



# Perceptions of Instructors on Using Web 2.0 Tools in Academic English Courses

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## Abstract

It is impossible to imagine a university instructor who does not make use of the internet today. The internet provides not only quick access to reliable research data but also certain programs that teachers can tailor to use in their own specific contexts and to interact with their students in practical ways. There might still be resistance to learning new technologies and adapting to them even in the most 'modern' work environments even among the relatively younger teachers. The aim of this study was to explore the ELT instructors' perspectives on the use of Web 2.0 technologies in university level academic English skills courses in an English-medium university, and to test whether a year-long regular training program made a difference in their perceptions and practice of the use of Web 2.0 tools in their teaching. 21 instructors from Middle East Technical University were offered regular training sessions on the practical uses of certain Web 2.0 tools such as, the Google Drive, Google Sheets, Google Slides, Google Docs, Google Forms, Kahoot, Mysimpleshow, Poll Everywhere, Nearpod, Mentimeter, Edpuzzle, and QR codes. A pretest and posttest to explore the instructors' knowledge of and attitudes towards Web 2.0 tools were administered before and after the series of training sessions to see if there were any significant changes. Also, follow-up interviews were carried out with the instructors who participated in the sessions to obtain a deeper insight into their perspectives. Both the questionnaire and the interview results revealed that there were significant changes in these instructors' attitudes towards the use of Web 2.0 tools.

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**Keywords:** Web 2.0 tools, integration of educational technology, attitudes, tertiary education

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## 1. Introduction

### 1.1. Attitudes of instructors towards educational technology

Today's technological improvements give way to efficiency and productivity for teachers as they provide very shortcut ways of achieving tasks that required lots of

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stationary, time and effort in the past. However, there might still be some resistance among teachers to adopt technology in their teaching, especially if one feels that it is too late to catch up with the recent developments or they are not competent enough to follow them. This attitude may give way to extra challenges because working with university students, a university instructor is in the position to catch up with their 'microcosm', to be able to address them in their 'language'.

Middle East Technical University (METU), where this study was conducted is an English-medium university. Students are required to take English-related courses that focus on academic language and skills during their undergraduate years. These courses are offered by the freshman English department, the Department of Modern Languages (DML). While the department also offers elective courses in a wide range of languages, the majority of the instructors, to be exact, 65 instructors are English language teachers. The instructors are free to integrate educational technology in their classes, or to stick to the old-school teaching methods. To promote the use of some practical Web 2.0 tools, in the 2016-2017 academic year, regular training sessions were held at the department with the intention of changing the attitude of the instructors towards the integration of new educational applications into their classes. Although educational online tools have been the topic of recent literature in English Language Teaching, most research covers the effect of such tools in students' learning rather than instructors' attitudes. Therefore, the results of this study may shed light to future in-service teacher training research at similar institutions.

### *1.2. Use of Web 2.0 tools in the language classrooms*

The field of education is one of the realms of life which has been affected significantly by the technological changes that have taken place in this century. The basic reason behind this change is that 21st century students are already equipped with digital skills. It is, therefore, imperative for the educational institutions to integrate technological innovations in their curricula. In this regard, the field of English Language Teaching (ELT) is no exception. Teachers of English as a second or foreign language should adjust their teaching competencies to keep up with the changing landscapes of the current technological innovations. For quite a long time, teachers have been frequently using some technologies in their classes such as the Microsoft Office applications (e.g. Power Point) or emailing exchanges; however, especially with the introduction of Web 2.0 tools, instruction has gained a new perspective. While Web 1.0 enabled users to browse or search on the internet to read static content created by "experts" (Ebner, 2007), Web 2.0 tools provided the users with the option to write, post and interact on the web. Thus, users have become authors, contributors, editors or "experts" of their own writing, and can now consume, create and edit content themselves by collaborating with other users (McLoughlin & Lee, 2007). This led to a shift from passive reference to one of

collaboration, which created active opportunities for individuals in different forms. D'Souza (2007), Moura (2007) and Kayler & Weller (2007) (as cited in Cephe & Balçıkanlı, 2012, p. 8) highlight the potential of Web 2.0 tools in education due to “their open nature, ease of use and support for effective collaboration and communication”.

Prensky (2001) defines the 21<sup>st</sup> century kids as “digital natives” who perceive technology as an essential and preferred component of every aspect of their lives. As can be understood, in order to engage today's kids and to make their learning meaningful, the activities done in the classroom should be relevant to what they do outside the classroom in their daily lives. Today's students already use information and communication technologies to support their learning outside the classroom as Bennett, Bishop, Dalgarno & Waycott & Kennedy (2012) state. Csikszentmihalyi (1987) shares the same point of view and states that “learners will be more motivated to learn as long as learning environments are meaningful and interesting for them”. Chartland (2012) also focuses on the benefit of ‘interactivity’ created by Web 2.0 tools adding that it raises students' potential to produce meaningful output. As learners will find language classrooms more enjoyable with the integration of Web 2.0 tools, they will be more involved in the language learning process, which consequently increases their motivation. In his study, Ushida (2005) reports that although students felt anxious at the beginning of his research due to the online platform used in his language class, there has been a change in the students' attitude for the positive in the end. He concludes that the online language courses create a unique classroom culture. In Haliç, Lee, Paulus and Spence's (2010) study, similarly, it is reported that the use of online platforms leads to the formation of a sense of community among the students.

English language teaching must also be supplemented through web technologies because language learning is more than a classroom experience. With the integration of Web 2.0 tools in the language classroom, teachers aim at informal learning, too, since some language learning experience occurs outside the classroom informally through the use of Web 2.0 tools. New technologies facilitate online communication and information exchanges to empower the learners and create an enriched social learning landscape. Vygotsky (1978) sees social interaction at the center of an effective learning process, hence, it can be said that the instructors who are making use of Web 2.0 technologies in their classes are adopting a Vygotskian perspective of social learning. In this regard, Web 2.0 technologies offer learners a good context for social interaction to emerge in a non-threatening way. While students are involved in real-life-like experiences, they are engaged in peripheral learning, too, as they are being exposed to authentic language with the use of Web 2.0 tools in language education. In short, Web 2.0 tools scaffold students in their learning process.

Learner autonomy is one of the most outstanding objectives of any language class today. Language learning cannot be limited only to the classroom atmosphere; on the contrary, it is a lifelong learning experience so that learners of a foreign language are capable of taking responsibility for their own learning, that is ‘regulating’ their own learning. This can mostly be achieved through the use of web technologies as Web 2.0 tools since Web 2.0 technology provides the means to foster learner autonomy. Dam (1995) views Web 2.0 tools as opportunities for learners “to exercise learner autonomy by taking responsibility for their own learning in planning, monitoring and evaluating their own learning activities online”.

It should not be disregarded, though, that while 21<sup>st</sup> century kids are digital natives, their instructors are unfortunately digital immigrants, which may lead to the formation of a big gap between learning and teaching. At this point, it is enlightening to examine the differences Jukes and Dosaj (2006) (as cited in Kárpáti, 2009, p. 150) point out between digital native learners and digital immigrant teachers. One of the most outstanding differences is that while digital immigrant teachers prefer their students to work independently, digital native learners prefer to interact simultaneously with each other. Similarly, digital immigrant teachers are more likely to apply one task at a time; on the other hand, digital natives are more engaged in multi-tasking. Therefore, students “prefer to learn ‘just-in-time’, but teachers “prefer to teach ‘just-in-case” (whether the skill will be tested or not). In this regard, Web 2.0 tools may serve to bridge the gap between ‘digital natives’ and ‘digital immigrants’ as Richardson (2006) notes. As these tools are relatively easy to learn and use, they can compensate for the weaknesses of the teachers regarding technology. Rather than be a burden for them, Web 2.0 tools may assist teachers by creating a more student-centered classroom.

As technology is an indispensable part of learners’ life, it is of utmost importance for language teachers to integrate technological innovations into their instruction in order to maximize student engagement in their classes. The use of Web 2.0 tools becomes inevitable especially in higher education where students already bring their laptops or smart phones to the classes well-equipped for internet access. In such classes, Hew & Cheung (2013) report that Web 2.0 tools support learning. Likewise, Chou and Chen (2008) stated collaborative learning is as the most beneficial outcome for language learning. There have been a number of studies conducted in ELT departments in tertiary level institutions to explore student teachers’ perception on the use of technology in language learning contexts. One such study was conducted by Cephe and Balçıkanlı (2012) in a state university in Turkey. After a three-month training on web technologies, 139 student teachers stated to have positive feelings about the use of web technologies despite some challenges such as lack of technological devices encountered. In a similar study carried out in another state university in Turkey, the results revealed a significant increase on 46 preservice teachers’ self-confidence level after receiving a training to enhance the use of Web 2.0 tools for educational purposes (Tatlı, Akbulut, Altınışik,

2016). These preservice teachers identified a feeling of distinction compared to other preservice teachers thanks to the training.

In a language classroom, Web 2.0 tools provide instructors with many benefits such as instructional design, course delivery and student learning for language education (Sykes, Oskoz & Thorne, 2008). One of the main reasons why Web 2.0 technology is preferred by many language instructors is that it creates “a participatory medium and culture for user-contributed learning” (Huang & Lin, 2011, p. 141). Such a technology is an alternative for traditional lecture-based language classes as it creates better language learning opportunities for learners in an interactive and communicative setting. In such a collaborative learning environment, learners become creative and active users of the new knowledge rather than being passive absorbents, which leads to better retention of new information.

The results of a long-term study yielded that Web 2.0 tools have the potential to transform many aspects of teaching and language classrooms if used effectively. When teachers know how to use these tools and blend them with careful instructional design, students benefit from the experience (Light & Polin, 2010). In their study, Light and Polin stated that the tools teachers choose were very easy to use, which was a key factor in their decisions. It was observed by the researchers that these teachers create virtual extensions of their classes and these extensions become a daily part of the teaching and learning process. In this way, the communication between students and teachers increases in and outside the classroom, which strengthens the community sense of learners. However, it should be noted that it is not the tool itself that creates this strong bond, but *how* it is used to support teaching and learning.

Contrary to the popular belief that Web 2.0 tools are useful in language teaching, some study results revealed that teachers prefer not to use these tools despite their benefits due to some reasons. One of them is the lack of knowledge of these instructors regarding the tools. Some instructors had little idea of how to use such tools. In a study carried out in Iran, teachers reported to perceive Web 2.0 tools as “bed rocks, not the materials” and stated their preference for the traditional methods in language teaching as they do not believe in the effectiveness of the tools (Khany & Boghayeri, 2013, p. 151). In a comparative study conducted by Stevenson and Liu (2010), teachers showed greater interest for Web 1.0 tools as they believe that learning content using Web 1.0 is still relevant for today’s users. For the participants of this study, Web 2.0 technology is new and using social networking sites for language learning is an unexplored territory for the time being.

Another restriction for making use of Web 2.0 technology in classes, as Bran (2009) mentioned, is lack of technical equipment. Similarly, Küfi and Özgür (2009) mentioned lack of certain facilities, such as access to computers or the Internet as the shortcomings of this technology.

The aim of this study was to explore the ELT instructors' perspectives on the use of Web 2.0 technologies in university level academic English skills courses in an English-medium university, and to test whether a year-long regular training program made a difference in their perceptions and practice of the use of Web 2.0 tools in their teaching. 21 instructors from Middle East Technical University were offered regular training sessions on the practical uses of selected Web 2.0 tools such as, the Google Drive, Google Sheets, Google Slides, Google Docs, Google Forms, Kahoot, Nearpod, Mysimpleshow, Poll Everywhere, and Edpuzzle. When choosing the tools to be introduced and practiced during the sessions, the researchers considered their being user-friendly as the most important criteria. Trainers' expertise, the tools' relevance and easy integration to required courses the department offered were other criteria the researchers considered.

### *1.3. Research design*

In this mixed method study, a self-developed pretest to explore instructors' knowledge of and attitude towards Web 2.0 tools was administered before the series of training sessions. The same test was administered as a posttest after the one-year long training sessions were offered at the department on a regular basis to see if there were any significant perception and attitude changes in instructors towards the integration of Web 2.0 tools in their courses. The survey asked instructors questions such as whether they are already integrating Web 2.0 tools in their courses, if have a positive attitude towards learning about and using Web 2.0 tools, and questions about their familiarity with some popular tools, to name a few; the Google Drive tools, Kahoot.it, Prezi, Mentimeter, Polleverywhere, Padlet, Nearpod, etc. The tests were in Google forms format and were administered online. Two instructors familiar with the setting of the research and the educational Web 2.0 tools the study intended to familiarize the participants gave feedback to the researchers prior to finalizing the survey questions. Also, follow-up interviews were carried out with the 21 instructors who participated in the sessions to obtain a deeper insight into their perspectives, and the reason behind the change in their attitudes, if there were any. The interviews were later coded by the two researchers for inter-rater reliability, and deductive content analysis was conducted by the two-researchers together to reach common categories of recurring themes during the interviews.

The research questions of this study are as follows:

RQ1: What are the perceptions of ELT instructors at the DML of METU towards the integration of Web 2.0 tools in their teaching?

RQ2: Is there a significant change in the perceptions and attitudes of these instructors after the in-service training sessions held at the department?

#### *1.4. Intervention*

In 2017, at the fore-mentioned freshman English department at METU, a pretest was given to the instructors to explore their attitudes towards educational Web 2.0 tools. Questions comprised of those inquiring the present knowledge of instructors of the available educational technology, attitude and confidence-related questions about learning and using Web 2.0 tools, and instructors' intentions about integrating Web 2.0 tools in the future in their classes. Ten Web 2.0 tools sessions were designed with the intention to change instructors' attitudes from neutral and hesitant and even intimidated in some cases, to a more welcoming and enthusiastic one. Instructors attended the sessions on a voluntary basis throughout the year. During the sessions, one to one assistance was provided by the trainers and a computer assistant tending to the problems the instructors had when trying out the applications presented. Throughout the sessions, the instructors were constantly encouraged by positive feedback on their progress and by stating that the applications did not require expertise knowledge but to the contrary, general knowledge of an average internet user would suffice to be able to practice their use in the classroom. After the ten Web 2.0 tools sessions, instructors were given a post-test to explore the differences in their attitudes.

#### *1.5. Participants*

Twenty-one instructors attended the sessions and took the pre-test and the post-test administered in the study. Because attending the Web 2.0 tools in-service training sessions was voluntary, of all the English language instructors teaching at the DML, only 32% attended the sessions. As the sessions were held during the academic year, instructors' teaching load was one hindrance that prevented them from attending the sessions. The set of participants in the study were mostly between 30-45 years old, with experience of teaching English from 5 to 30 years. They all currently work at the DML at METU, Ankara, Turkey. All the instructors who participated in the study were females. More than 50% of them (52.4%) were between the ages 40 and 49, and they all started teaching in their twenties, which is an indication of their experience in teaching. The second most populated category is the age range between 20 and 30 (33.3). There are not any instructors who participated in the Web 2.0 tools training sessions who are younger than 30; that is, there are not any instructors who are digital natives who have recently

graduated from an undergraduate program which offers courses on instructional technologies. 66.7% of the instructors hold an MA degree, 14.3% hold a Ph.D. degree and 19% hold a BA degree. 47.6 of them % have been teaching English for over 20 years. 42.9% have been working as an English teacher for 15-20 years.

## 2. Results

To seek an answer to the first research question, the pretest was analyzed. While 47.6% of the instructors did make use of the internet somehow in their classes, only 14.3% of them gave assignments that required the use of Web 2.0 tools. About half of the instructors did not receive any training on the integration of Web 2.0 tools in the last five years (42.9%), but those who did receive training suggested that the training had a great impact on their teaching (58.3%).

The following figure represents how familiar the instructors were on the listed Web 2.0 tools on a Likert scale of 1 to 5, 5 being 'very much'.

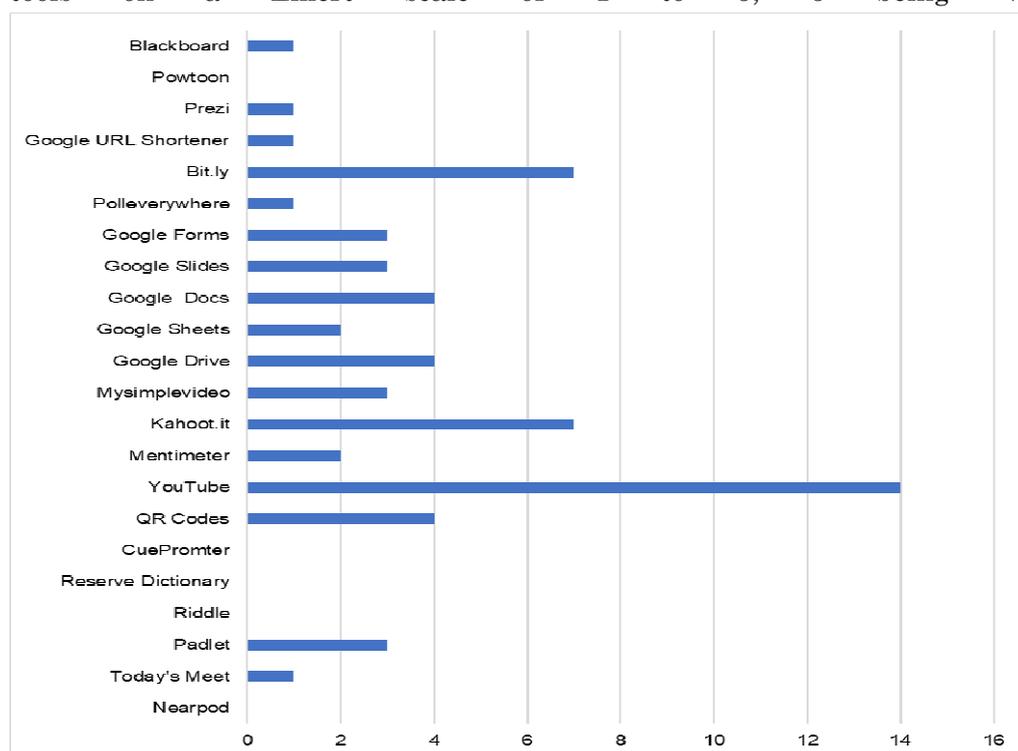


Figure 1. Familiarity with Web 2.0 tools

72.2% of the instructors stated that they were very interested in learning about Web 2.0 tools, but 42.9% claimed that they did not feel very confident in integrating Web 2.0

tools. It was clear to the naked eye that instructors were willing to learn about educational technologies but were not already fully equipped with the knowledge to be able to actively make use of Web 2.0 tools in their classes. 57.1% thought that the barrier that hindered their use of Web 2.0 tools was lack of knowledge.

Overall, the pretest results indicate that if the instructors were supported by training sessions, they would feel more confident about integrating them in their classes.

*The comparison of pretest and post test results:*

A paired sample t-test was conducted to compare the results of the pre and post-test on the instructors' attitudes towards integrating Web 2.0 tools in their courses before and after the ten Web 2.0 tools training sessions offered at the DML during 2017. The results of the paired sample t-test indicated that there was a statistically significant change in instructors' use of Web 2.0 tools,  $t(20) = -2.80$ ,  $p = .005 < .05$ . The use of Web 2.0 tools in class has increased after the training sessions, instructors' attitude toward Web 2.0 tools changed to more positive after the intervention. The question 'How would you define your attitude towards teaching-related Web 2.0 tools?' was the question on the self-developed survey asked on a Likert scale from 1 to 5, 1 being 'I am not at all interested in using them' and 5 being 'I am very interested in using them'. The results also indicated that there was a significant improvement in instructors' attitude towards use of Web 2.0 tools following the training sessions from  $2.24 \pm .70$  to  $2.69 \pm .37$  ( $p < 0.05$ ) with an improvement of  $-.75 \pm .16$ . There was a significant change in the impact of the trainings instructors recently received, it increased from  $2.24 \pm .83$  to  $4.24 \pm 1.04$  ( $p < 0.05$ ).

	Pretest		Posttest		<i>n</i>	95% CI for Mean Difference	<i>t</i>	<i>df</i>	<i>P</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					
a. Use of Web 2.0	2.57	1.25	3.86	1.32	21	-2.24, -.33	-2.80*	20	.011*
b. Attitude	2.24	.70	2.69	.37	21	-.75, -.16	-3.19	20	.005*
c. Impact of recent training	2.76	.83	4.24	1.04	21	-2.14, -.81	-4.60	20	.000*

\*  $p < .05$ .

Figure 2. Paired sample t-test results for use of Web 2.0 tools in class, instructors' attitude, and the impact of training paired sample t-test

Below is the figure which represents familiarity with the listed Web 2.0 tools tested on a Likert scale of 1 to 5, 5 being 'very much' after the instructors received the trainings, which reveals significant differences from that of the pretest results.

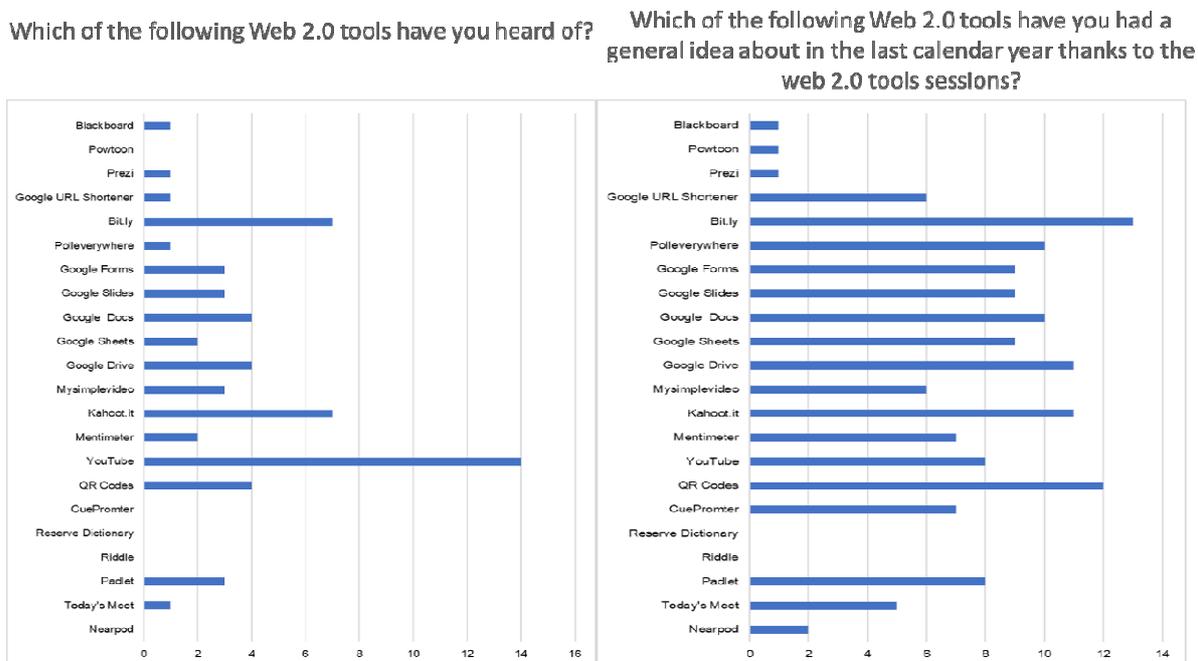


Figure 3. Familiarity with Web 2.0 tools before and after the intervention

#### *Interview results:*

The semi-structured interviews explored instructors' perceptions of the training sessions, their contribution to the change in their attitude toward Web 2.0 tools and their suggestions for future training sessions. The recurring interview results were coded by the two researchers for inter-rater reliability. Below are the most recurring themes during the interviews:

#### *Number of training sessions:*

During the interviews, the most common comment was that instructors asked for more training sessions. A common complaint was that instructors needed to meet with the presenters of the sessions and the computer assistant much more frequently to be able to receive one-to-one assistance on the problems they faced with when they tried out the tools in their classrooms.

#### *Motivation*

In general, all the instructors appreciated the sessions especially because they were held in a non-threatening atmosphere. The most common comment made by the instructors was that personal guidance helped contribute to their motivation, since when the instructors had a problem even when logging into sites, they were scaffolded by the trainer, researcher or the computer assistant sitting next to them. One instructor stated that 'When dealing with unfamiliar technology digital immigrants can be reluctant to try out new programs, but even to have an idea about some of them, for example Kahoot, changed the perception of myself as a teacher by my students. Thank you for not using terminology that would intimidate us during the sessions. This motivated me even more.'

#### *Popular tools*

10 instructors revealed that they preferred to use the already available games on Kahoot made available on the departmental open courseware platform instead of creating their own games even after the Web 2.0 tools sessions. Very few (2) instructors were interested in Edpuzzle, and decided to try it. Almost all the instructors were inspired by the functions of Google Drive and related tools of Google, such as the Sheets, Docs and Forms. After the intervention, especially Google Forms was used very frequently by the participants who had administrative duties. Also, during the interviews, such participants reported how pleased and satisfied they were with the content of the training sessions. However, few (2) instructors suggested that tools that are appealing to university level courses were offered.

#### *Practice*

One recurring suggestion was that the instructors needed more practice on what had been taught. Although the presentation and use of the tools looked easy and practical during the sessions, when they were not assisted after the sessions, the instructors had difficulty discovering the programs. In fact, during the interviews the instructors repeatedly said that the sessions were about a single Web 2.0 tool in each meeting, and the same tool was not covered again in other sessions. They also reported that there were no assigned tasks that put some responsibility on teachers to make use of them actively, and this made instructors feel as if they have not fully mastered or 'internalized', in the words of one instructor.

#### *Common demand for more sessions*

Over all, during the interviews the majority of the instructors revealed that their attitude towards integrating Web 2.0 tools in their classes has shifted from a more hesitant and almost negative one to a more enthusiastic one. One major common future request from the researchers among the majority of the participants of the study was that they continue offering Web 2.0 tools sessions at the department as part of an in-service training program.

### **3. Discussion and Conclusion**

Resistance against any new practice or application is not uncommon in any work place. The setting of this research examined the attitude of instructors at a prominent state university in Turkey which was the first distributor of internet in Turkey in the 1990s, and has the fastest Wi-Fi connection available in a public institution country wide. Even so, integration of online tools that require internet connection has not been very popular among the instructors of academic English courses with some exceptions only.

This study first identified the present knowledge and attitude of instructors who participated in the research. The pre-test, which was administered to search for the present knowledge of the instructors before the training, revealed that almost half of the participants were somehow making use of the internet in their classes. The remaining half did not receive any formal training on the integration of Web 2.0 tools. Even the ones who stated having received some kind of training accepted that the training did not have a great impact on their teaching.

With this scenario at hand, almost all of the instructors were quite eager for the training. However, although almost  $\frac{3}{4}$  of the instructors were interested in learning about Web 2.0 tools, and about half of the population had concerns about integrating the tools in their instruction. Among the reasons mentioned for this concern, lack of knowledge ranked the first. The overall results of the pre-test yielded that teachers would feel more comfortable about making use of Web 2.0 tools in their instruction if they were to be given special training on them.

As for the intervention, a one-year long Web 2.0 tools program was offered to volunteering instructors working at the DML. During the program, instructors received ten sessions where they had the chance to learn about some Web 2.0 tools that can be used in their classes. Throughout the sessions, teachers were also able to explore using the tools for practical purposes by the help of the trainers and a computer assistant.

At the end of the training sessions, the participants were given a post-test to test the effectiveness of the training. The statistical analysis of the results of the post-test revealed that in general, there was a change in the instructors' attitudes towards the use of Web 2.0 tools in their classes. Both the paired sample t-test results and the interviews in this mixed method study have concluded that the intervention was quite effective and did make a significant change in instructors' attitudes towards the integration of educational technology in the academic English courses that they teach. In addition, in the interviews conducted with the participants of the training, the teachers asked for

more training sessions, which was a sign that the participants benefited from the training. Another comment that was made by the interviewees was that the friendly-atmosphere of the sessions and the personal assistance provided by the computer assistant not only motivated them but also encouraged them to cope with the unexpected problems. The teachers also appreciated being able to make use the materials already developed by other colleagues using the Web 2.0 tools. The fact that these materials were public was another asset for the instructors to try using these Web 2.0 tools while planning their instruction.

In this vein, the study yielded similar results with the ones in the literature. Just as Cephe and Balçıkanlı (2012) and Tatlı, Akbulut and Altınışik (2016) mentioned in their studies, in this study as well, teachers pointed out having positive feelings about the use of Web 2.0 tools. The training apparently made a difference leading to a change in the mindset of people, which is the most promising result.

The study bears significance because of several reasons. First of all, studies on instructional technology have usually focused on their effectiveness in proficiency, or have been based on students' feedback and perceptions (Chartland, 2012 & Haliç, Lee, Paulus, Spence, 2010). This research project aims at exploring the experienced, university instructors' attitudes. Secondly, Web 2.0 tools have been widely used in classes where the students are younger and need motivational tools that appeal to their digital identities. There have been a few number of studies conducted in higher educational settings (Hew & Cheung, 2013, Chou & Chen, 2008). The setting of this study is also a university, that is, while all students are digital natives. Yet, when it comes to the digitally immigrant instructors, only those personally interested in online educational tools integrate them into their teaching. So, the motivation for integration of online interactive tools in academic English courses at university level makes an undeniable contribution to the research setting.

When the instructor population in the DML is closely analyzed, it can be seen that the instructors are from different age groups. The participants of the study were generally experienced teachers in their profession but foreign to today's technology. As mentioned by these instructors during the interviews, they resisted using technology, specifically Web 2.0 tools in their classes basically due to lack of knowledge. Therefore, they were quite hesitant to use these tools. This study, by giving them hands-on experience, helped them to change their beliefs towards the use of technology in class. The study was successful in that it managed to change mindsets in an institution full of experienced teachers.

One other benefit of the study is that the results highlighted the importance of cooperation and collaboration among the instructors. Not only during the training sessions, but also after the sessions, the participants continued to keep in contact with

each other to help one another and to share the materials they have produced. This, in the end, led to having a friendlier and more collaborative environment in the department, which increased job satisfaction consecutively.

As for the limitations of the study, the results of the research cannot be generalizable to contexts where there are internet connection problems or where the classrooms are not equipped with computers and projectors, or where students do not possess smart phones.

Future research can focus on a more intense training for a longer period of time, tracing instructors' use of tools in their classes. One other major limitation of this study is that it explored the effect of the training sessions on teachers' attitudes, but it did not observe their actual practice with the tools presented and tried out during the sessions, in their actual teaching. Actual practice of the tools would present unforeseen obstacles which might cause the rebirth of the resistance observed before the intervention. For the other instructors who already make use of Web 2.0 tools in their classes, though, it is important to conduct more research "to determine the effectiveness of these tools for meeting specific long-term learning outcomes within formal and informal language learning outcomes" (Stevenson and Liu, 2010, p. 251).

The trainings offered were a contribution to instructors' knowledge of the selected tools. Any effort to catch up with today's teaching methods should be sanctified if it also contributes to student motivation and active involvement. If teachers resist using technology, specifically Web 2.0 tools, in their teaching, they run the risk of being outdated in the course of time. Rather than engaging students, such teachers may enrage their students by staying behind the era. In the end, the beneficiaries of this engagement process will be those teachers who turn the skills of 21<sup>st</sup> century into habits. After all, as John Dewey puts it, we cannot teach tomorrow's children with today's methods, if we do, we would be robbing them off their futures (Thayer, 2014).

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