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## AN INVESTIGATION OF USES AND GRATIFICATIONS FOR USING WEB 2.0 TECHNOLOGIES IN TEACHING AND LEARNING PROCESSES

*Research Article*

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## Abstract

Although the use of Web 2.0 in higher education has been a hot topic for the last decade, a lack of guidelines on how to use Web 2.0 tools has constrained their wider adoption. Therefore, understanding why and how educators use Web 2.0 is a necessary step towards promoting their effective use in teaching and learning. This study draws upon the uses and gratifications perspective to explore faculty members' uses of Web 2.0 tools in instructional processes in an international higher education context. We gathered data from 15 faculty members via semi-structured interviews as part of a phenomenological study design applying maximum variation sampling. We analyzed the data using content analysis. The results indicated that the faculty members were selective in their use of Web 2.0 tools and utilized a variety of Web 2.0 tools to gratify their cognitive, affective, social integrative and personal integrative needs in relation to instructional processes.

*Keywords:* Uses and gratifications theory, Web 2.0 tools, higher education, qualitative study, Web 2.0 use in instruction.

## 1. Introduction

The use of technology in education to enhance teaching and learning has been a growing field for decades. Emerging Web 2.0 technologies and tools are becoming increasingly popular in education, especially higher education (HE). Several studies have reported positive findings regarding the use of Web 2.0 tools for instructional processes, along with recommendations and concerns to be addressed. The importance and potential of Web 2.0 for HE is stressed in numerous works in the literature (e.g. Aymerich-Franch & Fedele, 2015; Costa, Alvelos, & Teixeira, 2016; DiBella & Williams, 2015; Enskat, Hunt & Hooker, 2017; Procter et al., 2010; Ureña-Torres, Tenesaca-Luna, Arciniegas & Segarra-Faggioni, 2017). However, the uptake of Web 2.0 in instructional processes has yet to reach the expected or desired levels, despite the fact that many researchers believe the future of HE lies in Web 2.0 tools.

For this reason, further investigation of the needs and uses of Web 2.0 tools is needed to understand why and how they are used for teaching and learning, and to promote their effective use in HE. We believe that studying faculty members' uses and gratifications of Web 2.0 tools in instructional processes is an important step in this direction, since their motivations, as well as their personal and pedagogical beliefs, are believed to be crucial for the successful integration of Web 2.0 technologies in education (Celik, Akilli, & Onuk, 2014). We base our

study on a well-known communication theory, the uses and gratifications theory (UGT), in order to understand why and how faculty members select various Web 2.0 tools to satisfy specific needs in their teaching and learning processes, and to gather useful data for designing staff development programs on the effective use of Web 2.0 tools in HE teaching and learning contexts.

## **2. Background and related work**

### **2.1. Web 2.0 and education**

Although the two are based on the same technologies, Web 2.0 differs from its predecessor Web 1.0 in the sense that it allows for two-way communication, with anyone with minimal Web skills able to contribute by creating and publishing content rather than remaining a passive reader. In the field of education, this is associated with endless opportunities for the “production of written speech, discussions, brainstorming, opinions, communication and a social journey to knowledge” (Batsila, Vavougiou, & Ioannidis, 2015, p.15).

This paradigm shift from read-only to read/write Web, with users becoming content generators and engaging with applications, has led to the creation of numerous new Web 2.0 applications. The most popular examples of these comprise of social networking services (SNSs) and social media sites. In the field of HE, relevant technologies and services include blogs, microblogs, wikis, RSS, social tagging, social bookmarking, and media sharing in addition to SNSs and other social media software (Grosbeck, 2009). In other words, a vast array of educational Web 2.0 applications and tools are available, and many other Web 2.0 services exist that can be applied to the field of education in order to enhance the learning experience.

The idea of incorporating Web 2.0 tools, especially SNSs, into education has already been studied by several interdisciplinary scholars, mainly researching the effects of Web 2.0 on learning and teaching besides focusing on limitations and concerns from a pedagogical perspective (Tess, 2013). Anderson (2007) compiled a report reviewing Web 2.0, including the technologies involved; highlighting some of the issues and challenges it poses to HE; and generating some recommendations. The state-of-the-art in research today points out the necessity to increase the maturity, efficiency and safety of these new ways of digital dialogue in order to make them truly useful for education (Celik, Akilli, & Onuk, 2014). Further research is needed to achieve this.

The potential benefits of Web 2.0 have been discussed extensively in the literature. In general, Web 2.0 tools can be utilized to enhance and promote collaborative, effective, social and active learning. Web 2.0 has the potential to support student engagement, persistence, involvement, and social and academic integration, which can, in turn, lead to higher achievement and retention. Grosbeck (2009) outlined some of the potential benefits of Web 2.0 applications, arguing that a new type of Web 2.0-based pedagogy is needed to adopt best practices in teaching and learning with Web 2.0 in HE.

In light of this, many researchers have studied the uses of Web 2.0 tools in modern instructional processes. Several studies have reported positive findings regarding students’ social connectedness and learning experiences following SNS use in classes (Hung & Yuen, 2010); interaction between individual and group actions, which prospectively improved individual knowledge acquirement (Laru, Näykki, & Järvelä, 2012); interest in using Web 2.0 technologies for education (Sandars & Schroter, 2007); motivational processing and outcome processing with Web 2.0 tools (Huang, W & Yoo, 2008); Web 2.0 adoption in HE and perceptions of it as a valuable resource for teaching (Aymerich-Franch & Fedele, 2015); the development of learner empowerment (Ng & Hussain, 2009); student perceptions of

instructors' use of SNS (Facebook) (Enskat, Hunt, & Hooker, 2017); and collaborative learning, perceived learning, and a sense of community (Top, 2012). Other studies have reported that students use Web 2.0 applications to foster both formal and informal learning (Gelmez-Burakgazi, 2012; Yoo & Kim, 2013), and that students who use Web 2.0 tools more frequently in leisure contexts are occasional users in learning contexts and vice versa (Costa, Alvelos, & Teixeira, 2016).

Related research in the field has so far focused mostly on the use of Web 2.0 tools in HE. The most common Web 2.0 tools that have been studied in the literature on instructional processes are SNSs such as Facebook, the video sharing platform YouTube, and the microblogging platform Twitter. The results of studies on blogs, wikis, and podcasts as well as a small number of studies on social bookmarking, social photo-/slide-sharing, professional networking sites and other Web 2.0 tools have been reported. One reason for the extensive use of Facebook, Twitter and YouTube in HE could be their popularity (in terms of the number of active users per platform). The wide use of such software might make them a "natural" choice for many educators or institutions due to their familiarity, ease of use and broad reach with minimal effort. This is in line with the findings of a study suggesting that attitude and perceived behavioral control have a vast influence on the behavioral intention to use Web 2.0 technology, with ease of use, usefulness, and compatibility with Web 2.0 comprising the key elements of attitude (Ajjan & Hartshorne, 2008). Similarly, influence groups are the main social features defining the use of Web 2.0 technologies (Ajjan & Hartshorne, 2008; Kale, 2014).

While numerous studies have examined the effects of Web 2.0 applications in education from students' viewpoints, comparatively fewer studies have examined the needs and uses of them from the educators' standpoint. A number of studies have investigated faculty members' perspectives (Ahmed, 2015), adoption (Ajjan & Hartshorne, 2008) and use (Veletsianos & Kimmons, 2016), as well as perceptions and motivations (Celik et al., 2014), for several Web 2.0 applications. Most of these studies utilized questionnaires or surveys as data collection tools, and only a few explored theoretical frameworks such as the unified theory of acceptance and use of technology (UTAUT) (Onyebuchi, 2009; Toğay, Akdur, Yetişkin, & Bilici, 2013), the integrative theory of motivation, volition, and performance (Huang, W & Yoo, 2008), or motivational theory (Celik et al., 2014). Hence, there is a need for more qualitative studies in this vein. Our study differs from existing studies in that it investigates faculty members' needs and uses for using Web 2.0 technologies by applying a well-known communication theory: UGT.

## **2.2. Uses and Gratifications Theory (UGT)**

Uses and gratifications is a well-known theoretical model that dates back to the 1940s. It was originally developed to provide an explanation for users' motivations and behaviors regarding traditional media like radio, television, and newspapers. Since then, UGT researchers have continued to conceptually refine the theory, adapting it to the present day and changing forms of media communication (Ruggiero, 2000). One significant distinctive property of new media is their interactivity (Quan-Haase & Young, 2010). According to the literature, UGT is suitable for studying online communication media like, in our case, Web 2.0 tools (Ruggiero, 2000).

UGT aims to understand why and how people actively seek out certain media to satisfy certain needs. It assumes that users actively choose and use the media that best fulfill their needs, and that the reasons and motivations for selecting a specific medium will vary from user to user (Katz et al., 1974). Pai and Arnott (2013) advocate that "UGT suggests that cognitive and affective needs motivate people's choices when consuming media and reveals the consequences that follow from needs, motives, and behavior" (p. 1040). Although different

classifications exist within the UGT framework (Katz, Gurevitch, and Haas, 1973; Rubin, 1981), we have chosen to apply Katz, Gurevitch, and Haas' (1973) schema here since it is the most well-known and frequently used. According to Katz, Gurevitch, and Haas (1973), users' motivations to consume media are derived from five specific human needs:

- (1) *Cognitive needs*: Strengthening information, knowledge, and understanding;
- (2) *Affective needs*: Strengthening aesthetic, pleasurable, and emotional experiences;
- (3) *Personal integrative needs*: Strengthening credibility, confidence, stability, and status;
- (4) *Social integrative needs*: Strengthening contact with family, friends, and the world; and
- (5) *Tension release needs*: Escape and diversion (p. 167).

The theory proposes that people actively select and use media for the purpose of gratification. The gratifications a user actually experiences when using a particular medium is referred to as "gratifications obtained", while the gratifications a user expects to acquire from a medium in advance of actually coming into contact with it is referred to "gratifications sought" (or "needs" or "motives") (Karimi, Khodabandelou, Ehsani, & Ahmad, 2014).

When it comes to user behavior and motivation, the UGT is the most common approach to explaining "why" certain media behaviors occur. It considers fundamental psychological needs and builds "theoretical dimensions of user motivations for media use and selection" (Pai & Arnott, 2013, p. 1039). UGT offers a methodological perspective for addressing the matters of media choice and consumption. Pai and Arnott (2013) claim that users' communication medium selection decisions are affected not only by the features of the medium but also by factors related to needs fulfillment and social influences.

As mentioned earlier, UGT has been widely used for studying traditional media for several decades. More recent applications of UGT (for 21st century new media) include mobile phones (Leung & Wei, 2000), Internet usage (Stafford, Stafford, & Schkade, 2004) and social media (Leung, 2013). A number of studies have applied UGT to SNSs. For instance, Joinson (2008) examined the practices of Facebook usage, identifying seven distinctive uses and gratifications obtained from its use: "social connection shared identities, photographs, content, social investigation, social network surfing, and status updating" (p. 1027).

In a qualitative study, Pai and Arnott (2013) examined users' motives for adopting and using SNSs using UGT and laddering interviews, identifying belonging, hedonism, self-esteem, and reciprocity as the four core values users achieve with adopting SNSs. Using a questionnaire and UGT, another study aimed to identify the strongest motivators of Facebook use and evaluate Facebook intensity based on respondents' socio-demographic backgrounds (Richard, Froget, Baghestan, & Asfaranjan, 2013). An exploratory study found that young adults use MySpace and Facebook "to experience selective, efficient, and immediate connection with others for their (mediated) interpersonal communication satisfaction and as an ongoing way to seek the approval and support of other people" (Urista, Dong, & Day, 2009, p. 216). However, none of these studies were in the education domain or explored an instructional process.

A quantitative study using UGT found differences in HE students' motivations to join and use SNSs in Iran, Malaysia, the UK, and South Africa, suggesting that cultural differences may determine the uses and gratifications of social networking (Karimi et al., 2014). In a comparative study of Facebook and instant messaging, researchers used surveys and interviews to collect data from undergraduate students on what motivated them to use these two media and the gratifications they obtained from ongoing use (Quan-Haase & Young, 2010). However, these studies mostly focused on HE students rather than faculty members. Faculty members are usually the ones who integrate Web 2.0 tools into the instructional process,

making their point of view at least as important as students'. Hence, faculty members' uses and gratifications of Web 2.0 tools also need to be investigated.

Another shortcoming of these previous related works is their use of questionnaire-based, quantitative methodologies. They do not investigate "gratifications" sufficiently as there are no qualitative examinations. In our research, we study faculty members' uses and gratifications with regards to various current Web 2.0 tools and technologies from a qualitative perspective. The concurrent use of several Web 2.0 tools suggests that each one satisfies a distinct need, making an analysis of uses and gratifications necessary (Quan-Haase & Young, 2010). Building on this, our study aims to draw upon UGT to understand why and how faculty members use such technologies, which has not been sufficiently investigated before in the HE context. We believe that this study is necessary and will make an important contribution to the literature in this field. Specifically, our research aims to answer the following research questions:

- (1) What Web 2.0 technologies do faculty members use as part of their teaching and learning processes?
- (2) How do faculty members use Web 2.0 technologies as part of their teaching and learning processes?
- (3) What are faculty members' needs for using Web 2.0 technologies in teaching and learning processes?

### 3. Method

A qualitative phenomenological research design was used in this study to investigate faculty members' uses and gratifications regarding Web 2.0 technologies in teaching and learning processes. Creswell (2007) explains: "A phenomenological study describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon" (p.76). The phenomenon here was the use of Web 2.0 in teaching and learning environments.

#### 3.1. Participants

Data were collected from 15 (6 female, 9 male) faculty members at an international university in Northern Cyprus (see Table 1 for demographics) where the language of instruction is English. Maximum variation was employed as a purposeful sampling strategy to ensure representativeness (Patton, 1990). Participants varied in gender, department, experience, and nationality. Their age ranged from 28-60, and their teaching experience varied between 6-20 years. The participants were from Turkey ( $n=7$ ); Northern Cyprus ( $n=5$ ); Canada ( $n=1$ ); Germany ( $n=1$ ); and Russia ( $n=1$ ).

Table 1. *Demographic Profiles of the Participants (n=15)*

<i>Participants</i>		<i>f</i>
Age	25-30	1
	31-35	2
	36-40	6
	41-45	2
	46-50	3
	56-60	1
Gender	Female	6
	Male	9

Nationality	Turkey	7
	Northern Cyprus	5
	Canada	1
	Germany	1
	Russia	1
Experience	6-10 years	7
	11-15 years	6
	21 years and more	2

### 3.2. Data collection instrument

A semi-structured interview guide developed by the researchers was used in this research. The interview guide was revised and refined on the basis of expert opinions (one from the Department of Curriculum and Instruction; one from the Department of Computer Education and Instructional Technologies). The final interview guide comprised questions on demographics, uses, and gratifications for using Web 2.0 in teaching and learning processes, previous attendance at staff development programs on using Web 2.0 in education, and suggestions for staff development programs on Web 2.0 use in education.

### 3.3. Data collection and analysis

Semi-structured interviews were conducted with the participants from March 2017 to June 2017 after obtaining ethical approval from the Human Subjects Ethics Committee. The interviews lasted approximately 25-40 minutes and were audio-recorded. Content analysis of the data was conducted in four stages: coding the data, defining the relevant themes, arranging the data, and interpretation. The data were double-coded by the researchers using a preliminary code list based on the study's research questions, current literature, and UGT. Some example codes were "increasing knowledge retention", "dissemination of materials" and "enhancing communication".

In line with Lincoln and Guba's (1985) four criteria for trustworthiness (credibility, transferability, dependability, and confirmability), this study employed different types of informants, different researchers (triangulation), provided thick description of the phenomena under investigation to allow the study to be repeated, and used diagrams to document "audit trails".

## 4. Results

Data analysis indicated that faculty members were selective in their use of Web 2.0 tools. They used SNSs (P1, P3, P7, P8, P9, P13), professional networking sites (all faculty members except P3, P5, P15), multimedia sharing sites (all faculty members except P1, P2, P4), the university's Moodle-based learning management system (LMS) (all faculty members), and some other Web 2.0 tools (e.g. Wikipedia, blogs) to gratify their (1) cognitive, (2) affective, (3) social integrative, and (4) personal integrative needs in relation to teaching and learning processes. Figure 1 depicts the Web 2.0 tools most commonly used by the faculty members in parallel with the needs emerging from the data analysis. The Web 2.0 tools utilized to meet each need related to teaching and learning processes are explained under each need.

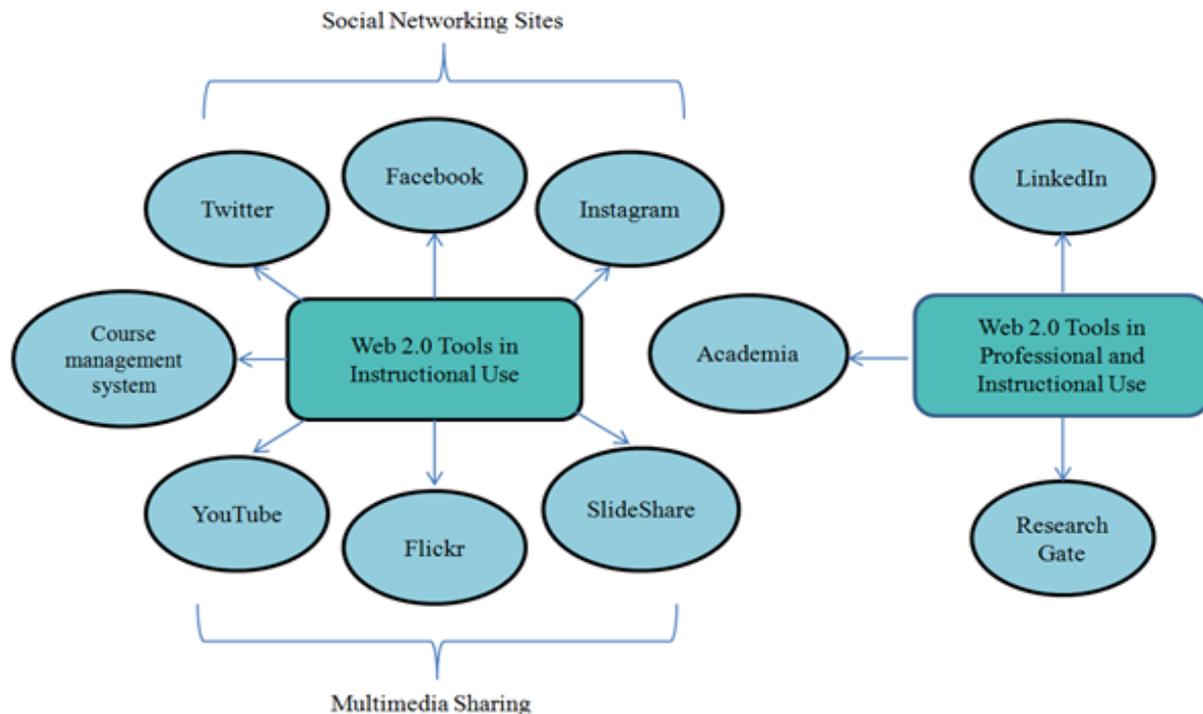


Figure 1. Major web 2.0 tools used by the faculty members.

#### 4.1. Cognitive Needs

The first theme emerging from the data analysis was cognitive needs. The results showed that the faculty members used social networking (i.e., Facebook and Instagram), multimedia sharing (i.e., YouTube, SlideShare) and the university's LMS to satisfy their cognitive needs and thus enrich instruction and supplement the theoretical knowledge they provided in lectures by providing visual and/or audio input to students. The results indicated that this process actively promoted comprehension and the retention of new knowledge and skills. To illustrate, reflecting on the impact of Web 2.0 use on students, P5 stated: "...They [my students] might not remember book knowledge in the exams, but they say that they do remember the [input provided in the] videos... [They say that] this [use of web 2.0] helps them to remember and learn better". Similarly, P7 stated: "You might talk about the damages of gas leaks in Azerbaijan on the environment for a week. However, if you show a 5-minute video demonstrating dead animals and victims, it becomes more striking and catchy".

The results revealed that apart from enriching instruction, faculty members also used the abovementioned tools to disseminate lecture notes and to share and/or encourage students to share articles and course-related materials (e.g., videos, photographs) to enhance their knowledge and comprehension. To illustrate, highlighting the importance of sharing lecture materials in online environments, P12 stated: "Some like to learn better when they listen to a teacher at the class. Some prefer to study at home...they feel updated about the course not only when they come to the lectures but anytime they have".

The results showed that although the use of Web 2.0 tools helped the faculty members satisfy students' cognitive needs, a few concerns should also be taken into consideration when planning the integration of Web 2.0 into teaching. Firstly, the data showed that presenting content via Web 2.0 can create external cognitive load and/or draw the instructors' focus away from essential course content. Some representative quotes are as follows:

Web 2.0 tools cause external cognitive load. There are some elements that might distract students' attention and get students off the topic...If students' self-control and regulation is not sufficient, they might switch to more enjoyable content instead of content that they find boring... Thus, unplanned use becomes a distracting element in education...( P11)

It tends to make things a bit superficial. You tend to pass off all the links and information in the ways you wouldn't do in face-to-face. There would be a lot more focus on certain more essentials, more fundamentals. So I think things tend to get water[ed] down a bit and it can overwhelm students. (P8)

Secondly, the data analysis unexpectedly indicated that ethical rules affect the use of mainly Facebook and Twitter for instructional purposes. For P2 and P8, ethical rules were sensitive points that were particularly violable on Twitter and Facebook. Thirdly, some faculty members (P1, P8, P9, P10, P11) critiqued the reliability of Web 2.0 tools as a source. One notable quotation is as follows: "It is becoming quite difficult to understand what is true and what should be questioned on the internet so that becomes quite an issue as well" (P8). Specifically, P1 and P11 criticized Wikipedia for reliability problems, and P1 stated that he neither used nor suggested Wikipedia to his students due to reliability concerns.

Another concern was found to result from the nature of Web 2.0 tools utilized for instructional purposes and emphasized selecting the right Web 2.0 tools for instruction. To illustrate, Instagram (P1) and Facebook (P8) were found to be less effective in comparison to the other tools. Specifically, P1 commented that Instagram was a superficial tool to use in a teaching-learning environment. Similarly, highlighting the language barrier he faced, P6 claimed that he had difficulty in finding Turkish content on YouTube.

Lastly, one faculty member (P7) expressed concern about her colleagues' attitudes on the use of Web 2.0 tools in instruction. Emphasizing the difference between traditional and non-traditional instruction, P7 stated that she was reluctant to use YouTube videos in class so as not to be criticized by traditional colleagues for excessive use.

#### **4.2. Affective needs**

Data analysis showed that some faculty members used Web 2.0 tools to gratify their affective needs. First, the results indicated that sharing published work on professional networking sites (i.e., ResearchGate, Academia.edu) and lecture notes or materials on multimedia sites gave faculty members pleasure and emotional fulfillment. To illustrate, one faculty member stated: "I use ResearchGate and Academia.edu to share my published work on a social platform... I like this because my work is cited and shared makes me happy" (P1). Similarly, reflecting on the use of Cyberdoor, P8 stated:

I still have some slides there and I got this message saying 'You now reached 6000 views or 1000 views.' I don't know how many times people actually looked at it but it kind of inflates your ego a bit.

Interestingly, the results also showed that two faculty members (P3, P8) with expert-level knowledge and interest in Web 2.0 tools utilized Web 2.0 not only to enhance the quality of education but also to fulfill their and their students' emotional needs. The results indicated that even though students sometimes developed negative attitudes towards Web 2.0 use or the specific Web 2.0 tool these faculty members used, they persisted in their use of that tool for a while longer as they wanted to satisfy their own desire to use Web 2.0 in instruction and/or create pleasurable learning environments for their students. For example, P8 said: "So sometimes I just do them [using technology] because it is just fun for me but not so much for my students. It is easy for me and I think it is more motivating to my students as well" (P8).

### 4.3. Social integrative needs

The results indicated that faculty members used various Web 2.0 tools to satisfy social integrative needs in relation to teaching and learning processes, and thus to strengthen their contacts with their students and/or colleagues. The results showed that faculty members primarily used two major SNS, Facebook and Twitter, to socialize with their students. The results revealed that these sites functioned as pressure-free communication channels and enabled both faculty and students to communicate with each other easily and rapidly in a commonly-used informal environment. Thus, faculty members also utilized these sites to disseminate important information and/or make announcements to large numbers of students, although one faculty member (P8) articulated that Facebook seemed like a waste of time as it had grown so much beyond what he saw as being effective for teaching purposes. Some representative quotes are as follows:

... I have much better communication with my students than I had without social environment because of a language barrier. They don't have that option to talk to me in Turkish [the students' mother tongue] so they don't know what to say when they come to me but in a chat room or in WhatsApp, they have time, they can think, they use emojis. (P8)

For example, there is a strong reluctance of students to come to my office, and it is difficult because some of them travel abroad during their perception of break time like between exams. Therefore, I find it like a virtual classroom experience. (P15)

...I think it [using Web 2.0] is like using their own language. Well, all of us have smartphones. When we send a message through Facebook, it is directly seen on the screen [of mobile]. (P 7)

The results showed that some faculty members also used LinkedIn, a professional networking site, to strengthen their contact with their students, colleagues and/or other professionals in their field. One faculty member (P11) also encouraged his students to use LinkedIn, as he thought connecting to an instructor or professional through a professional networking site allowed the students to become more career-oriented and increased the value of their education.

The data analysis also revealed that apart from social and professional networking, faculty members also used the university's Moodle-based learning management system (LMS) to communicate with their students and/or create discussion environments, although three faculty members (P1, P3, P5) also criticized the tool for its complexity and for not being user-friendly. P3 and P5 specifically highlighted a need for advanced training on how to use the LMS efficiently. One faculty member (P3) also reported using some other Web 2.0 tools (i.e., WordPress, Google Docs, and Answer.fm) to communicate with a large number of students at the same time and learn about their ideas. For instance, Answer.fm was an easy way to respond to students' most frequently asked questions. This helped him develop better communication with his students, as it was quite difficult to have face-to-face interaction with each and every student in large classes.

The results also showed that the use of Web 2.0 to satisfy social integrative needs created some concerns among faculty members, as some students expected their instructors to be accessible 24 hours a day through online networking: "Students expect 24 hours answer but I don't reply them for like 6 or 7 hours. That's a downside" (P8). Another concern was that it was difficult to monitor students in online environments (P7) and that students could become quite informal when communicating via SNSs, which could potentially have a negative impact

on in-class interaction between faculty members and students.

#### **4.4. Personal integrative needs**

The final need emerging from the data analysis was personal integrative needs. The results showed that faculty members used Web 2.0 tools to satisfy their personal integrative needs in order to increase their credibility and confidence in teaching. The results indicated that the faculty members mainly used ResearchGate and Academia for rapid access to recent work by other researchers and to update their content knowledge and skills. For P7, LinkedIn served as a kind of business card, allowing her to introduce herself to others and expand her network. This type of use might also fall under social integrative needs, as it refers to communication with others. However, according to Katz et al.'s (1973) classification, this need might also be related to "the need for affiliation".

In addition, faculty members used multimedia sharing (YouTube, SlideShare) and Wikipedia to update their content and pedagogical content knowledge, giving them an increased sense of confidence and credibility in teaching. To illustrate, P13 said: "I use Wikipedia to understand something [better]. I check definitions of some terms and convey them to students". Similarly, P8 believed that the use of new tools enabled him to improve himself. Thus, he has never avoided integrating Web 2.0 tools in teaching and learning environments.

#### **5. Discussion and conclusions**

As technology develops beyond our expectations, it is becoming an inescapable part of our lives. In the near future, immersive technologies and artificial intelligence may have a considerable impact on teaching and learning processes. Even now, the use of Web 2.0 tools has significant potential to support and enhance teaching and learning in HE, and it is mostly up to educators to use them to successfully support and enrich their teaching (Ajjan & Hartshorne, 2008). Our study aimed to use UGT to understand faculty members' motives for using Web 2.0 tools in teaching and learning processes, which had not been sufficiently investigated before in the HE context. Understanding faculty members' uses and needs is essential in order to aid them in using Web 2.0 tools in an effective manner, choosing which tool to use when and how, and learning from others' experiences. Specifically, using a phenomenological approach, we aimed to gain insight into what specific Web 2.0 technologies faculty members use as part of their teaching and learning processes, the ways in which they use Web 2.0 technologies as part of their teaching and learning processes, and their needs for using Web 2.0 technologies in teaching and learning processes.

Qualitative interview data revealed that faculty members use a variety of Web 2.0 tools in accordance with the needs established in UGT. It was observed that faculty members use different Web 2.0 tools for different uses and to satisfy different needs and gratifications, in accordance with Quan-Haase & Young's (2010) work claiming that each Web 2.0 tool satisfies a distinct need. For instance, SNSs such as Facebook and Twitter were commonly used for social integrative needs, as they provide a medium for fast and friendlier communication outside of the classroom. However, as suggested by the concerns raised in the data analysis, setting boundaries regarding communication style and response time expectations may require preplanning and clarification. Similarly, a survey of faculty members' perspectives and motivations for Web 2.0 tools use in HE found that while such tools gave them the freedom to work outside the office, thus improving the continuity and sustainability of learning outside business hours, many faculty members had concerns regarding the extra workload and time that this might demand on their end (Celik et al., 2014). Likewise, another study suggested that faculty members are more likely to utilize Web 2.0 for personal sharing and professionally

connecting with peers than to integrate them into their instruction practices due to similar concerns (Manca & Ranieri, 2016).

In general, faculty members mostly use Web 2.0 tools to gratify cognitive and social integrative needs, a finding which is in line with the literature (Wang, Tchernev, & Solloway, 2012). It was observed that faculty members use Web 2.0 tools to strengthen students' knowledge and understanding while trying to engage them more with additional materials and outside the classroom. This study's take-home message is to be cautious about two things: external cognitive overload, so as not to overwhelm students while trying to help them; and planning the integration of Web 2.0 tools into instructional processes prudently in order to minimize distractions, especially with commonly used SNSs.

The study also revealed that some faculty members use Web 2.0 tools to meet their affective needs, whereas personal integrative gratification has more to do with their academic development than instructional processes. For these needs and gratifications, faculty members mostly utilized professional networks such as LinkedIn, ResearchGate and Academia.edu and multimedia sharing platforms such as YouTube and SlideShare. While being liked, shared or cited on a Web 2.0 tool seems to gratify faculty members' affective needs, engaging with these Web 2.0 tools for personal integrative needs allows them to keep themselves up-to-date on research, content and pedagogical content knowledge, thus contributing to their self-confidence and credibility in teaching. Communicating with students via professional networks might also address some of the concerns raised by participants in this study.

In summary, faculty members are aware of and utilize some Web 2.0 tools in their instructional processes. They are selective in their use of tools, using different ones for different purposes; nevertheless, a majority stick to popular, mainstream social media tools. As we are living in an information age, it is important for faculty members to keep up with new technologies, especially educational technologies, and think about how they can be integrated into education, even though this obviously requires a lot of effort.

We believe that this study's findings contribute to understanding faculty members' needs and concerns regarding the use of Web 2.0 tools in an international HE teaching and learning context. Thus, the results of this study could aid in designing and developing staff development programs on the effective use of Web 2.0 technologies in HE contexts. We also believe that guidance for faculty members on which tools to use for what purposes, how to integrate these tools into their pedagogical structure, and how to handle things like reliability, credibility, privacy, informality, ownership and many other issues that arise when using Web 2.0 tools will make Web 2.0 usage in HE easier and more effective, and thus stimulate wider use.

This study is subject to several limitations. First, all faculty members in this study were from the same university. Extending the study by collecting data from other universities would provide a basis for interesting comparison studies that would allow us to see if there are any differences in Web 2.0 technology use across different faculties or between research-oriented versus teaching-oriented institutions. Another limitation is the wide variety of Web 2.0 technologies available, whose use and impact on instructional processes might differ. In our study, we tried to focus on a subset of some of the most popular technologies and grouped several of them into thematic categories in our interviews to keep things simple.

Our findings offer some insights for future research. Firstly, a natural extension of this study would be to conduct observations in faculty members' classes and analyze the instructional materials they use to better understand how Web 2.0 tools are utilized in instruction. The use of think-aloud protocols to depict how faculty members plan to use Web 2.0 tools in teaching and learning processes is also an intriguing possibility that could be investigated in further

studies. It would also be interesting to hold semi-structured interviews with students and faculty members simultaneously to derive an understanding of the two groups' similar and contradicting motives for using Web 2.0 tools in teaching and learning.

#### ENDNOTE

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