

## EXPLORATION OF TEACHING PREFERENCES OF INSTRUCTORS' USE OF SOCIAL MEDIA

*Selcan Kilis [k1selcan@gmail.com], Department of Computer Education and Instructional Technology, Middle East Technical University, Yasemin Gülbahar [ysmnglbhr@gmail.com], Instructor and Researcher at Department of Informatics, Administrator at Distance Education Center, Ankara University, Turkey, Christian Rapp [Christian.Rapp@gmx.net], Center for Innovative Teaching and Learning, School of Management and Law, Zurich University of Applied Sciences, Switzerland*

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### Abstract

With the excessive use of social media in the 21<sup>st</sup> century, attempts to integrate social media within higher education have also increased. In this area, research has been particularly focused on the aspects of students, rather than the instructors. This study puts the emphasis on the instructors with the aim to explore their use of social media in educational settings. Their respective teaching preferences were explored, from a pedagogical perspective, with the help of a Social Media Toolkit. The toolkit was developed to guide instructors that want to integrate social media in their teaching. This study was designed as a descriptive study and quantitative data was collected from 583 instructors from 39 countries. The participants responded to four main questions in an online environment. Results revealed that instructors mostly prefer to teach their subject at the applying and understanding levels. They frequently use text-based materials and design their courses as problem-based or on a presentation model. They mostly prefer to assess students using alternative methods based on their performance, like portfolios, group works, etc. whilst classical methods were also preferred. Overall findings indicated that any instructor from any discipline or culture can transform courses onto a social media platform thanks to many different and varied features provided by social media tools.

### Abstract in German

Mit der exzessiven Nutzung von Social Media im 21. Jahrhundert haben auch die Bestrebungen, soziale Medien in die Hochschullehre zu integrieren, zugenommen. Die Forschung in diesem Bereich hat sich bisher besonders auf Aspekte in Bezug auf Studierende und weniger auf Lehrkräfte konzentriert. Die vorliegende Studie legt den Fokus auf die Lehrkräfte und untersucht deren Nutzung von Social Media in der Lehrsituation. Deren bevorzugten Lehrmethoden wurden aus einer didaktischen Perspektive und mithilfe eines Social-Media-Toolkits untersucht. Dieses war entwickelt worden, um Lehrkräfte zu unterstützen, die soziale Medien in ihre Lehre integrieren wollen. In dieser deskriptiven Studie wurden quantitative Daten von 583 Lehrkräften aus 39 Ländern erhoben. Die Studienteilnehmenden beantworteten in einer Onlinebefragung vier Hauptfragen. Die Ergebnisse zeigten, dass die Lehrkräfte es am stärksten bevorzugen, ihr Fach anwendungs- und verständnisorientiert zu lehren. Häufig benutzen sie textbasiertes Material und gestalten ihren Unterricht problembasiert oder als Vorlesung. Weiter bevorzugen sie es überwiegend, Studierende anhand von alternativen, leistungsorientierten Methoden – Portfolios, Gruppenarbeiten etc. – zu prüfen, wobei klassische Methoden ebenso Vorzug erhielten. Die Gesamtergebnisse deuten darauf hin, dass alle Lehrkräfte aus allen Disziplinen oder Kulturen ihre Lehre dank zahlreicher unterschiedlicher und vielfältiger Funktionen von Social-Media-Tools in eine Social-Media-Plattform umgestalten können.

**Keywords:** social media, teaching preferences, social media in education

## Introduction

Owing to the fact that social media is gaining more and more focus with an increasing number of users every day, the idea of social media for educational purposes has become a reality for many researchers. The number of research studies are increasing and new journals are emerging that focus on social media studies, revealing many concurrent studies are being carried out by researchers in different places, and with different goals. One recently completed EU FP7 Era.Net RUS project called “Social Media as a Catalyser for Cross-National learning – SoMeCat” ([www.somecat.org](http://www.somecat.org)), also possessed similar concerns.

The *SoMeCat* researchers investigated the attitudes of instructors and students towards the use of social media in higher education (HE) for teaching, learning and for research purposes within four countries; Turkey, Russia, Germany, and Switzerland. The project's findings revealed that although instructors were aware of the potential benefits of social media (SoMe) utilisation for HE, in reality, only very few instructors had integrated social media into their teaching-learning process, since either they are doubtful how to integrate social media in their teaching in a sound way (from an instructional design perspective and how to use the technology for educational purposes), or they lack the necessary information and are unaware from where they could seek support at their institution. Based on the findings of the study, there is a huge need for a supplementary resource for instructors. Macdonald and Poniatowska (2011) made similar findings and revealed that instructors are anxious to discover the extent to which the tools are relevant and useful and they need to know how to make these tools beneficial for teaching-learning processes.

The SoMeCat researchers based their framework on common intentions in teaching students, illustrated by a range of strategies, which then links to a choice of tools. As a result, a Social Media Toolkit ([http://socialmediaforeducation.org/en\\_gb/site/group/name/eur](http://socialmediaforeducation.org/en_gb/site/group/name/eur)) was developed with aims to pedagogically target the best-matching social media class to an instructor's teaching scenario, based on preferences provided by the instructors, plus guidance on how to integrate the recommended social media class into education.

Available in three languages (English, Turkish, Russian), the SoMe Toolkit (a) analyses the instructional scenario where social media integration is intended to be employed, (b) based on the analysis results, offers the best-matching social media class, and (c) provides instructional guidelines on how to employ the suggested social media class in teaching. The idea behind the toolkit is simple; to provide pedagogically sound guidance direct to instructors on their quest to effectively integrate the right social media into their teaching situation.

The toolkit collects usage data purely for the purposes of scientific research and for potential future enhancements to the toolkit based on actual user data. Having been stripped of personal information, usage data is therefore anonymous and indistinctive. One year after the toolkit's launch, usage data amounting to 583 entries has been collected. The purpose of this research is to reveal the teaching preferences of instructors planning to integrate SoMe in their teaching, from a pedagogical perspective, and to interpret the social media class suggestions made by the toolkit based on instructors' preferences.

## Literature Review

In this study, the benefits and drawbacks of social media classes in teaching-learning processes are reviewed separately based on earlier studies.

### ***Blogging & Microblogging Services in Education***

Blogs are like easy-to-update websites that allow for the quick publishing of virtually anything (Deng & Yuen, 2011). The number of bloggers continues to increase each year and blogs are quickly emerging as a useful form of media within an educational setting. The educational affordances of blogs have been revealed by earlier studies as promoting depth and breadth of student reflection (Stiler & Philleo, 2003; Yang, 2009), reflective writing (Stiler & Philleo, 2003), enhancing direct communication (Rinaldo, Tapp & Laverie, 2011), and supporting informal learning (Ebner, Lienhardt, Rohs & Meyer, 2010). Moreover, blogging services afford authentic opportunities (Ferdig & Trammell, 2004). They can also be used to gain students' insights and opinions or for class recitation (Pineda, 2007). However, blogs can also have disadvantages in that they are "vulnerable because of lack of authoritative control over content" (McLean, Richards & Wardman, 2007, p.175). One outstanding problem is that students can easily copy information from another online resource and paste direct to blogs without considering copyright issues (Tekinarslan, 2008). Considering the application in educational settings, studies of blogging services are still limited (Halic, Lee, Paulus & Spence, 2010).

### ***Social Networking Services in Education***

Social networking services (SNS) are fast-growing social software which allows individuals to learn about and communicate with others easily (Richter & Koch, 2008). The most popular examples of SNS are Facebook, Google+, and LinkedIn, and are increasingly integrated in teaching-learning processes. Earlier studies indicated that the increasing use of social networking services (SNS) in education makes students more readily embrace e-learning (Baran, 2010). Another point is that students recognise SNS as a form of guide to settle into university life, in addition to the educational potential (Madge, Meek, Wellens & Hooley, 2009). Moreover, students generally use Facebook to communicate with their friends, to fight off boredom, for having fun and also as a means to *take a break* (Pempek, Yermolayeva & Calvert, 2009).

In addition, Hung and Yuen (2010) found that students developed strong feelings of social connectedness and expressed favourable feelings in terms of their learning experiences, whilst another study revealed a positive relationship between students' academic performance and Facebook usage (Ainin, Naqshbandi, Moghavvemi & Jaafar, 2015). One comprehensive study about students' learning experiences with SNS indicated that dissemination of information, arousing interest, motivation, and presenting interaction opportunities were positively related to Facebook usage (Çoklar, 2012). On the other hand, in the same study, students also stated that SNS has problems in terms of being overly packed with entertainment, lack of any control mechanism, and excessive informational convergence. Overall, the use of SNS in educational contexts is still a controversial issue and attention should be paid to both its benefits and drawbacks in order to make it more effective, both for instructors and students.

### ***Collaboration Services in Education***

This class of social software allows users to work together and study collaboratively. The most popular collaborative services are Wikis, Google Docs, and Zoho, among others. They are frequently used and tested in education, and continue to be investigated in order to provide more effective usage in educational settings. A study conducted by Lundin (2008) revealed that Wikis can challenge the practice of individual authorship and produce collaborative writing. They also

promote autonomous learning (Kessler, 2009; Kessler & Bikowski, 2010) which has gained importance this past decade. In addition, Wikis increase students' motivation since they produce content suitable for any audience (Ajjan & Hartshorne, 2008; Mak & Coniam, 2008). They also lead to enhanced analytical and writing skills due to the peer review aspect (Ajjan & Hartshorne, 2008; Ferris, 2003; Nystrand & Brandt, 1989) and therefore, more qualified content is being produced as a result (Storch, 2005; Sykes, Oskoz & Thorne, 2013). However, there are some problems when using collaboration services in educational contexts – for instance, such as the installation of wiki engine software, issues of legal liability, privacy, reputation, and security, content accuracy, balance, comprehensiveness, and consistency, and reliability (Panitz, 2011).

### **Document Sharing & Media Sharing Services and Live-Communication in Education**

Document sharing services such as Google Drive, Slideshare, Prezi, Dropbox, and Webspiration provide for easy uploading and sharing of text-based documents. There have been few studies concentrating on document sharing services regarding the use for educational purposes, and they were mainly about Google Drive. One study conducted by Rowe, Bozalek and Frantz (2013) revealed that students' ways of thinking changed and they took more control and became more responsible for their own learning. Document sharing services with hybrid learning provides improved communication and interaction, and also promotes student-centred collaboration (Yang, 2009). Students consider that they are helped with group work by increased peer review many times over. Teachers can easily track their students' progress separately and provide their feedback synchronously.

The other class of social software are media sharing services such as YouTube, Pinterest, Glogster, etc. They provide for the uploading and sharing of media such as video, animation, and images. They are generally used in education as a supplementary rather than the primary tool. Live-communication services such as Google Hangout, Skype, DimDim, etc. provide instant messaging and video conferencing, and are used generally in blended learning and e-learning for educational purposes. Up until now, there have been very few studies about document sharing services, media sharing services and live-communication services, hence this research study looks at the integration of these tools within higher education.

### **Recent Attempts to Develop a Strategy for Social Media Usage in Higher Education**

Taking into account the results of earlier studies, there is a clear need for effective enhancement of teaching and learning by integrating social media into higher education. In light of the existing studies, together with an innovative approach, the starting point for the development of the SoMe toolkit was a proposed strategy to enhance social media usage in education, and a social media toolkit for instructors was then developed in order to guide them in the teaching-learning process.

During the course of the project, it was researched what, if any, strategies existed for the integration of social media for educational purposes at seven universities. Most strategies and policies were found to exist only for the purposes of communication, and none specifically for education. Although Turkish and German universities were found to have issued some guidance, the Russian and Swiss participant universities had not. Consequently, a web-based research was conducted and some universities identified which already have their own strategy developed and have started implementing it. For example, Vanderbilt University has a *Social Media Handbook* containing a *Social Media Strategy Worksheet*. The University of Cincinnati (2013, p.1) also has a *Social Media Strategy* which is "To coordinate and strengthen the university's social media efforts and to incorporate social media as an integral part of an overall communications strategy". Tufts University also provides a template for their social media strategy and sets goals for their Social Media Strategy. Although some universities have strategies for implementing social media and

various goals, none of them address the use of social media in teaching-learning processes. Hence, it can be concluded that for higher education institutions, social media strategies are developed as a means to guarantee 'web presence' of the university and other such goals, rather than serving to support the educational process. On the other hand, the findings of the project revealed that most of the suggestions made by instructors were as individuals, rather than from an institutional perspective. Therefore, it seems appropriate to target research at the individual level rather than institutional.

### Social Media Toolkit

As both the research conducted in this project and the literature discussed reveals, the application of social media for educational purposes in HE has potential, but also certain barriers have to be considered. In order to form the theoretical underpinnings behind the social media toolkit, all potential dimensions were considered, discussed and together with the results of research in the project, the main points considered important for instructional process and instructional design were elicited as main dimensions. Sticking to the main idea that the levels of learning goals that instructors plan to teach and pedagogical issues are paramount to the choice of social media, four dimensions are considered as the most important factors that can predict the best fit of social media (Figure 1).



Figure 1. Framework for Social Media Toolkit

Since *instructional method* plays an important role for instructional design and also for the decision of social media tool, it was taken as the first dimension. For instructional methods, a well-known and widely used classification for the educators was applied (Arends, 2011; Burden & Byrd, 2013; Borich, 2013). The classification divides instructional methods into two classes: teacher-centred and students-centred. The second dimension decided upon was *knowledge levels*, which refers to the level of learning goals that instructors plan to teach in their courses. It relies on the cognitive dimension of Bloom's revised taxonomy, since it is a very strong theoretical framework used for many years both by educators and researchers (Anderson et al., 2000). The third dimension selected was *content type* which can also change instructional design. For this issue, according to a recent review of literature (OECD, 2007; Bower, Hedberg & Kuswara, 2010; McLoughlin & Lee, 2007; Safko, 2010), five types of content were decided to be provided. Finally, evaluation of student performance throughout a course plays an important role and thus, it was decided to integrate *assessment type* within the selection criteria for social media type as the fourth dimension.

In the literature, different classifications of assessments are offered: the first divides assessments types between summative and formative (Garrison & Ehringhaus, 2011), while the other as classical and alternative (Presley & McCormick, 2007). Since there is no common paradigm for different countries' educational system, classical and alternative assessments, which are more general terms of classification, have been used. The items of each dimension are presented below.

1. *Instructional Methods* as (a) Presentation Model, (b) Training Model, (c) Concept Teaching, (d) Cooperative Learning Model, (e) Problem-based Learning, and (f) Holding Discussion. Three of these are teacher-centred and three are student-centred (Arends, 2011; Burden & Byrd, 2013; Borich, 2013);
2. *Knowledge Levels* refers to the level of learning goals that instructors plan to teach in their courses as the cognitive dimension of Bloom's revised taxonomy. These levels are (a) Remembering, (b) Understanding, (c) Applying, (d) Analysing, (e) Evaluating, and (f) Creating, since it is a very strong theoretical framework used for many years, both by educators and by researchers (Anderson et al., 2000);
3. *Content types* as (a) Text, (b) Video, (c) Audio, (d) Visual – such as pictures, drawings, diagrams, concept maps, charts, etc., and (e) Animation/ Simulation (OECD, 2007; Bower et al., 2010; McLoughlin & Lee, 2007; Safko, 2010); and,
4. *Assessment types* under two categories that are well-known classifications in the literature as (a) Alternative assessment which is based on measuring students' performance in forms other than traditional ways and in a comprehensive way such as through projects, portfolios, essays, collaborative activities, etc., and (b) Classic Assessment which is measuring students' performance in traditional ways such as achievement tests including questions in the form of open-ended, multiple choice, true-false etc. (Presley & McCormick, 2007).

After constituting the theoretical underpinning of the social media toolkit, it was developed with the aim of addressing barriers that instructors may face when deciding to apply SoMe in their instruction. As shown, there was a particular unsureness amongst instructors as to which class of SoMe best fits their instructional scenario. The toolkit was designed to analyse the instructional scenario and then to propose the best matching SoMe class, before going on to provide the instructors with guidelines as to how to apply the suggested SoMe class in their teaching.

The developed product called SoMe Toolkit, has five main pages: (a) Main information (general information and the purpose of the toolkit); (b) How it works (information about the decision matrix, users' preferences and results); (c) About the project (general information about the Era.Net RUS project, the aim and the goal of the project); (d) Query wizard (questions that lead to a SoMe class suggestion); and (e) Who we are (information about each of the project partners).

The Query Wizard, after a short informative read, poses four questions previously reported as pedagogical dimensions, and provides a percentage match according to social media class (Table 1). This is based on a pattern-matching algorithm that uses a decision matrix developed especially for the toolkit and subsequently validated using the Inter Rater Agreement method (Kilis, Rapp & Gülbahar, 2014).

Table 1: Categorisation of Social Media Classes

Social Networking Services	Media Sharing Services	Document Sharing Services	Live Communication Services	Collaboration	Blogging & Microblogging Sites
Bridging for people of similar social interests	Uploading and sharing media such as video, audio, photo, and for preparing, and sharing animation/ simulation	Uploading and sharing documents (text-based material)	Live communication	Working together and collaborative studying	Focusing on a topic and discussing through short updates

The decision matrix demonstrates which instructional methods can be implemented using which SoMe class, which content types can be used with each SoMe class, what kind of learning activities can be implemented according to knowledge levels, and lastly, which assessment types can be implemented with each SoMe class. All of these matches are based on considering at least one instructional activity or implementation, and the matrix is formed according to these sample activities and implementations. An algorithm was developed in order to reveal the best matching social media class based on user data. The two factors contributing to the algorithm are the framework of the SoMe toolkit (four elements; namely, knowledge levels, content types, instructional methods, assessment) which is the centrepiece of the algorithm and the categorisation of SoMe class (six classes of SoMe; namely, social networking services, media sharing services, document sharing services, live communication services, collaboration services, blogging and microblogging services). A matching table was created that defines which elements of the framework are suitable with which class of SoMe. The decision matrix that constitutes the algorithm and produces a result based on user data, is provided in Table 2.

While establishing the decision matrix table, the features of social media classes were investigated in detail. Their characteristics, best features and appropriateness for the sub-elements (knowledge levels, instructional methods, content types, and assessment types) were examined together and their appropriateness to each other was determined as a back-end decision matrix. When users enter data, the decision matrix performs this matching in the background. Based on the results, the toolkit then informs the user of the most suitable SoMe class. Also, users can find out about other types of social media and their percentage of appropriateness on the results page. Considering user data input, if the algorithm runs an equal score for two types of SoMe classes, then it asks the user which of the four elements in the framework is most important. Based on the result, the toolkit suggests the best matching SoMe class to the user. Additionally, guidelines are given on how to use the suggested class of SoMe in an instructional setting.

Table 2: Decision matrix table that constitutes algorithm of SoMe toolkit

	Learning Goals	Content Types	Instructional Methods	Assessment types
Social Networking Services	Remembering, Understanding, Analysing, Evaluating	Text, Video, Audio, Visual	Cooperative Learning Model, Problem-based Learning, Holding Discussion Presentation Model,	Alternative, Classic
Media Sharing Services	Applying, Creating	Video, Visual, Animation	Training Model, Concept Teaching, Problem-based Learning Presentation Model,	Alternative
Document Sharing Services	Understanding, Applying, Evaluating, Creating	Text, Video, Audio, Visual, Animation	Training Model, Concept Teaching, Cooperative Learning Model, Problem-based Learning Presentation Model,	Alternative, Classic
Live-Communication Services	Understanding, Analysing, Evaluating	Text, Visual	Training Model, Holding Discussion Concept Teaching,	Alternative
Collaboration	Applying, Analysing, Creating	Text, Visual	Cooperative Learning Model, Holding Discussion Concept Teaching,	Alternative
Blogging & Microblogging Sites	Remembering, Understanding, Analysing, Evaluating, Creating	Text, Video, Audio, Visual, Animation	Cooperative Learning Model, Problem-based Learning, Holding Discussion	Alternative, Classic

## Methodology

This quantitative study was designed as a descriptive study that involves gathering data to describe and explain events and then to organise, tabulate and depict the data (Glass & Hopkins, 1984). The aim of this study was to reveal the teaching preferences of instructors from a pedagogical point of view (frequency of knowledge levels, content types, instructional methods and assessment methods), and to interpret the social media suggestions made by the toolkit based on the preferences. Hence, the research questions for this study are:

- R1: What are the dispositions of instructors about teaching preferences in terms of:
  - knowledge levels;
  - content types;
  - instructional methods; and
  - assessment types?
- R2: What are the instructors' social media tendencies predicted by the SoMe toolkit?

The target group includes instructors and teachers in higher education institutions. The selection of participants was based on convenience sampling. In total, 583 instructors from 39 countries participated in this study. The top four countries, based on participant numbers, were Germany ( $n_{de} = 163$ ), Switzerland ( $n_{ch} = 105$ ), Turkey ( $n_{tr} = 81$ ), and Canada ( $n_{ca} = 50$ ). All participant countries and corresponding participant numbers are detailed in Appendix A. The data was collected between September 2014 and August 2015. The quantitative data was collected via four questions embedded in the SoMe toolkit website. The questions gave a number of choices to the instructors, with the freedom to select all options they feel best suits their needs, i.e., it is valid to



select more than one choice for each question. The multiple choice questions are shown in Appendix B.

## Results

### Teaching Preferences of Instructors

#### Teaching Preferences of Instructors according to Knowledge Levels

The results revealed that 46% (267) of 583 instructors plan to teach their students at the applying level, 43% (248) at the understanding level, 35% (206) at the analysing and creating levels and 24% (143) remembering and evaluating levels in the course or subject. The graphical representation of instructors' preference about knowledge levels they plan to teach in their courses is given in Figure 2. They mostly prefer to teach at the applying level and then the understanding level. The least preferred knowledge levels selected by the instructors are remembering and evaluating.

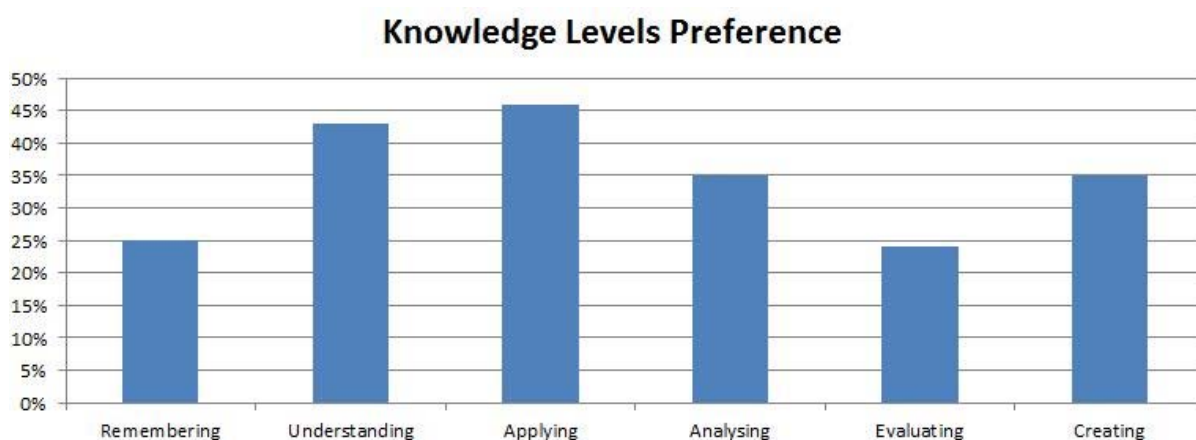


Figure 2. Instructors' Preference of Knowledge Levels

It is obvious that instructors aim to target all levels of knowledge in their courses, and almost half of them require the application of knowledge. Social media environments are learning environments mainly where students share written comments or self-produced audio/visual products which can be considered as students applying what they have learnt. Although considerable for other knowledge levels, writing for application and reading or watching for understanding can be accomplished via social media tools. Social media can answer the needs of instructors for all knowledge levels they plan to teach, which matches with instructors' preferences to use social media for all levels of knowledge.

#### Teaching Preferences of Instructors according to Content Types

The results revealed that 72% (417) of the 583 instructors plan to cover any subject in text format, 58% (336) as visual, 56% (325) as video, 35% (205) as audio, and 26% (150) as animation/simulation. The graphical representation of instructors' preferences about content types is shown in Figure 3. They mostly prefer to give a lesson in text format, then visual and video. The least preferred content types by the instructors are audio and animation/simulation.

### Content Types Preference

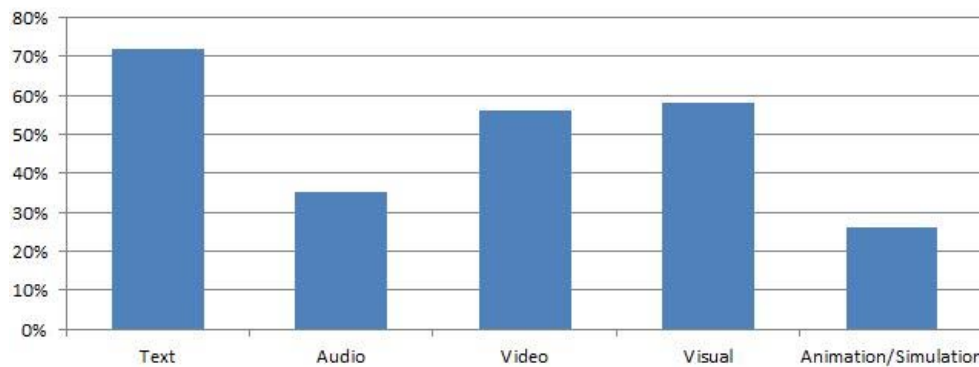


Figure 3. Instructors' Preference of Content Types

More than 70% of the instructors prefer to use text in social media environments. Again it is relevant to expect this type of content since most user-driven content is text-based. Students read, post, and discuss subject generally based on text, as well as other types of content. Again, the preferences in terms of content types vary according to instructor and social media tools can meet all these diverse needs.

### Teaching Preferences of Instructors according to Instructional Methods

The findings show that 46% (270) of the 583 instructors prefer presentation model and problem-based learning while teaching, 42% (242) cooperative learning model, 32% (187) training model and holding discussion, and 27% (160) concept teaching. The graphical representation of instructors' preference about instructional methods during teaching is given in Figures 4-5. The majority of them (53%) mostly prefer student-centred approaches to teaching whereas 47% teacher-centred approaches to teaching. However, it is not a significant difference, considering instructional methods as a whole. Still, when considered separately, instructors mostly prefer presentation model and problem-based learning when considering supporting their courses with social media. When the features of social media are considered, this result is not surprising since instructors can easily deliver their materials to students or set questions or problems for the students to explore, solve and thereby learn the topic.

### Instructional Methods Preference

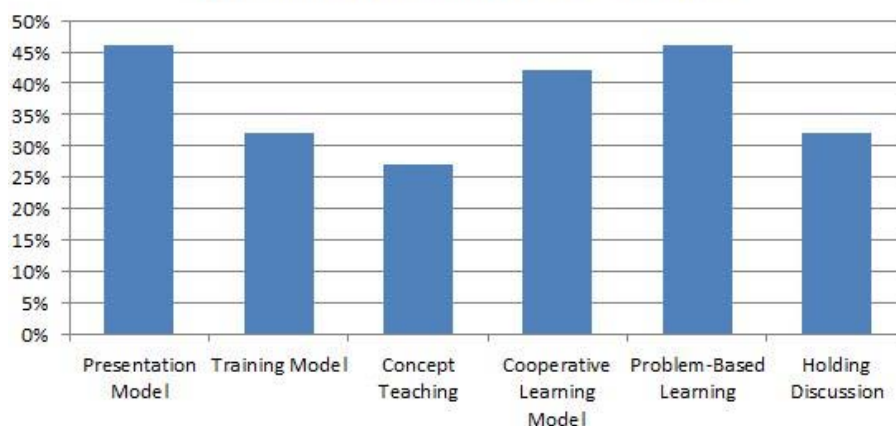


Figure 4. Instructors' Preference of Instructional Methods

Almost half the instructors preferred presentation model and problem-based learning. The presentation model is very suitable for social media environments as instructors can either make a live presentation or place a recorded one as video which is very common. Similarly, providing a problem and making students work in the process of solving it, either as individuals or as a group, is very suitable for social media environments. However, again we see that all methods are used for teaching and our sample is divided into two almost equal parts; teacher-centred and student-centred (Figure 5).

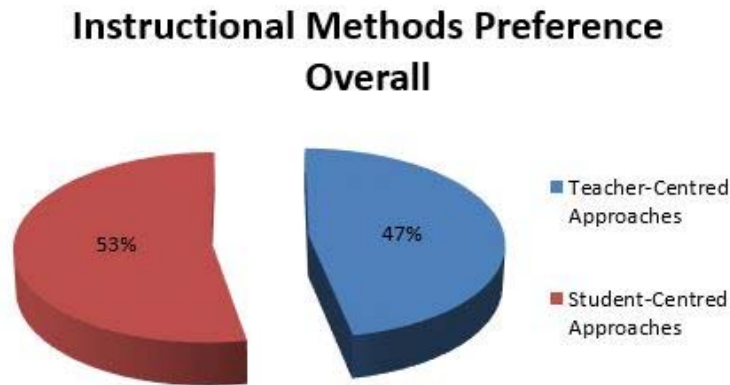


Figure 5. Instructors' Preference of Instructional Methods Overall

#### Teaching Preferences of Instructors according to Assessment Types

The results revealed that 59% (342) of the 583 instructors prefer to use performance assessment types, while 56% (325) preferred classical assessment types. Only 14% (84) prefer to use both assessment types. Of the 583 instructors, 44% (258) prefer to use only performance assessment types, whereas 41% (241) prefer to only use classical assessment types. The graphical representation of instructors' preference for assessment types is given in Figure 6. In general, there is almost no difference in their distribution. It can be inferred that assessment type may not be a valid criteria in selecting social media classes because of the lack of any sharp difference in instructors' preference.

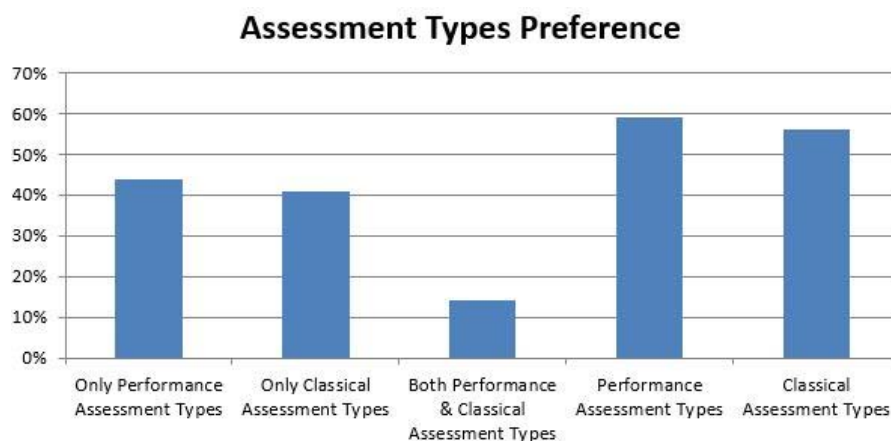


Figure 6. Instructors' Preference of Assessment Types

We found a balanced preference also for the assessment types of instructors. There are few instructors who prefer to use both although and it is also a case that can be handled by different social media tools.

### **Instructors' Social Media Tendencies predicted by SoMe Toolkit**

As discussed, the social media toolkit analyses the teaching scenario in which instructors intend to apply social media. Then, based on the decision matrix, the best matching social media class is suggested. The results in the dataset showed that social media class types which possess more features are more useful for instructors (Figure 7). The data revealed that document sharing services (24%), blogs and microblogging (23%), and social networking services (19%) scored more when compared to the other three types. It can be concluded that document sharing and blogging sites meets the expectations of almost half of the instructors. Although designed for specific purposes, these two types can be said to be pedagogically appropriate to be used fully online, or as a support aid for teaching. When the first three classes are considered, they meet 66% of the instructors' needs in terms of pedagogical aspects. It is surprising though, that although collaboration is the most encouraged and expected activity as proven in the literature, the data of this study resulted in just 11%.

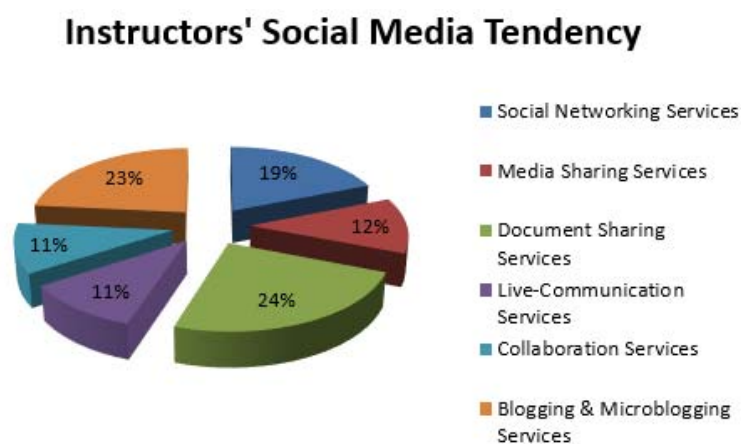


Figure 7. Instructors' Social Media Tendency Predicted by SoMe Toolkit

Hence, it can be said that instructors' main reasons for using social media is to share documents, exchange ideas and communication, besides many other possible purposes.

### **Discussion and Conclusion**

The pervasive use of social media, together with the increasing spread of mobile devices, has meant that social media is inevitably used within educational settings, thereby tapping into the potential of SoMe. Different kinds of social media are used in education for different purposes. As explained at the beginning of this study, they can be used for enhancing communication and interaction (Rinaldo et al., 2011), for promoting collaborative and group work (Lundin, 2008; Yang, 2009), for the giving and receiving of feedback, both asynchronously and synchronously, and for the sharing of any kind of document or course material with a group of people. However, as shown, there are also some barriers or problems, such as a lack of apparent authority (McLean et al., 2007), the ignoring of ethical issues (Tekinarlan, 2008), and content inaccuracy etc. In order to take better advantage, together with eliminating the problems or barriers, research needs to be continued and use-cases investigated.

Tackling this issue has been our focus as researchers; starting at a point where some strategies and policies have started to be implemented. However, they are generally business or marketing oriented. As discussed, only a few social media strategies have been launched in universities (Vanderbilt University, University of Cincinnati, and Tufts University). Considering these issues and the findings of our research, a social media toolkit was developed for educational purposes, specifically targeted at HE. The aim of developing the toolkit was to make instructors aware of,

and tap into, the potential of SoMe for HE, and to offer practical support to integrate SoMe into their teaching. Therefore, the toolkit was designed to identify and present to the instructor the most suitable class of SoMe, and then to provide guidelines, from an instructional design perspective, on how to use and implement them effectively. Within this purpose, instructors' teaching preferences were investigated via a multiple choice questionnaire, based on the case of transforming existing courses into social media enhanced courses. A descriptive study design with convenience sample was applied, with data collected from 583 instructors across 39 countries.

The findings indicate that instructors prefer mostly to deliver knowledge at the applying level and then the understanding level. They mostly prefer to use text-based materials for their courses and design their courses generally as problem-based or using the presentation model. They prefer performance assessment types more than classical types, though their preference among the two types of assessments were nearly equal. When considering the findings from such a broad sample from 39 countries, the results indicate that any instructor can transform a traditional course into a social media supported course, without considering any factors of discipline or culture. Therefore, for any preference or idea about instructors from any culture, a class of social media can be found to be used in education.

The toolkit was based on sound theoretical grounding (the four dimensions justified above) and its reliability and validity has previously been confirmed (Kilis, Rapp & Gülbahar, 2014). In addition, regarding these results, we would highly recommended that developers create a new learning management system (LMS) that considers instructors' intentions for pedagogical issues matched with social media classes. Also, developers and social media marketers can develop new ones by taking into account instructors' intentions and preferences about the teaching-learning process. In this study we identified a gap insofar that the scenarios in which instructors want to apply SoMe in HE are not yet well researched. In addressing this, the intentions of 583 instructors from 39 countries were explored during this study, which revealed their teaching preferences with regard to the use of social media in education. Although implemented in a traditional way, the findings suggest innovative perspectives for future research. With inferences from the findings, a new social media platform could be developed which includes the top three social media classes, since they are a good fit to all disciplines and from different cultures. Additionally, this innovative attempt opens new directions for instructional designers and educators, as well as for researchers. New policies and strategies can be developed and implemented within educational settings that allow for the potential of SoMe in HE to be tapped into, which addresses the ever increasing usage of SoMe among our (future) students.

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## Appendix A

Table 3: Countries and Corresponding Participant Numbers

Country Code	Country Name	Number of Participants
AE	United Arab Emirates	1
AM	Armenia	4
AT	Austria	19
AU	Australia	5
BG	Bulgaria	1
BR	Brazil	2
BY	Belarus	2
CA	Canada	50
CH	Switzerland	105
DE	Germany	163
DK	Denmark	11
ES	Spain	1
EU	Europe Union	4
FI	Finland	1
FR	France	3
UK	United Kingdom	10
GR	Greece	3
HK	Hong Kong	1
HR	Croatia	17
ID	Indonesia	1
IE	Ireland	2
IN	India	3
IT	Italy	2
KG	Kyrgyzstan	5
LT	Lithuania	5
MX	Mexico	2
NG	Nigeria	1
NL	Netherlands	3
NO	Norway	2
NZ	New Zealand	1
PH	Philippines	1
RO	Romania	4
RU	Russia	20
SI	Slovenia	3
TH	Thailand	1
TR	Turkey	81
UA	Ukraine	22
US	United States	18
VN	Vietnam	1
No info		2
TOTAL		583



## Appendix B

Dear Tutor/Instructor/Professor,

We are glad to hear that you wish to use social media as a support to your educational processes. This tool is prepared to be a guide for you, pointing out the best and most efficient social media for your course or in other education processes. For this purpose we have classified the social media under six headings, which are most appropriate for educational purposes. Please click Classification Table to see the different classifications.

First, we will ask you four questions related to the nature of your course and your teaching habits, namely your preferences about the taxonomy of learning, educational content, instructional methods and assessment. Based on the results we will pattern-match based on well-known and trusted instructional theories, taxonomies and approaches. In the case of multi probability among the choices, we will also ask another question about your preferences to clarify your priorities. After that, we will present you with the most effective social media to be used along within your course or training programme.

At the end of the toolkit, you will be directed to Instructional Tips that contain a detailed explanation about the social media suggested to you. Our suggestions will be as realistic as possible, based on the number of questions you answer, and the amount of detailed given.

Good luck in your teaching through social media!

1. In your course, which knowledge levels do you plan to deliver? (You can select more than one)
  - a. Remembering
  - b. Understanding
  - c. Applying
  - d. Analyzing
  - e. Evaluating
  - f. Creating
2. In your course, which types of content do you plan to use? (You can select more than one)
  - a. Text
  - b. Audio
  - c. Video
  - d. Visual
  - e. Animation/Simulation
3. In your course, which instructional methods do you plan to implement? (You can select more than one)
  - a. Presentation Model
  - b. Training Model
  - c. Concept Teaching
  - d. Cooperative Learning Model
  - e. Problem-Based Learning
  - f. Holding Discussion

4. In your course, which assessment types do you prefer? (You can select more than one)
  - a. Performance Assessment Types
  - b. Classical Assessment Types