

Barriers to the Effective Use of Technology Integration in Social Studies Education

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Information and communication technology has been accepted as a powerful tool that transforms education. The emergence of new and innovative uses of technology provides new approaches to social studies teaching. Many governments have invested vast amounts of money to enhance schools with technology and provide them with Internet access to encourage teachers to use these new approaches. However, numerous barriers still need to be considered carefully when technology is used for teaching and learning purposes. This study investigates the views of Turkish social studies teachers about barriers for technology integration into the teaching-learning process. The authors applied a quantitative survey model and administered a 34-item survey to 171 social studies teachers in Turkey. The findings indicated that the most highly identified barriers were mainly external obstacles, such as a lack of technology, restricted Internet access, and a lack of administrative and technical support. Moreover, findings showed no statistical difference between female and male teachers' perceived barriers, while they found a statistically significant difference between teachers who attended technology-related professional development and those who did not.

Information and communication technology (ICT) has been an essential component of education in many countries (National Education Association, 2008; Waxman, Evans, Boriack & Kilinc, 2013). Policy makers, administrators, and educators have placed increased interest and emphasis on integrating technology into the learning-teaching process over the last decades (Qian & Clark, 2016; Willis et al., 2018). National and international research has asserted that integrating technology into the curriculum enhances teaching, increases students' learning, facilitates higher order thinking, and promotes a student-centered classroom (Enriquez, 2010; Fox & Henri, 2005; Teo, Chai, Hung & Lee, 2008).

Many governments have invested vast amounts of money to enhance schools with technology and provide them with Internet access (Crompton & Keane, 2012; Dale, 2008; Kilinc, 2016). In the last 20 years, Turkey has invested nearly 4 billion US dollars to provide ICT to schools and training teachers in integrating ICT into the curriculum. In 1998, the Turkish government designed a nationwide project, supported by the World Bank, to provide hardware and software for the schools and training teachers for ICT-based learning (Özdemir & Kılıç, 2007).

The last ICT-based project conducted by the Turkish National Ministry of Education (NME) was called the “Movement to Increase Opportunities and Improve Technology,” otherwise referred to as the FATİH Project (Tarman, Baytak & Duman, 2015). Through this project, the NME equipped 40,000 schools and 620,000 classrooms across Turkey with interactive White Boards, tablet computers, and Internet network infrastructure (ERG & RTI International, 2013).

While promising practices have developed in integrating technology in teaching (Hofer & Swan, 2006), technology integration appears to have a low priority for Turkish social studies teachers (Celikkaya, 2013). As Yılmaz and Ayaydin (2015) argued, the actual teaching practice of social studies teachers remains largely unchanged even though they have a smart board in the classroom. Thus, investigating barriers and challenges that Turkish social studies teachers face when integrating ICT in their daily teaching practices is crucial. The purpose of this research was to investigate obstacles that Turkish social studies teachers face while they are trying to integrate ICT in the learning-teaching process.

Theoretical Framework

ICT is accepted as a productive tool that transforms education (Chigona, 2015). Berson (1996) stated that technology can be seen as both an important tool to enhance teaching and an object that affect economic, social, and political sides of society. As Hilton (2015) argued, social studies is the best field of all of the subjects where ICT can be the most beneficial for the crafting of challenging and engaging pedagogy, through connection to a web of primary resources, secondary interpretations, and meaningful application (p. 68).

In addition, the widespread usage of social media platforms has provided more participatory and interactive experiences for students (Krutka & Carpenter, 2016). Therefore, social studies teachers should use ICT in teaching to encourage students to interact with difference within communities (Kilinc, 2013).

In recent years, the emergence of new and innovative uses of technology, such as the Internet, online classes, virtual fieldtrips, online mapping tools, blogs, and social media, provide new approaches to social studies teaching (Beal, 2001; Kilinc, Evans, & Korkmaz, 2012; Veletsianos, 2016). Various websites, programs, and digital tools provide new instructional opportunities for teachers to enhance their social studies teaching (Hutchison & Colwell, 2016; Tarman, 2017). However, many social studies teachers report that little information about how to use these tools in social studies classrooms or the required social studies curriculum and content is provided (Kilinc, 2016).

Although ICTs have become more accessible in schools (Belland, 2009; Hoffmann, 2017; Levin & Wadmany, 2008; Schoepp 2005; Waters & Russell, 2016), numerous elements still need to be carefully considered when technology is used for teaching and learning purposes (Cuban, 2003). Teachers have an essential role in integrating technology into the teaching and learning process (Ertmer, 2005; Eteokleous, 2008). However,

integrating technology is a complex challenge for many teachers, especially social studies teachers in Turkey (Celikkaya, 2013).

Teachers are most likely to face barriers while trying to integrate technology in their teaching because numerous factors may complicate using technology in classroom settings (Ertmer, 1999; Eteokleous, 2008; Mauch & Tarman, 2016; Zhao, 2007). Educators should be aware of these barriers (Schoepp, 2005) and find ways to overcome potential difficulties in a technology-supported course because “many events occur simultaneously or even haphazardly, and these events usually demand a teacher’s immediate attention” (Chen, 2008, p. 67). In other words, exploring potential barriers to technology use would help social studies teachers in being scaffolded and supported by other stakeholders (e.g., administrators) and find wise solutions to issues during the transition to technology-rich classrooms.

Ertmer (1999) classified barriers that teachers face when using technology into first-order and second-order barriers. First-order barriers primarily concern a lack of hardware, software, training or technical skills. According to Maddux (1998), “It is essential that computers be placed in classrooms. Until that happens, true integration is unlikely to take place” (p. 8). In other words, a need exists for useful technologies for schools and sufficient technical skills for teachers to remove first-order barriers in technology integration.

Second-order barriers, on the other hand, address the way of implementing teaching with technology by using new strategies or methods. According to Ertmer, Addison, Lane, Ross, and Woods (1999), “changes in classroom practices will not occur simply because computers are more available in the classroom” (p. 55). For example, curriculum needs to be redesigned based on the available technology in classroom settings, because the form of current technologies in classrooms may not be related to the content that teachers teach (Levin & Wadmany, 2008).

In addition, a teacher should revise methods of teaching and assessing. For instance, teachers could use blended instruction via Internet-based environments or computer-based testing via contemporary testing environments (Delen, 2015). However, teachers can practice new instructional environments only if they are provided with enough opportunities and support for both first-order and second-order barriers (Ertmer, 1999).

In other words, to guarantee fruitful outcomes teachers first need to be skillful with the type of technology (e.g., computer) and then to integrate it into their teaching with proper methods and strategies. Additionally, some studies assert that barriers are indeed often intermingling in practice (e.g., Levin & Wadmany, 2008; Tarman, 2016).

In addition, the beliefs, knowledge, and attitudes of teachers influence leveraging technologies effectively in the teaching-learning process (Andrew, 2007; Kim, Kim, Lee, Spector & DeMeester, 2013; Schul, 2017). Teachers need to have a positive attitude to transfer and engage their technical skills into their subject area teaching with proper approaches (Kilinc et al., 2016).

In other words, having technical equipment and skills may not ensure the success of teachers in technology integration (Cuban, Kirkpatrick, & Peck, 2001; Ertmer, 1999). Teachers also need to believe that using technology will increase student learning (Ertmer, 2005; Tarman & Baytak, 2011; Zhao & Cziko, 2001) and seek new methods and strategies in their teachings to remove second-order barriers.

This approach would be difficult for novice teachers if they have not tried it during their field experience. Ertmer et al. (1999) summarized the aforementioned issues and existing barriers as follows:

When educators and researchers look for reasons why teachers are struggling to use ICTs effectively, it may be important to look at what they have (in terms of beliefs and practices) in addition to what they do not have (in terms of equipment). (p. 68)

A question may arise here: What should educators do for effective technology integration in schools? Researchers have focused on this issue and suggested several solutions. For example, Schoepp (2005) studied educators and asked their opinions regarding the difficulties in technology integration in a technology-rich environment. The study results expressed four main recommendations, including technology integrating plans, curriculum integration, technology standards, and professional development.

As seen from these potential barriers and recommendations, teachers need to be supported intensively before, during, and after technology integration process. Several studies have been conducted to examine the use of technology in schools (Evans & Kilinc, 2013; Gray, Thomas, & Lewis, 2010; Korkmaz & Avci, 2016; Nikolaeva, & Pak, 2017; O'Dwyer, Russell, Bebell, & Seeley, 2008). On the other hand, few studies have investigated barriers that social studies teachers face while they are using technology (Celikkaya, 2013; Yilmaz & Ayaydin, 2015).

In this respect, the study described in this article examined the beliefs of social studies teachers about barriers for technology integration into the teaching-learning process. This paper has an important characteristic in that the selected schools were those equipped with interactive white boards and tablet computers; therefore, social studies teachers who participated in this study were in substantially different situations than others.

Method

We applied a quantitative survey model to investigate the beliefs of social studies teachers about barriers to technology integration into the social studies classroom by considering several variables. The main aim of survey studies is to assess attitudes, opinions, preferences, demographics, practices, and procedures (Gay, Mills, & Airisian, 2006; Lohr, 2009).

Survey research involves the collection of information from a sample of individuals through their responses to questions. According to Fraenkel and Wallen (2003) survey research is an eminent method for systematically collecting data from a broad spectrum of individuals and educational settings.

Participants

Participants of the study were selected through cluster random sampling during the 2015-2016 academic year. Cluster random sampling is sometimes undertaken as an alternative to simple random sampling, because selecting a random sample of individuals from a population is impossible (Fraenkel & Wallen, 2003).

We first determined the geographical areas of interest and chose the western part of Turkey. This part of Turkey is one of the most developed areas of the country, and schools were equipped with technologic devices (such as interactive white boards and tablet

computers) through the FATIH project. Then, middle schools were located through the website of National Ministry of Education and assigned a number. We randomly selected 53 middle schools to reach social studies teachers.

All the teachers in the selected schools constituted the sample of the study. We visited some selected schools and personally invited social studies teachers to participate in the study, while others were contacted via email. We also reminded teachers that they were free to either participate or not. A total of 197 surveys were distributed; 176 surveys were returned, and we used 171 (see Table 1).

Table 1
Profile of the Participants

Profile of the Participants	Frequency	%
Gender		
Female	83	48.5
Male	88	51.5
Total	171	100
Teaching Experience		
1-5 years	78	45.6
6-10 years	46	26.9
11-15 years	26	15.2
16 years and more	21	12.3
Total	171	100
Attended PD		
No	72	42.1
Yes	99	57.9
Total	171	100

Data Collection Tool

We used the Barriers in Teaching With Technology survey that we developed. The survey was designed to collect information from social studies teachers to learn about obstacles they faced to integrate technology into the learning-teaching process.

The draft scale had 37 items with potential responses for each item based on a 5-point Likert-type scale (*strongly disagree* = 1, *disagree* = 2, *neither agree nor disagree* = 3, *agree* = 4, and *strongly agree* = 5). We revised the first draft of the scale based on expert opinions obtained from three faculty members (one professor who had a Ph.D. degree in social studies, one professor who had a Ph.D. degree in educational technology, and one professor who had a Ph.D. degree in Educational Assessment and Evaluation), and five social studies teachers to examine the logical dimensions of validity (as in Black & Champion, 1976).

The first draft of the scale was revised based on feedback and resulted in a 34-item survey. See [appendix](#) for an illustration of how construct validity was determined based on the application of exploratory factor analysis.

The exploratory factor analysis showed that the Barriers in Teaching With Technology scale had two dimensions: internal barriers and external barriers. These two factors accounted for 46.35% of the total variance, which is in the expected rate range in social science (Hair, Anderson, Tatham, & Black, 2006).

The Cronbach's alpha coefficient was calculated for the entire scale and was found to be .889. In addition, the internal consistency coefficient of each dimension was calculated; .87 was found for external obstacles and .85 was found for internal obstacles. According to Kline (2011), "generally, reliability coefficients around .90 are considered 'excellent', values around .80 are 'very good,' and values around .70 are 'adequate'" (p. 70). Thus, the internal consistency coefficients of the scale can be considered excellent.

Analysis of the Data

The data were analyzed through descriptive analysis, independent sample *t* tests, and a one-way analysis of variance (ANOVA) in the SPSS 20 statistical package program. The $\alpha = 0.05$ significance level was taken as the basis for significance test between groups.

Results

We applied the Barriers in Teaching With Technology scale to examine the opinions of social studies teachers about the obstacles they encountered when they tried to integrate technology into the teaching and learning process. Table 2 shows social studies teachers' responses for each item.

According to the results, social studies teachers mentioned mainly external obstacles that limit their use of technology. For instance, the most accepted obstacle for the technology integration into teachers' daily practices was the lack of an effective computer lab in the school. Second, social studies teachers saw a slow Internet connection at the school as a huge obstacle for the use of technology for teaching-learning purposes. Another obstacle was related to professional development. Many social studies teachers agreed that professional development courses that they attended were irrelevant to meet their needs for integrating technology. The physical availability of computer lab was another main obstacle.

The results also showed that social studies teachers did not agree that some items were related to internal obstacles. For instance, social studies teachers thought that they were interested in technology integration. Also, participants stated that using technology enhances student learning. Consequently, these negative attitudes toward technology integration were not seen as obstacles to the use of technology.

Table 2
Mean and Standard Deviation of Participant Responses for Each Item

Item	M	SD
There is no effective computer lab in my school.	3.88	1.26
The internet is very slow in my school.	3.79	1.32
Professional development courses that I attended were irrelevant to my needs for integrating technology.	3.50	1.19
The computer lab is not available when I want to use it.	3.44	1.36
The social studies curriculum does not allow enough time to integrate technology.	3.41	1.10
High stake testing limits the use of technology.	3.40	1.35
There is a lack of technical support to solve technological problems I encounter.	3.28	1.14
Software is not adaptable for the social studies curriculum.	3.26	1.22
The thought of not being able to cover all topics makes me stay away from using technology.	3.15	1.36
There are no sufficient technological devices in the classroom.	3.00	1.50
I encounter several technical problems while using technology.	2.95	1.23
I cannot get sufficient support from the school administration.	2.93	1.21
Technology integration takes too much time.	2.89	1.23
I did not take sufficient training at university.	2.88	1.28
I don't get sufficient support from parents.	2.86	1.25
I cannot reach software that I can use for my class.	2.85	1.22
The physical condition of classes is not suitable for technology integration.	2.84	1.36
The school administration does not care about technology integration.	2.66	1.18
I think that technology integration makes teaching more teacher centered.	2.62	1.18
I don't have adequate training to use technology.	2.56	1.24
Classes are very crowded.	2.53	1.34
I don't know how to effectively integrate technology into teaching process.	2.53	1.00
Almost all websites/software that I can use for my teaching are in English.	2.40	.97
When I use technology, students get out of control.	2.39	1.09
Rapid developments in technology frighten me.	2.37	1.11
Classroom management is more difficult when I use technology.	2.16	1.03
I am afraid to damage technologic devices when I use them.	2.12	1.17
I think that technology integration limits the role of teachers in the classroom.	2.04	.96
I think technology integration is an obstacle for student-centered learning	1.91	.93
The use of technology reduces students' attention to the lesson.	1.88	.86
My colleagues don't use technology.	1.80	.88
I think that the use of technology negatively affects the quality of instruction.	1.80	.90
I don't think technology integration enhances student learning.	1.76	.93
I am not interested in technology integration.	1.61	.84

Gender and Technology Integration Barriers

According to the demographic information, 83 teachers (48.5%) were female, while 88 teachers were (51.5%) male. An independent sample *t*-test was conducted to test whether social studies teachers' ideas about Barriers in Teaching With Technology differed by gender (see Table 3. The result showed no statistically significant difference ($t_{(169)} = 1.962$, $p = .135$) between female and male social studies teachers' ideas for external obstacles. Moreover, the test was also not significant for the internal obstacles dimension ($t_{(169)} = 1.501$, $p = .051$).

Table 3
T-Test Results Regarding Differences by Gender for External Obstacles

Gender	N	Mean	SD	Df	t	p
External Obstacles						
Female	83	27.96	8.22	169	1.501	.135
Male	88	26.18	7.28			
Internal Obstacles						
Female	83	66.69	14.22	169	1.962	.051
Male	88	62.53	13.52			

Professional Development Courses and Technology Integration Barriers

The result showed that 99 social studies teachers (57.9%) attended professional development related to technology integration, while 72 social studies teachers (42.1%) had not had such an opportunity. We conducted an independent sample *t*-test to examine whether teachers' ideas about Barriers in Teaching With Technology differed by attending in-service training related to ICT integration (Table 4). The test was significant ($t_{(169)} = -3.303$, $p = .001$) for the external obstacles dimension. Thus, the conclusion can be made that social studies teachers who did not attend any PD related to ICT integration faced more external obstacles than did social studies teachers attended ICT-related professional development.

Table 4
T-Test Results Regarding Differences in ICT-Related In-Service Training

Attended Professional Development	N	Mean	SD	Df	t	p
External Obstacles						
Yes	99	60.52	13.97	169	-3.303	.001
No	72	67.48	13.31			
Internal Obstacles						
Yes	99	25.81	7.38	169	-1.769	.079
No	72	27.93	7.98			

Teaching Experience and Technology Integration Barriers

A one-way analysis of variance (ANOVA) was conducted to evaluate whether teachers' ideas about Barriers in Teaching With Technology differed by teaching experience (Table 5). The independent variable Teaching Experience included four levels: 1-5 years, 6-10 years, 11-15 years, and 16 and more years. The ANOVA was significant for the external obstacles dimension, $F(3,167) = 6.10, p = 0.001$. The results revealed that there was a significant difference based on teaching experiences with respect to teachers' ideas about external Barriers in Teaching With Technology.

New teachers ($M_{1-5} = 69.26$) considered external factors as obstacles to integrate technology into the learning-teaching process more than experienced teachers ($M_{6-10} = 60.93, M_{11-15} = 61.15, M_{16+} = 59.19$). A follow-up test was conducted to evaluate pairwise differences among means. The Scheffe tests indicated that there was no difference between teachers with 6-10 years, 11-15 years, and 16 and more years of experiences; however, these groups had a significant difference with new teachers about the external obstacles dimension. On the other hand, no significant difference existed with respect to teaching experience and internal obstacles.

Table 5
ANOVA Test Results

NEED A COLUMN HEADING!	SS	Df	MS	F	p
External Obstacles					
Between groups	151.7	3	50.59	.832	.478
Within groups	10151.8	167	60.79		
Total	10303.6	170			
Internal Obstacles					
Between groups	3241.4	3	1080.48	6.010	.001
Within groups	30022.7	167	179.77		
Total	33264.2	170			

Conclusion

This study examined the main barriers for integrating technology integration into the teaching learning process in middle school classes as perceived by Turkish social studies teachers. The findings of the study contribute to the literature by generating empirical evidence of the contemporary status of social studies teachers' perceived barriers.

The findings of the current study both confirmed and contradicted previous research. The present study found that the most highly identified barriers were mainly external obstacles, such as the lack of an effective computer lab. This result is partly surprising because, according to the official announcement by the National Ministry of Education, 40,000 schools and 620,000 classrooms across Turkey were equipped with ICT hardware (ERG & RTI International, 2013; Kilinc et al., 2016).

In spite of the prevalence of ICT in classrooms, especially the interactive white board (Smart Board), computer labs are reflected as barriers by Turkish social studies teachers. Similarly, aligned with previous research (Wachira & Keengwe, 2011), the scheduling of

using computer labs to meet the goal of technology integration for teachers remains another key obstacle for social studies teachers.

Social studies teachers also perceived a slow Internet connection as another major barrier to integrate technology. These findings are in agreement with previous studies (Carver, 2016; Göktaş, Gedik, & Baydas, 2013; Nikolopoulou & Gialamas, 2015; Salehi & Salehi, 2012), which maintained that lack of hardware and restricted access to the Internet were perceived as barriers for technology integration.

Professional development about integrating technology into the curriculum is one essential component for promoting the use of technology during the teaching-learning process (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). However, professional development sometimes can be perceived as an obstacle for technology integration when it is not related to actual classroom practices or focuses solely on technical skills (Kopcha, 2012; Mouza, 2009; Wells, 2007).

Indeed, Turkish social studies teachers agreed that professional development courses that they had previously attended were irrelevant to their needs for integrating technology. Several scholars (Schoepp, 2005; Sicilia, 2005; Toprakçi, 2006) had previously noted that teachers' perceived insufficient technology-related professional developments was one primary barrier for technology integration.

The result showed that the National Ministry of Education should organize more specific professional development sessions for social studies teachers to provide guidance for specific programs/apps to enhance learning (GIS, mapping, etc.), game-based platforms that makes learning impressive, and tools that provide teachers to create an online classroom, to make teaching more productive and meaningful by streamlining assignments, boosting collaboration, and fostering communication.

Another primary barrier perceived by the social studies teachers was related to the social studies curriculum. Participants are in agreement that the social studies curriculum does not allow enough time to integrate technology. Curriculum problems have been discussed for several decades (Ertmer, 1999; Gilmore, 1995); however, they still persist as a barrier for technology integration. Various research has indicated that time limitations and/or a lack of time to integrate technology into the curriculum were the most common challenges for teachers (Al-Alwani, 2005; Schoepp, 2005; Sicilia, 2005; Tarman & Acun, 2010). These findings indicated that the social studies curriculum should be designed in consideration of technology integration and allow more time for the use of technology.

The findings of the study also suggest that a lack of technical and administrative support is perceived as a key barrier for technology integration. Social studies teachers blamed school administration for a lack of administrative support for technology integration. As Wachira and Keengwe (2011) argued, a school needs a compelling technology policy to which school administration has committed in order to ensure effective technology integration. Also, administrators should encourage and support teachers in using technology effectively in the teaching-learning process.

Another key obstacle perceived by social studies teachers was related to software. Participants of the study claimed that they could not find appropriate software/websites (such as ArcGIS, Kahoot, Google Classroom, Google Arts & Culture, etc.) for their teaching. Indeed, although several software/websites are available for the social studies, the language used is English. Most Turkish social studies teachers do not have sufficient

English skills, and they perceived insufficient language skills as a barrier to integrate technology.

The findings of the research revealed that gender did not have a direct impact on technology integration. There was no significant difference between female and male teacher for perceived barriers for technology integration. However, the result showed that a statistically significant difference existed on perceived external barriers between teachers who attended professional development and those who had not. These findings supported previous research that indicated similar results (Cener, Acun, & Demirhan, 2015; Kutluca & Ekici, 2010; Usluel, Mumcu, & Demiraslan, 2007).

These results demonstrated that external barriers, such as lack of technology and inadequate support for technology integration are still main concerns that impact technology integration. Therefore, the conclusion can be reached that the perceived barriers of teachers showed similarities across time and different cultures.

Implications

The results of the study indicated that Turkish social studies teachers deal with not only first-order barriers but also second-order barriers. Furthermore, perceived barriers for efficacious ICT integration into social studies classrooms mainly changed for teachers. The following recommendations can be made for social studies teachers, administrators, and policy makers to address barriers at each level of ICT integration based on the findings of the present study:

- Professional development for social studies teachers should not focus only on technical skills. Social studies teachers should be trained on ways to prepare and use appropriate software. In addition, school administrators should be invited to professional development sessions to provide administrative supports for ICT integration.
- National Ministry of Education and/or commercial companies should provide appropriate software and materials through translation of some websites and software into Turkish, which are useful for social studies education. Then, the next step would be producing Turkish website and software programs suitable for social studies.
- Cooperation between universities and social studies teachers should be encouraged because mentoring is an auspicious step for persuading teachers to integrate ICT into their teaching. Through mentorship, researchers/academics help teachers learn how to integrate ICT into social studies classrooms and to prepare ICT-mediated lesson plans.
- Technical support should be provided when social studies teachers need in order to effectively ICT integration.
- Social studies curriculum should be redesign to allow more time for ICT integration.

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Appendix Factor Loading

Factor	Number	Items	Factor Loading
External	3	There is no effective computer lab in my school.	.645
	19	Physical conditions of classes are not suitable for technology integration.	.626
	7	There are no sufficient technological devices in the classroom.	.620
	8	Professional development courses that I attended were irrelevant to my needs for integrating technology.	.616
	4	The computer lab is not available when I want to use it.	.605
	2	I cannot get sufficient support from the school administration.	.600
	32	I did not take sufficient training at university.	.531
	6	I don't have adequate training to use technology.	.529
	31	I cannot reach software that I can use for my class.	.515
	25	I encounter several technical problems while using technology.	.513
	20	I don't get sufficient support from parents.	.508
	13	There is a lack of technical support to solve technological problems I encounter.	.504
	30	The Internet is very slow in my school.	.500
	10	Software is not adaptable for social studies curriculum.	.498
	15	The social studies curriculum does not allow enough time to integrate technology.	.491
	11	The school administration does not care about technology integration.	.489
	12	Almost all websites/software that I can use for my teaching are in English.	.476
	16	Technology integration takes too much time.	.463
	5	Classes are very crowded.	.454
	9	High stake testing limits the use of technology.	.430
	1	The thought of not being able to cover all topics makes me away from using technology.	.404
	26	I am not interested in technology integration.	.798
	28	The use of technology reduces students' attention to the lesson.	.759
	27	I think technology integration is an obstacle for student-centered learning	.742
	33	I think that the use of technology negatively affects the quality of instruction.	.722
	Internal	21	I don't think technology integration enhances student learning.
22		I think that technology integration limits the role of teachers in the classroom.	.644
18		Rapid developments in technology frighten me.	.612
17		Classroom management is more difficult when I use technology.	.579
29		My colleagues don't use technology.	.540
24		When I use technology students get out of control.	.528
14		I don't know how to effectively integrate technology into the teaching process	.485
34		I am afraid to damage technologic devices when I use them.	.464
23	I think that technology integration makes teaching more.	.455	