012*
	Male	114	87.9825	15.96455			
Lifelong Learning Tendencies	Female	447	140.3602	19.21760	2.322	559	.021**
	Male	114	135.5263	22.11363			
English Teacher Special Field Competencies	Female	447	152.3244	18.31733	2.172	559	.030***
	Male	114	147.8421	24.29231			

* Effect size value-1 η2= .011

** Effect size value-2 η2= .010

*** Effect size value-3 η2= .008

be said that approximately 1% of the variance in English teachers' self-efficacy to integrate technology scores is related to gender. The calculated effect size ($\eta2=$ .011) shows that gender has a "small" effect on the difference between the means.

According to Table 2, lifelong learning tendencies of English teachers' make a significant difference according to gender (p <0.05). It is clear that female participants' lifelong learning tendencies ($\overline{X}$ = 140.3602; SD= 19.21) are higher than male participants ($\overline{X}$ = 135.5263; SD= .22.11). The effect size value of the effect of gender on English teachers' lifelong learning tendencies was calculated as $\eta2=$ .010. Accordingly, it shows that 1% of the variance in English teachers' lifelong learning trends scores is due to gender and has a "small" effect.

In addition, English teachers' special field competencies show a significant difference according to gender (p <0.05). Female English teachers' special field competencies ($\overline{X}$ = 152.3244; SD = 18.31) are higher than male teachers ($\overline{X}$ = 147.8421; SD = 24.29).

The effect size of the effect of gender on English teachers' special field competencies was calculated as $\eta2=$ .008. Accordingly, it shows that approximately 1% of the variance in English teachers' special field competencies scores is due to gender and has a "small" effect.

4.2.2 Differentiations According to Age

The ANOVA test was used to determine whether English teachers' self-efficacy in integrating technology, lifelong learning tendencies and special field competencies differ significantly according to age. Relevant findings are presented in Appendix Table 12 and Table 3.

When the arithmetic mean of the English teachers' self-efficacy to integrate technology is examined, it is seen that the arithmetic mean decreases as the age groups increase. Accordingly, the arithmetic mean scores of self-efficacy for integrating technology are in the age range of 20-30 at the most ($\overline{X}$ = 86.9402; SD= 13.12), while the least average age is 51 years and older ($\overline{X}$ = 79.3243; SD=

17.96). When the arithmetic mean of the lifelong learning tendencies of English teachers' are examined, the arithmetic mean score of the lifelong learning tendencies of the 20-30 age group ($\overline{X}$ = 141.1368; SD= 18.87) is higher than the other age groups. It is observed that the arithmetic mean scores of the participants in the age range of 41-50 ($\overline{X}$ = 135.8173; SD= 22.84) in lifelong learning tendencies are lower than the other age groups. Considering the arithmetic average of the special field competencies of English teachers, the arithmetic mean score of the 31-40 age group ($\overline{X}$ = 153.0066; SD= 17.63) is higher than the other age groups. Participants in the age group 51 and older ($\overline{X}$ = 147.2703; SD= 30.72) have a lower average competencies in special field than other age groups (See Appendix Table 12).

When the ANOVA test results are examined according to Table 3, English teachers' self-efficacy to integrate technology has a significant difference according to age ($p < 0.05$). The effect size value of the effect of age on English teachers' self-efficacy to integrate technology was calculated as $\eta 2$= .019. Accordingly, it shows that approximately 2% of the variance of these scores occurs depending on age and has a "moderate" effect. When the lifelong learning tendencies and special field competencies of English teachers' are examined by age, there is not a significant difference ($p > .05$).

4.2.3 Differentiations According to Professional Seniority

ANOVA tests were used to determine whether English teachers' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies differ significantly according to professional seniority. Relevant findings are presented in Table 13 and Table 4.

It is observed that the self-efficacy scores of the participants with professional seniority between 6-10 years ($\overline{X}$ = 86.92; SD = 12.48) are higher than the other professional seniority groups. It is clear that the participants with 26 and older professional seniority ($\overline{X}$ = 80.83; SD = 17.94) have the lowest technology integration self-efficacy scores.

According to Table 13, the lifelong learning tendencies score of the participants with 1-5 years of professional seniority ($\overline{X}$ = 140.66; SD = 18.85) is higher than the other professional seniority groups. It is clearly seen that the participants with 16-20 years of professional seniority ($\overline{XX}$ = 138.19; SD= 21.29) have the lowest lifelong learning tendency scores. Participants with professional seniority between 16-20 years ($\overline{X}$ = 152.36; SD = 22.94) are observed to have higher special field proficiency scores than other professional seniority groups. Participants with 21-25 years of professional seniority ($\overline{X}$ = 149.30; SD= 19.59) are observed to have lower special field competencies scores than other professional seniority groups (See Appendix Table 13).

When Table 4 is examined, there is no significant difference when the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies are analyzed according to professional seniority ($p > .05$).

Table 3 ANOVA test results according to the age of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies

Scale		Sum of Squares	sd	Mean of Squares	F	p
Technology Integrating Self-efficacy	Between groups	2530.989	3	843.663	3.516	.015*
	Within-group	133662.651	557	239.969		
	Total	136193.640	560			
Lifelong Learning Tendencies	Between groups	2113.029	3	704.343	1.783	.149
	Within-group	219982.857	557	394.942		
	Total	222095.886	560			
English Teacher Special Field Competencies	Between groups	2197.321	3	732.440	1.889	.130
	Within-group	215954.736	557	387.710		
	Total	218152.057	560			

* *Effect size value η2= .019*

Table 4 ANOVA test results of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies by professional seniority

Scale		Sum of Squares	SD	Mean of Squares	F	p
Technology Integrating Self-efficacy	Between groups	2092.136	5	418.427	1.732	.125
	Within-group	134101.504	555	241.624		
	Total	136193.640	560			
Lifelong Learning Tendencies	Between groups	382.646	5	76.529	.192	.966
	Within-group	221713.240	555	399.483		
	Total	222095.886	560			
English Teacher Special Field Competencies	Between groups	620.311	5	124.062	.317	.903
	Within-group	217531.746	555	391.949		
	Total	218152.057	560			

4.2.4 Differentiations According to Educational Status

T-tests were used to determine whether English teachers' self-efficacy in integrating technology, lifelong learning tendencies and special field competencies differ significantly according to educational status. Relevant findings are presented in Table 5.

According to Table 5, the technology integration self-efficacy score ($\overline{X}$ = 85.18; SD= 16.75) of the participants with postgraduate education level is higher than the undergraduate level participants ($\overline{X}$ = 84.60; SD= 15.34). It is observed that the lifelong learning tendencies score ($\overline{X}$ = 141.05; SD = 21.18) of the participants whose education level is graduate are higher than the undergraduate level participants ($\overline{X}$ = 139.00; SD= 19.62). Participants with postgraduate education level ($\overline{X}$ = 152.09; SD= 19.45) are seen to have higher special field competencies score than undergraduate level of participants ($\overline{X}$ = 151.26; SD= 19.81). When Table 5 is examined, it is seen that there is no significant difference when the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies are examined according to their educational status (p> .05).

Table 5 T-test results of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to their educational status

Scale	Educational Status	N	$\overline{X}$	SD	t	p
Technology Integrating Self-efficacy	Undergraduate	460	84.6043	15.34526	-0.322	.748
	Postgraduate	101	85.1881	16.75751		
Lifelong Learning Tendencies	Undergraduate	460	139.0087	19.62880	-0.892	.374
	Postgraduate	101	141.0594	21.18954		
English Teacher Special Field Competencies	Undergraduate	460	151.2630	19.81566	-0.390	.697
	Postgraduate	101	152.0990	19.45842		

4.2.5 Differentiations According to the Type of Institution

ANOVA and T tests were used to determine whether English teachers' self-efficacy in integrating technology, lifelong learning tendencies and special field competencies differ significantly according to the type of institution. Relevant findings are presented in Table 6, Table 7 and Appendix Table 14.

According to Table 6, the technology integration self-efficacy score of the participants working in private institutions ($\overline{X}$ = 91 = 91.80; SD = 14.98) is higher than the score of the participants working in state institutions ($\overline{X}$ = 84.01; SD= 15.49).

It is seen that the lifelong learning tendencies score of the participants working in state institutions ($\overline{X}$ = 139.49; SD= 19.71) is higher than the score of the participants working in private institutions ($\overline{X}$ = 138.20; SD= 22.01).

It is seen that the special field competencies score ($\overline{X}$ = 161.50; SD= 17.78) of the participants working in private institutions is higher than the score of the participants working in the state institutions ($\overline{X}$ = 150.42; SD= 19.65). There is a significant difference in the participants' self-efficacy to integrate technology and their special field competencies (p <0.05). The effect size values of the effect of the institution type on the scores of English teachers' self-efficacy to integrate technology and special field competencies were calculated as η2= .020, .026. Accordingly, it shows that 2% and 3% of the variance of these scores, respectively, occur depending on the type of institution and have a "medium" effect. When the lifelong learning tendencies of the participants are analyzed according to the types of institutions, there is no significant difference (p> .05).

The self-efficacy score of the participants in integrating technology is higher for those working in secondary schools ($\overline{X}$ = 85.75; SD= 14.27) than those working in other types of institutions. It is clear that the self-efficacy score of the participants working in high school institutions ($\overline{X}$ = 83.19; SD= 16.44) is lower than those working in other institutions. It is observed that the lifelong learning tendencies score ($\overline{X}$ = 140.17; SD= 18.70) of the participants working in secondary school institutions are higher than those working in other institutions. The lifelong learning tendencies score ($\overline{X}$ = 138.40; SD= 21.26) of the participants working in high school institutions are lower than those working in other institutions. It is seen that

Table 6 T test results of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to the type of institution they work in

Scale	Type of institution	N	$\overline{X}$	SD	t	Df	p
Technology Integrating Self-efficacy	State	511	84.0157	15.49420	-3.496	59.730	.001*
	Private	50	91.8000	14.98162			
Lifelong Learning Tendencies	State	511	139.4932	19.71720	.400	56.960	.691
	Private	50	138.2000	22.01484			
English Teacher Special Field Competencies	State	511	150.4266	19.65751	-4.161	61.334	.000**
	Private	50	161.5000	17.78242			

Effect size value-1 η2= .020

Effect size value-2 η2= .026

Table 7 ANOVA results of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to the type of institution

Scale		Sum of Squares	SD	Mean of Squares	F	p
Technology Integrating Self-efficacy	Between groups	770.070	2	385.035	1.586	.206
	Within-group	135423.570	558	242.695		
	Total	136193.640	560			
Lifelong Learning Tendencies	Between groups	362.319	2	181.159	.456	.634
	Within-group	221733.567	558	397.372		
	Total	222095.886	560			
English Teacher Special Field Competencies	Between groups	481.538	2	240.769	.617	.540
	Within-group	217670.519	558	390.091		
	Total	218152.057	560			

participants working in primary school institutions have higher special field competencies scores ($\overline{X}$ = 153.06; SD= 20.22) than those working in other institutions. The lifelong learning tendencies score ($\overline{X}$ = 150.39; SD= 20.47) of the participants working in high school institutions are lower than those working in other institutions (Appendix Table 14).

When Table 7 is examined, there is no significant difference of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to institution type (p> .05).

4.2.6 Differentiations According to the Socio-Economic Levels of Schools

ANOVA tests were used to determine whether English teachers' self-efficacy in integrating technology, lifelong learning tendencies and special field competencies differ significantly according to the socio-economic level of the schools where they work. Relevant findings are presented in Appendix Table 15 and Table 8.

It is observed that the technology integration self-efficacy scores ($\overline{X}$= 85.66; SD= 19.17) of the participants working in high socio-economic level schools are higher than the participants working in other socio-economic schools. The technology integration self-efficacy scores ($\overline{X}$ = 84.05; SD= 15.45) of the participants working in lower socio-economic level schools are lower than the participants working in other socio-economic schools. The lifelong learning tendencies scores ($\overline{X}$ = 140.61; SD= 20.07) of the participants working in schools of lower socio-economic level are higher than the participants working in schools of other socio-economic level. It is clearly seen that the lifelong learning tendencies score ($\overline{X}$ = 136.04; SD= 22.58) of the participants working in high socio-economic schools are lower than the participants working in other socio-economic schools. Participants working in high socio-economic level schools have a higher special field competencies score ($\overline{X}$ = 155.00; SD= 24.98) than the participants working in other socio-economic schools. Participants working in schools with lower socio-economic level ($\overline{X}$ = 148.68; SD=

Table 8 ANOVA test results according to the socio-economic level of the institutions where they work, of the participants' self-efficacy to integrate technology, their lifelong learning tendencies and their special field competencies

Scale		Sum of Squares	SD	Mean of Squares	F	p
Technology Integrating Self-efficacy	Between groups	129.727	2	64.864	.266	.767
	Within-groups	136063.913	558	243.842		
	Total	136193.640	560			
Lifelong Learning Tendencies	Between groups	772.516	2	386.258	.974	.378
	Within-groups	221323.370	558	396.637		
	Total	222095.886	560			
English Teacher Special Field Competencies	Between groups	2133.673	2	1066.837	2.756	.064
	Within-groups	216018.384	558	387.130		
	Total	218152.057	560			

19.46) are observed to have lower scores than those working in schools of other socio-economic level (Appendix Table 15).

When Table 8 is examined, there is no significant difference in the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to the socio-economic level of the institutions they work in (p> .05).

4.2.7 Differentiations According to Course Load

ANOVA tests were used to determine whether English teachers' self-efficacy in integrating technology, lifelong learning tendencies, and special field competencies differ significantly according to course loads. Relevant findings are presented in Appendix Table 16 and Table 9.

The technology integration self-efficacy score of the participants with a weekly course load of 31 hours or more ($\overline{\text{X}}$ = 88.81; SD= 13.05) is higher than the participants with other weekly course load. It is observed that the technology integration self-efficacy score ($\overline{\text{X}}$ = 84.39; SD= 15.45) of the participants with a weekly course load of 16-30 hours is lower than the participants with other weekly course load. It is seen that the participants with a weekly course load of 0-15 hours have higher lifelong learning tendencies score ($\overline{\text{X}}$ = 140.36; SD= 23.31) than the participants with other weekly course load. the lifelong learning tendencies score ($\overline{\text{X}}$ = 133.44; SD= 24.51) of the participants with a weekly course load of 31 hours or more is lower than the participants with other weekly course load. Participants with a weekly course load of 31 hours or more have a higher special field competencies score ($\overline{\text{X}}$ = 155.92; SD= 17.12) than the participants with other weekly course load. Participants with a weekly course load of 0-15 hours have a lower special field competencies score ($\overline{\text{X}}$ = 149.76; SD= 31.07) than participants with other weekly course load (Appendix Table 16).

Table 9 ANOVA test results according to the weekly course load of the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies

Scale		Sum of Squares	SD	Mean of Squares	F	p
Technology Integrating Self-efficacy	Between Groups	691.285	2	345.642	1.423	.242
	Within-Groups	135502.355	558	242.836		
	Total	136193.640	560			
Lifelong Learning Tendencies	Between Groups	1441.589	2	720.794	1.823	.163
	Within-Groups	220654.297	558	395.438		
	Total	222095.886	560			
English Teacher Special Field Competencies	Between Groups	874.332	2	437.166	1.123	.326
	Within-Groups	217277.725	558	389.387		
	Total	218152.057	560			

When Table 9 is examined, there is no significant difference in the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to the weekly course load (p> .05).

4.2.8 Differentiations According to the Number of Students Engaged in

ANOVA tests were used to determine whether English teachers' self-efficacy in integrating technology, lifelong learning tendencies, and special field competencies differ significantly according to the number of students they are engaged in. Relevant findings are presented in Appendix Table 17 and Table 10.

It is observed that the technology integration self-efficacy score ($\overline{X}$ = 85.97; SD= 15.55) of the participants whose number of students is 751 and more is higher than the participants with the number of other students. It is seen that the technology integration self-efficacy score ($\overline{X}$ = 83.97; SD= 16.19) of the participants whose number of students is between 251-750 is lower than the participants with the number of other students. The participants with 751 or more students have higher lifelong learning tendencies score ($\overline{X}$ = 140.38; SD= 19.51) than the participants with other students. The lifelong learning tendencies score ($\overline{X}$ = 138.81; SD= 20.75) of the participants whose number of students is between 251-750 is lower than the participants with the number of other students. Participants with 751 or more students have higher special field competencies score ($\overline{X}$ = 152.04; SD= 20.37) than the participants with the number of other students. Participants whose number of students is 0-250 have a lower private field proficiency score ($\overline{X}$ = 150.04; SD= 15.64) than the participants with the number of other students (Appendix Table 17).

When Table 10 is examined, there is no significant difference in the participants' self-efficacy to integrate technology, lifelong learning tendencies and special field competencies according to the number of students they are engaged in (p> .05).

Table 10 ANOVA test results according to the number of students who are engaged in technology integration self-efficacy, lifelong learning tendencies and special field competencies of the participants

Scale		Sum of Squares	SD	Mean of Squares	F	p
Technology Integrating Self-efficacy	Between groups	454.977	2	227.489		
	Within-groups	135738.663	558	243.259	.935	.393
	Total	136193.640	560			
Lifelong Learning Tendencies	Between groups	286.838	2	143.419		
	Within-groups	221809.048	558	397.507	.361	.697
	Total	222095.886	560			
English Teacher Special Field Competencies	Between groups	323.752	2	161.876		
	Within-groups	217828.306	558	390.373	.415	.661
	Total	218152.057	560			

4.3 Findings Related to the Third Research Question

Simple linear regression analysis results were used to find the answers to third research question. Relevant findings are presented in Appendix Table 18 and Table 11.

It is seen that there is a moderate, positive and significant relationship between English teachers' technology integrating self-efficacy and lifelong learning tendencies (r = 0.412, p <.01.). Accordingly, it can be said that as the self-efficacy score of English teachers for integrating technology increases, lifelong learning tendencies also increase. It is clear that there is a moderate, positive and significant relationship between English teachers' special field competencies and lifelong learning tendencies (r = 0.349, p <.01.). It is seen that there is a moderate, positive and significant relationship between English teachers' special field competencies and technology integration self-efficacy (r = 0.606, p <.01) (Appendix Table 18).

When Table 11 is examined, it can be said that English teachers' special field competencies and technology integration self-efficacy are significant predictors of lifelong learning tendencies (p <0.5). The lifelong learning tendencies of English teachers' explain the variables of technology integrating self-efficacy and special field competencies together approximately 19%.

4.4 Findings Related to the Fourth Research Question

Regression analysis was used to find the answer to fourth research question of the study.

According to Fig. 1 and Appendix Table 19, it is seen that English teachers' special field competencies, technology integration self-efficacy explain 18.5% of their lifelong learning tendencies (R=0.430, R^2=0.185, p<.01). It is seen that self-efficacy of integrating technology explains 36.8% of lifelong learning tendencies. Special field competencies explain 12.2% of lifelong learning tendencies. According to the standardized regression coefficient (β), the relative importance order of predictor variables on lifelong learning tendencies is self-efficacy to integrate technology and special field competencies. According to Fig. 1, it is clear that the self-efficacy to integrate technology has an effect on the prediction of the special field competencies

Table 11 Regression coefficient

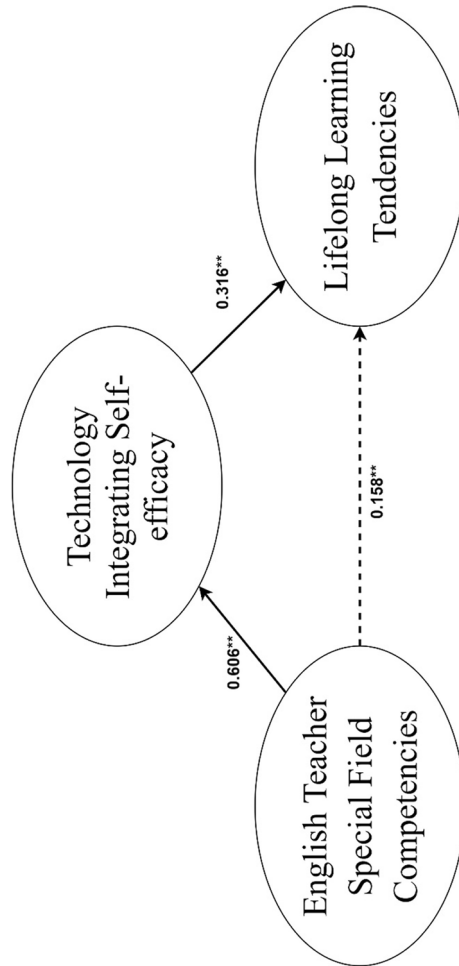| Variables	B	Standard Error	B	t	p
Constant	81.095	5.934		13.665	.000
Technology Integrating Self-efficacy	0.404	0.061	0.316	6.577	.000
English Teacher Special Field Competencies	0.159	0.048	0.158	3.281	.001

R=0.430 R^2=0.185; $F_{(2,558)}$=63.425 p=.000

Fig. 1 Research Model. *** p< .01*

of English teachers' with lifelong learning tendencies, and the self-efficacy of integrating technology creates a significant difference.

5 Discussion, Conclusions and Recommendations

In this study, it was aimed to determine English teachers 'self-efficacy in integrating technology, lifelong learning tendencies and special field competencies, to show whether there is a relationship between them, and to determine whether English teachers' self-efficacy to integrate technology and private domain competence are predictors of lifelong learning tendencies. In addition, it was aimed to reveal whether the self-efficacy of integrating technology into the predictor of lifelong learning tendencies of special domain competence is a variable.

The most important finding of this study is that there is a positive relationship between English teachers' lifelong learning tendencies and their self-efficacy score in integrating technology and professional competencies. Therefore, it can be said that as the self-efficacy and professional competencies of English teachers to integrate technology increase, their lifelong learning tendencies also increase. On the other hand, 20% of the lifelong learning tendencies of English teachers stem from their self-efficacy and subject-matter competence to integrate technology. In addition, there are differences in technology integrating self-efficacy, lifelong learning tendencies, and professional competencies of English teachers according to gender, and this difference is in favor of women in lifelong learning tendencies and professional competencies, and in favor of men in technology integrating self-efficacy. In addition, vocational-specific field competence differs according to the type of institution, while self-efficacy in integrating technology differs according to the type of institution and age. In previous studies, it was observed that the number of studies focusing on English teachers was limited and the context in which teachers' lifelong learning tendencies were related was not adequately addressed. This study both contributed to the conceptual literature in terms of examining lifelong learning tendencies in the context of professional competence and technology integration self-efficacy and also presents the differentiation related to research variables according to various personal/professional characteristics. This strengthens the original value of this study. In these contexts, the findings were discussed in order according to the sub-problems.

In this study, it was stated that English teachers were positively associated with technology integrating self-efficacy, special field competence and lifelong learning tendencies, and teachers were predictors of lifelong learning tendencies with technology integrating self-efficacy. Selvi (2011) emphasized in her study with English teachers that there is a significant relationship between teachers' professional competencies and lifelong learning competencies and that teachers should also have lifelong learning competencies in order to fulfill their duties in a qualified manner. Demirel (2009) stated the importance of the relationship between lifelong learning and technology, and also explained the necessity of technology as the skills and knowledge that should be acquired by students in schools with the development and gaining importance of lifelong learning. Korkmazgil (2015) highlighted the

importance of English in the context of lifelong learning and stated how important English teaching is at the same time. Savuran (2014) underlined that English teachers' lifelong learning competencies should be researched, with his emphasis on the fact that English is an internationally competent language and should be learned. Başal (2015) also stated that with the integration of technology in foreign language teaching and the change in English learning and teaching process, it is necessary to increase the technological competence of English teachers in this sense. In this study, it was determined that English teachers' self-efficacy to integrate technology creates a significant difference as a variable between their special field competencies and lifelong learning tendencies. It is clearly seen that the teacher whose self-efficacy in using technology increases, and his professional competencies and therefore lifelong learning tendencies will also increase, as the concept of lifelong learning aims to improve their knowledge and abilities in a certain field to continue activities in this direction throughout life (Demirel, 2009). In the theoretical context, in andragogy proposed by Knowles (1975), it is seen that adult learning depends on different situations and these situations are related to the current research results. Adults' orientation to learning is problem-oriented. For example, teachers who have problems with their professional competencies tend to develop their special field competencies. In this orientation, they are motivated to learn the issues that will serve to solve the situations they see as problems. In this context, it is clear that the competence to use and integrate technology is important to ensure professional development. Providing professional development and effective use of digital technology in education for this purpose improves teachers' tendencies towards lifelong learning in a positive way. On the other hand, in the theoretical model proposed by Knowles (1975), the role of individual differences in the lives of adult learners is important. Therefore, it can be considered as an expected situation that individual and occupational factors will be decisive on research variables. For example, the level of self-efficacy in integrating technology, which is influenced by demographic characteristics, can lead individuals to show a tendency to lifelong learning, especially from activities such as acquiring information through online environments and digital tools and providing their needs to maintain professional development by collaborating with colleagues.

It was observed that there was a significant difference in technology integrating self-efficacy, lifelong learning tendencies and special field competencies of English teachers according to gender. Technology integrating self-efficacy score of male teachers is higher. İpek and Acuner (2011) found that male pre-service teachers have more computer self-efficacy beliefs. It was observed that female English teachers had higher private field competencies and lifelong learning tendencies scores than male teachers. Arslan and Siyahmaz (2014) stated that female English teachers had more special field competency scores than male teachers. Durak and Tekin (2020) underlined that female teachers' lifelong learning competencies are at a higher level than male, and when looked by age, the lifelong learning competencies of teachers who are 51 and older decrease. In this study, while there was no significant difference in the lifelong learning tendencies and special field competencies of the teachers according to age, a significant difference was observed in the technology integrating self-efficacy of the teachers. It is seen that teachers between the ages of

20-30 have higher technology integrating self-efficacy scores and also higher lifelong learning tendencies scores. In this context, Kaya (2017) emphasized that young teachers use technology more actively. Lane and Lyle (2011) investigated how trainers' differences such as age, gender, and technological expertise might affect technology integration into instruction, and showed that individuals with initial technical expertise face different barriers than those at the expert level, even after controlling for gender and age. This result shows the importance of defining the level of expertise that exists among users when examining situations where teachers' demographic characteristics differentiate.

According to professional seniority, there is no significant difference in technology integrating self-efficacy, lifelong learning eendencies and special field competencies of English teachers. Arslan and Siyahmaz (2014) found that English teachers' understanding in all areas of professional competence was similar according to their professional seniority. Ayaz (2016) highlighted that professional seniority of teachers was not significantly different in lifelong learning tendencies, but English teachers' lifelong learning tendencies were higher than teachers in other deparments. In this study, teachers whose professional seniority is between 1-5 and 6-10 have higher scores in technology integration self-efficacy. Kaya (2017) also stated that teachers with less professional seniority use technology more in education.

Although there is no significant difference in technology integrating self-efficacy, lifelong learning tendencies and special field competencies according to the education level of English teacher, the scores of teachers with postgraduate education level are observed higher. Şahin and Arcagök (2014) underlined that as the educational status of teachers increased, the level of teachers increased in obtaining information from the sub-dimensions of lifelong learning and digital competencies. Yaman and Yazar (2015) found that lifelong learning tendencies were higher among teachers with postgraduate education.

In this study, while there was no significant difference according to the type of institution, it was determined that the teachers who work in private schools have higher technology integration and special field competencies scores. Pala (2019) emphasized that teachers working in private schools attach greater importance to their professional development for fear of losing their jobs and therefore have more professional competencies than teachers working in state schools. It has also been observed that the type of institution where teachers work has no effect on lifelong learning tendencies because there is not a significant difference.

When the teachers working in primary, middle and secondary education institutions are examined according to the type of institution in this sense but there is no significant difference in technology integrating self-efficacy, lifelong learning tendencies and special field competencies. However, it has been observed that teachers working in secondary education have low average rank in all evaluations. Likewise, Ayaz (2016) found in his study that there was a significant difference in lifelong learning tendencies and lower mean rank of teachers working in secondary education. Gegeoğlu (2014) reached a similar conclusion in their study and found that the technology use levels of teachers working in secondary education were lower, and they also found that teachers used more traditionalist educational approaches. Aygün

(2009), which is similar to this study, concluded that teachers who work in primary education adopt a more modern education style and use technology more. The reason for this can be the constructivist approach was adopted in primary education in 2005 (Gegeoğlu, 2014). In this study, it was observed that the teachers working in secondary schools were relatively higher in lifelong Learning Tendencies, while Kazu and Erten (2016) found in their study that teachers working in secondary schools had lower levels of competence and found the reason for this the changing primary education system.

When the socio-economic status of the schools where teachers work is examined, no significant differences are seen, while the technology integrating self-efficacy and special field competence of the teachers working in schools with a higher socio-economic level have higher scores. Because of the availability of facilities in private schools that can evaluate the socio-economic situation at a high level, teachers can also be in a better situation in using technology.

It was observed that as the number of students and weekly course loads increased, their self-efficacy to integrate technology and their special field efficacy were also higher. Having a higher workload may encourage teachers to use technology and show that they are trying to be more proficient in professional terms. Lifelong learning tendencies for teachers with 31 hours or more per week are comparatively lower. In this case, it may be due to the teachers not having enough time. Klug et al. (2014) show that lifelong learning requires being in a process that requires being very active, and more than that, they show that the course load should not be too much for teachers to be involved in this active learning process.

5.1 Limitations and Recommendations

This study has some limitations. In this study, quantitative data were collected based on self-report. English teachers are likely to give socially desirable answers. In order to avoid this limitation, the data is anonymous and collected from all geographical regions of Turkey. On the other hand, the study is a quantitative study. It was found that English teachers' lifelong learning tendencies and special field competencies are associated with their technology integration self-efficacy. In future studies, the sources of this relationship can be investigated in-depth with qualitative studies. This study is limited to English teachers. A similar working model can be applied in different branch. In addition, comparative studies can be made by testing the research model in different countries or cultures.

While the participants were included in this study, a preliminary examination of their occupational variables was not carried out. By determining the existing conditions and barriers to technology integration in schools, classifications based on opportunities can be determined. Indeed, as the occupation levels of the English teachers' in terms of the number of students and weekly course load increased, conflicting findings emerged in terms of lifelong learning trends and special field competencies. Future studies can be designed to investigate how

Table 12 Descriptive findings of participants' self-efficacy to integrate technology, lifelong learning tendencies, and special field competencies according to age

Scale	Age	N	$\overline{X}$	SD
Technology Integrating Self-Efficacy	20-30	117	86.9402	13.12295
	31-40	303	85.4125	15.06184
	41-50	104	82.0673	18.05077
	51 and older	37	79.3243	17.96146
	Total	561	84.7094	15.59496
Lifelong Learning Tendencies	20-30	117	141.1368	18.87843
	31-40	303	140.2178	19.15842
	41-50	104	135.8173	22.84339
	51 and older	37	136.9459	19.75256
	Total	561	139.3779	19.91481
English Teacher Special Field Competencies	20-30	117	151.0256	16.01425
	31-40	303	153.0066	17.63087
	41-50	104	148.6827	23.80106
	51 and older	37	147.2703	30.72336
	Total	561	151.4135	19.73720

the workload has an impact on lifelong learning trends, and special field competencies and how it affects these variables. Similarly, according to the level of education, lifelong learning tendencies and special field competencies scores show contradictory findings. The reasons why teaching level differentiates the lifelong learning tendencies of English teachers' can be investigated in future research. In addition, interviews with teachers-parents and school administrators can be used to analyze how the effects of teachers' lifelong learning tendencies on technology integration self-efficacy perceptions and professional development direct the learning process in technology-supported classroom environments.

Finally, the relationship between the findings in this cross-sectional model and the resulting variables is correlational and should not be interpreted as causation. Longitudinal studies may be designed in the future. In this study, the variables related to the lifelong learning tendencies of English teachers were evaluated from a holistic perspective and analyzed in light of the literature. From this point of view, this study provides evidence for causal and experimental studies by shedding light on the variables for the development of teachers' lifelong learning levels for future researchers. This research offers some suggestions to those who plan in-service training to ensure lifelong learning and professional development of teachers. Training for the development of special field competencies in the in-service training of teachers will positively affect their lifelong learning tendencies. On the other hand, self-efficacy in integrating technology is another point that should be given importance for the development of lifelong learning tendencies.

Appendix

Table 13 Descriptive statistics of participants' self-efficacy to integrate technology, lifelong learning tendencies, and special field competencies according to professional seniority

Scale	Professional seniority	N	Minimum	Maximum	$\overline{X}$	SD
Technology Integrating Self-Efficacy	1-5 years	98	47.00	105.00	86.2245	13.84415
	6-10 years	150	58.00	105.00	86.9200	12.48060
	11-15 years	121	21.00	105.00	83.9008	17.92503
	16-20 years	104	21.00	105.00	83.7981	16.52734
	21-25 years	46	41.00	105.00	82.0000	16.60656
	26 and more	42	23.00	105.00	80.8333	17.94289
	Total	561	21.00	105.00	84.7094	15.59496
Lifelong Learning Tendencies	1-5 years	98	87.00	162.00	140.6633	18.85208
	6-10 years	150	85.00	162.00	139.7133	19.92076
	11-15 years	121	71.00	162.00	139.4545	19.84187
	16-20 years	104	87.00	162.00	138.1923	21.29318
	21-25 years	46	86.00	161.00	138.3043	20.42751
	26 and more	42	91.00	161.00	139.0714	19.37360
	Total	561	71.00	162.00	139.3779	19.91481
English Teacher Special Field Competencies	1-5 years	98	97.00	180.00	150.1735	16.62257
	6-10 years	150	115.00	180.00	152.0267	16.85546
	11-15 years	121	72.00	180.00	152.0661	18.06319
	16-20 years	104	36.00	180.00	152.3654	22.94233
	21-25 years	46	75.00	180.00	149.3043	19.59464
	26 and more	42	36.00	180.00	150.1905	30.34456
	Total	561	36.00	180.00	151.4135	19.73720

Table 14 Descriptive statistics of the participants' self-efficacy to integrate technology, lifelong learning tendencies, and special field competencies according to the type of institution they work

Scale	Institution Type	N	Minimum	Maximum	$\overline{X}$	SD
Technology Integrating Self-Efficacy	Primary	95	21.00	105.00	85.1263	17.00453
	Middle	260	23.00	105.00	85.7538	14.27829
	Secondary	206	21.00	105.00	83.1990	16.44515
	Total	561	21.00	105.00	84.7094	15.59496
Lifelong Learning Tendencies	Primary	95	71.00	162.00	139.3053	20.22431
	Middle	260	87.00	162.00	140.1769	18.70064
	Secondary	206	77.00	162.00	138.4029	21.26598
	Total	561	71.00	162.00	139.3779	19.91481
English Teacher Special Field Competencies	Primary	95	36.00	180.00	153.0632	20.22523
	Middle	260	37.00	180.00	151.6154	18.97952
	Secondary	206	36.00	180.00	150.3981	20.47263
	Total	561	36.00	180.00	151.4135	19.73720

Table 15 Descriptive statistics of the participants' self-efficacy to integrate technology, lifelong learning tendencies, and their special field competencies according to the socio-economic level of their institutions

Scale	Socio-economic Level	N	Minimum	Maximum	$\overline{X}$	SD
Technology Integrating Self-Efficacy	Lower	172	41.00	105.00	84.0523	15.45878
	Middle	344	21.00	105.00	84.9128	15.17761
	High	45	21.00	105.00	85.6667	19.17977
	Total	561	21.00	105.00	84.7094	15.59496
Lifelong Learning Tendencies	Lower	172	87.00	162.00	140.6105	20.07106
	Middle	344	71.00	162.00	139.1977	19.46714
	High	45	87.00	161.00	136.0444	22.58817
	Total	561	71.00	162.00	139.3779	19.91481
English Teacher Special Field Competencies	Lower	172	72.00	180.00	148.6860	19.46913
	Middle	344	36.00	180.00	152.3081	18.99297
	High	45	40.00	180.00	155.0000	24.98636
	Total	561	36.00	180.00	151.4135	19.73720

Table 16 Descriptive statistics of participants' self-efficacy to integrate technology, lifelong learning tendencies, and special field competencies according to the weekly course load

Scale	Course load	N	Minimum	Maximum	$\overline{X}$	SD
Technology Integrating Self-Efficacy	0-15 hours	25	23.00	105.00	84.8000	20.86464
	16-30 hours	498	21.00	105.00	84.3916	15.45726
	31 and more	38	63.00	105.00	88.8158	13.05675
	Total	561	21.00	105.00	84.7094	15.59496
Lifelong Learning Tendencies	0-15 hours	25	91.00	162.00	140.3600	23.31823
	16-30 hours	498	71.00	162.00	139.7811	19.31217
	31 and more	38	85.00	158.00	133.4474	24.51883
	Total	561	71.00	162.00	139.3779	19.91481
English Teacher Special Field Competencies	0-15 hours	25	37.00	180.00	149.7600	31.07958
	16-30 hours	498	36.00	180.00	151.1526	19.20180
	31 and more	38	125.00	180.00	155.9211	17.12179
	Total	561	36.00	180.00	151.4135	19.73720

Table 17 Descriptive statistics of participants' self-efficacy to integrate technology, lifelong learning tendencies, and special field competencies according to the number of students they are engaged in

Scale	The number of students	N	Minimum	Maximum	$\overline{\mathrm{X}}$	SD
Technology Integrating Self-Efficacy	0-250	127	21.00	105.00	84.2677	14.42025
	251-750	247	21.00	105.00	83.9798	16.19707
	751 and more	187	27.00	105.00	85.9733	15.55443
	Total	561	21.00	105.00	84.7094	15.59496
Lifelong Learning Tendencies	0-250	127	85.00	162.00	138.9843	18.90661
	251-750	247	71.00	162.00	138.8178	20.75337
	751 and more	187	86.00	162.00	140.3850	19.51237
	Total	561	71.00	162.00	139.3779	19.91481
English Teacher Special Field Competencies	0-250	127	98.00	180.00	150.0472	15.64327
	251-750	247	36.00	180.00	151.6397	21.12688
	751 and more	187	36.00	180.00	152.0428	20.37203
	Total	561	36.00	180.00	151.4135	19.73720

Table 18 Correlation coefficients

	1	2	3	4	5	6	7	8	9	10
Technology Integrating Self-Efficacy (1)	1									
Lifelong Learning Tendencies (2)	.412**	1								
Persistence (3)	.348**	.588**	1							
Motivation (4)	.361**	.593**	.749**	1						
Lack of Regulation of Learning (5)	.321**	.804**	.142**	.225**	1					
Lack of Curiosity (6)	.298**	.913**	.352**	.328**	.714**	1				
English Teacher Special Field Competencies (7)	.606**	.349**	.303**	.280**	.251**	.274**	1			
Competencies to Support Language Skills (8)	.550**	.313**	.260**	.254**	.229**	.247**	.957**	1		
Assessment and Evaluation Competencies (9)	.577**	.341**	.290**	.258**	.265**	.259**	.949**	.853**	1	
Competencies for Organizing Learning-Teaching Environment (10)	.605**	.345**	.327**	.289**	.216**	.275**	.913**	.789**	.848**	1

Table 19 Regression coefficients for the model

Model	Variables	B	Standard Error	β	t	p
1	Constant	12.154	4.057		2.995	.003
	Technology Integrating Self-Efficacy	0.479	0.027	0.606	18.034	.000
	R=0.606 R^2=0.368; F$_{(1,559)}$=325.222; p=.000					
2	Constant	86.00	6.106		14.085	.000
	English Teacher Special Field Competencies	0.353	0.040	0.349	8.816	.000
	R=0.349 R^2=0.122; F$_{(1,559)}$=77.726; p=.000					
3	Constant	81.095	5.934		13.665	.000
	Technology Integrating Self-Efficacy	0.404	0.061	0.316	6.577	.000
	English Teacher Special Field Competencies	0.159	0.048	0.158	3.281	.001
	R=0.430 R^2=0.185; F$_{(2,558)}$=63.425 p=.000					

References

Abuhmaid, A. (2011). ICT training courses for teacher professional development in Jordan. *Turkish Online Journal of Educational Technology-TOJET, 10*(4), 195–210.

Ahmadi, R. M. (2018). The use of technology in English language learning: A literature review. *International Journal of Research in English Education, 3*(2), 115–125.

Al Asmari, A. (2016). Continuous professional development of english language teachers: Perception and practices. *Advances in Language and Literary Studies, 7*(3), 117–124.

Atman Uslu, N., & Usluel, Y. K. (2019). Predicting technology integration based on a conceptual framework for ICT use in education. *Technology, Pedagogy and Education, 28*(5), 517–531.

Ayaz, C. (2016). *The analysis of life long learning tendencies of teachers in terms of some veriables*. Unpublished Master Thesis, Bartın University, Bartın.

Aygün, H. A. (2009). *New primary school program on practical use of education technology teachers' opinions by (Example of Umraniye district of İstanbul province)*. Unpublished Master Thesis, Sakarya University, Sakarya.

Babanoğlu, M. P., & Yardımcı, A. (2017). Turkish state and private school EFL teachers' perceptions on professional development. *Çukurova University Faculty of Education Journal, 46*(2), 789–803.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of social and clinical psychology, 4*(3), 359–373.

Başal, A. (2015). The implementation of a flipped classroom in foreign language teaching. *Turkish Online Journal of Distance Education, 16*(4), 28–37.

Boyer, S. L., Edmondson, D. R., Artis, A. B., & Fleming, D. (2014). Self-directed learning: A tool for lifelong learning. *Journal of Marketing Education, 36*(1), 20–32.

Bragg, L., Walsh, C., & Heyeres, M. (2021). *Successful design and delivery of online professional development for teachers: A systematic review of the literature* (p. 104158). *Computers & Education*.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2017). *Bilimsel Araştırma Yöntemleri* (23. Baskı). Ankara: Pegem Publishing.

Choi, L., & Chung, S. (2021). Navigating Online Language Teaching in Uncertain Times: Challenges and Strategies of EFL Educators in Creating a Sustainable Technology-Mediated Language Learning Environment. *Sustainability, 13*(14), 7664.

Cornford, I. R. (2002). Learning-to-learn strategies as a basis for effective lifelong learning. *International journal of lifelong education, 21*(4), 357–368.

Cuq, J. -P., & Gruca, I. (2003). *Cours de Didactique du Français Langue Etrangère et Seconde*. Presses universitaires de Grenoble.

Çelik, S., Erdamar-Koç, G., & Çelik, K. (2018). English teacher subject area competency scale: A scale development study. *Türkiye Sosyal Araştırmalar Dergisi, 22*(1), 277–298.

Dabbagh, N., & Castaneda, L. (2020). The PLE as a framework for developing agency in lifelong learning. *Educational Technology Research and Development, 68*(6), 3041–3055.

Demirel, M. (2009). *Yaşam boyu öğrenme ve teknoloji*. In 9th International Educational Technology Conference (IETC2009), Ankara, Turkey.

Demirel, M., & Akkoyunlu, B. (2017). Prospective teachers lifelong learning tendencies and information literacy self-efficacy. *Educational Research and Reviews, 12*(6), 329–337.

Diaz-Maggioli, G. (2003). Professional development for language teachers. *Eric Digest, 3*(3), 1–4.

Diker-Coşkun, Y. D., & Demirel, M. (2010). Lifelong learning tendency scale: the study of validity and reliability. *Procedia-Social and Behavioral Sciences, 5*, 2343–2350.

Durak, H. Y., & Tekin, S. (2020). Investigation of teachers' lifelong learning competencies according to personal and professional variables. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 20*(1), 221–235.

Durak, H. Y., & Saritepeci, M. (2017). Investigating the effect of technology use in education on classroom management within the scope of the FATİH project. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi, 46*(2), 441–457.

Durak, H., & Şahin, Z. (2018). Investigation of the contribution of coding training in teaching candidates to the development of lifelong learning competencies. *Journal of Ege Education Technologies, 2*(2), 55–67.

Ekici, F., Ekici, E., Ekici, F. T., & Kara, İ. (2012). Validity and reliability study of ICT self-efficacy perception scale for teachers. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 31*(31), 53–65.

Ellinger, A. D. (2004). The concept of self-directed learning and its implications for human resource development. *Advances in Developing Human Resources, 6*, 158–177.

European Commission (2018). *Commission Staff Working Document. Accompanying The Document. Proposal For A Council Recommendatıon on Key Competences for Lifelong Learning*. https://eur-lex.europa.eu/legal

European Commission. (2000*). A memorandum on lifelong learning*. https://arhiv.acs.si/dokumenti/Memorandum_on_Lifelong_Learning.pdf

Fidan, M., Debbag, M., & Çukurbasi, B. (2020). Technology Proficiency Self-Assessments of Teachers Becoming Professional in the 21st Century: A Scale Adaptation Study. *Pegem Journal of Education and Instruction, 10*(2), 465–492.

Friesen, N., & Anderson, T. (2004). Interaction for lifelong learning. *British Journal of Educational Technology, 35*(6), 679–687.

Gegeoğlu, Ş. (2014). *The analysis of usage level of educational technologies by the secondary school teachers on the professional field*. Unpublished PhD Thesis, İstanbul Aydın University, İstanbul.

Gibson, R. (2002). *Intercultural Business Communication: An Introduction to the Theory and Practice of Intercultural Business Communication for Teachers, Language Trainers, and Business People*. Oxford: Oxford University Press.

Godwin-Jones, R. (2015). The evolving roles of language teachers: Trained coders, local researchers, global citizens. *Language Learning & Technology, 19*(1), 10–22.

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: A Review of technology types and their effectiveness. *Computer Assisted Language learning, 27*(1), 70–105.

González-Lloret, M. (2020). Collaborative tasks for online language teaching. *Foreign Language Annals, 53*(2), 260–269.

Gürkan, H. (2017). *Examining the relationship between the school leadership competencies of technology leadership and the lifelong learning competencies*. Unpublished Master Thesis, İstanbul Sabahattin Zaim University, İstanbul.

Heitink, M., Voogt, J., Verplanken, L., van Braak, J., & Fisser, P. (2016). Teachers' professional reasoning about their pedagogical use of technology. *Computers & education, 101*, 70–83.

Huang, F., Teo, T., & Guo, J. (2021). Understanding English teachers' non-volitional use of online teaching: A Chinese study. *System, 101*, 102574.

İpek, C., & Acuner, H. Y. (2011). Primary pre-service teachers' computer self- efficacy beliefs and attitudes toward educational technologies. *Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi, 12*(2), 23–40.

Karasar, N. (2009). Bilimsel Araştırma Yöntemleri. Ankara: Nobel Yayın Dağıtım.

Karataş, F. İ. (2014). A model for the relationship of elementary teachers' technological self-efficacy and students' academic performance. *In Society for Information Technology & Teacher Education International Conference* (pp. 895-902). Association for the Advancement of Computing in Education (AACE).

Kaya, B., (2017). *The relationship between attitude levels and vocational relationship on the use of technology in education in classroom teachers.* Unpublished Master Thesis, Ahi Evran University, Kırşehir.

Kazu, İ. Y., & Erten, P. (2016). Teachers' Lifelong Learning Competencies. *Elementary Education Online, 15*(3), 838–854.

Klug, J., Krause, N., Schober, B., Finsterwald, M., & Spiel, C. (2014). How do teachers promote their students' lifelong learning in class? Development and first application of the LLL Interview. *Teaching and Teacher Education, 37*, 119–129.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers* (Vol. 2, No. 2, p. 135). New York: Association Press.

Korkmazgil, S. (2015). *An investigation into Turkish English language teachers' perceived professional development needs, practices and challenges.* Unpublished PhD Thesis, Orta Doğu Teknik University, Ankara.

Kozikoğlu, İ., & Altunova, N. (2018). The Predictive Power of Prospective Teachers' Self-efficacy Perceptions of 21st Century Skills for Their Lifelong Learning Tendencies. *Journal of Higher Education and Science, 8*(3), 522–531.

Lai, C., Yeing, Y., & Hu, J. (2016). University student and teacher perceptions of teacher roles in promoting autonomous language learning with technology outside the classroom. *Computer Assisted Language Learning, 29*(4), 703–723.

Lailiyah, M., & Cahyono, B. Y. (2017). Indonesian EFL teachers' Self-Efficacy towards Technology Integration (SETI) and their use of technology in EFL teaching. *Studies in English Language Teaching, 5*(2), 344–357.

Lane, C. A., & Lyle, H. F. (2011). Obstacles and supports related to the use of educational technologies: The role of technological expertise, gender, and age. *Journal of Computing in Higher Education, 23*, 38–59.

Liu, M. H., & Kleinsasser, R. (2015). Exploring EFL teachers' knowledge and competencies: In-service program perspectives. *Language Learning & Technology, 19*(1), 119–138.

Loureiro, A., Messias, I., & Barbas, M. (2012). Embracing Web 2.0 ve 3.0 tools to support lifelong learning-Let learners connect. *Procedia-Social and Behavioral Sciences, 46*, 532–537.

Mavroudi, A., & Tsagari, D. (2018). Profiling of English language teachers as trainees in an online course and ensuing implications. *Computers & Education, 126*, 1–12.

Ministry of National Education. (2014). Hayat boyu öğrenme strateji belgesi (2014-2018). Ankara: Milli Eğitim Bakanlığı.

Ministry of National Education. (2017). *Öğretmenlik Mesleği Genel Yeterlikleri. Öğretmen Yetiştirme ve Geliştirme Genel Müdürlüğü,* Ankara.

Özdemir, S. M. (2016). Continuous professional development as an indicator of teacher quality. *Gazi Eğitim Bilimleri Dergisi, 2*(3), 233–244.

Pala, Ö. F. (2019). *Institute of educational sciences department of lifelong learning lifelong learning discipline.* Unpublished Master Thesis, Bartın University, Bartın.

Pelster, B., Johnson, D., Stempel, J., & van der Vyver, B. (2017). Careers and learning: Real time, all the time. In B. Walsh & E. Volini (Eds.), *Rewriting the rules for the digital age* (pp. 29–38). Deloitte University Press.

Savuran, Y. (2014). *Life-long learning competencies of prospective English language teachers in comparison with their mentors.* Unpublished Master Thesis, Hacettepe University, Ankara.

Selvi, K. (2011). Teachers' lifelong learning competencies. *Uluslararası Eğitim Programları ve Öğretim Çalışmaları Dergisi, 1*(1), 61–69.

Starkey, L. (2010). Supporting the digitally able beginning teacher. *Teaching and Teacher Education, 26*, 1429–1438.

Şahin, Ç., & Arcagök, S. (2014). Investigation of the level of teachers' life-long learning sufficiency in terms of various variables. *Adıyaman University Journal of Institution of Social Sciences, 7*(16), 394–417.

Şahin, Z., & Yıldız Durak, H. (2018). An investigation on current trends in research on the use of Web 2.0 technologies in the development of lifelong learning skills of adults. Journal of Research in Education. *Science and Technology, 3*(1), 23–34.

Tseng, S., & Yeh, H. (2019). Fostering EFL teachers' CALL Competencies Through Project-based Learning. *Journal of Educational Technology & Society, 22*(1), 94–105.

Turner, J. E. (2007). *Readiness for self-directed learning: Comparison of college-prep and vocational education public high school seniors*. University of Missouri-Saint Louis.

Vo, L., & Nguyen, H. (2010). Critical friends group for EFL teacher professional development. *ELT Journal, 64*(2), 205–213.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies, 44*(3), 299–321.

Yaman, F., & Yazar, T. (2015). Investigating of lifelong learning tendency of teachers (The Example of Diyarbakır). *Kastamonu Eğitim Dergisi, 23*(4), 1553–1566.

Yenice, N., & Tunç, G. A. (2019). An investigation of pre-service teachers' lifelong learning tendencies and their individual innovativeness levels. *Kastamonu Eğitim Dergisi, 27*(2), 753–765.

Yildiz Durak, H. (2019). Examining the acceptance and use of online social networks by preservice teachers within the context of unified theory of acceptance and use of technology model. *Journal of Computing in Higher Education, 31*(1), 173–209.

Yıldız Durak, H. (2021a). Modeling of relations between K-12 teachers' TPACK levels and their technology integration self-efficacy, technology literacy levels, attitudes toward technology and usage objectives of social networks. *Interactive Learning Environments, 29*(7), 1136–1162.

Yildiz Durak, H. (2021b). Preparing pre-service teachers to integrate teaching technologies into their classrooms: Examining the effects of teaching environments based on open-ended, hands-on and authentic tasks. *Education and Information Technologies*, 1–23.

Authors and Affiliations

Nihal Şen[1] · **Hatice Yildiz Durak**[2]

1   Faculty of Education, Department of Lifelong Learning and Adult Education, Bartin University, Bartın, Turkey

2   Faculty of Science, Department of Computer Technology and Information Systems, Bartin University, Bartın, Turkey